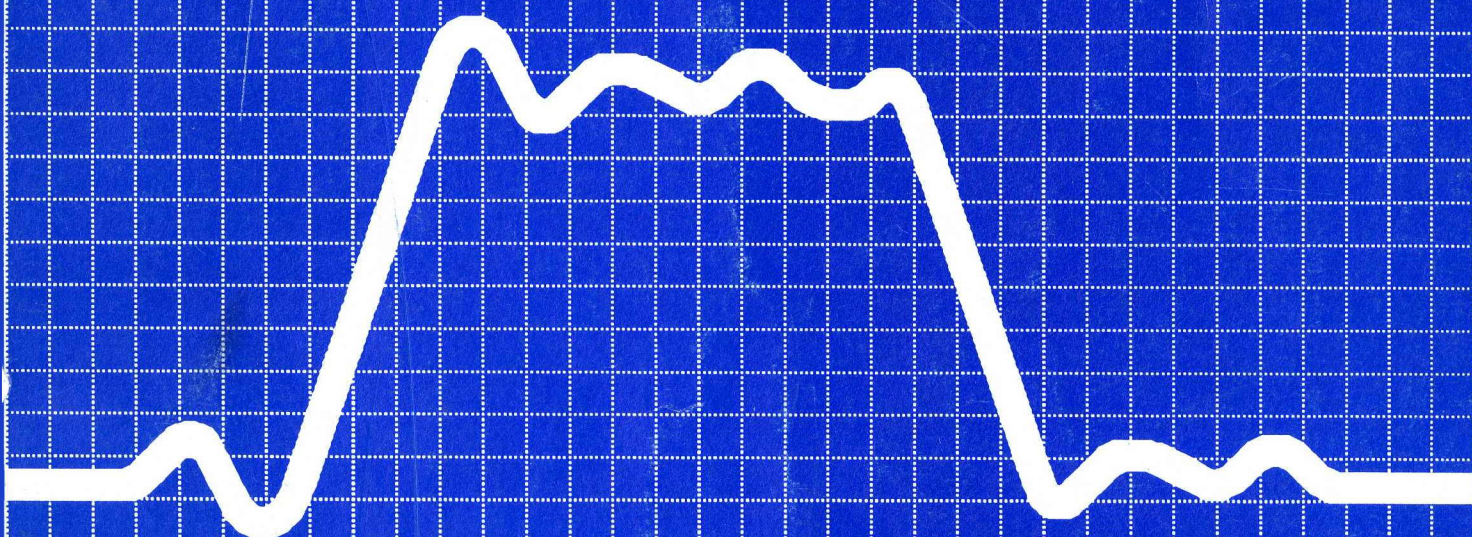


Delay Lines and Transformers



Introduction

Thank you for considering PCA Electronics Inc. for your Delay Line, Transformer and Filter Applications. Our goal is to provide you with quality components, on time, and at a competitive price. We have been manufacturing magnetic components since 1950. PCA's design engineering team is available to assist you in selecting or designing a Delay Line or Transformer to fit your circuit requirements.

Our manufacturing facilities include five plants located in California (Main office), Hong Kong, Macau and Manila with total manufacturing capabilities of over 200,000 components per week.

Here's what makes PCA unique among magnetic component manufacturers:

- Component design and engineering capabilities
- Computerized 100% testing of all components
- MIL-I-45208 Quality Assurance program
- Just-In-Time product delivery procedures
- In-house packaging design & production facilities
- Transfer-molding facilities at all plants
- Custom Thick-Film design & production capabilities
- Laser trimming and scribing capabilities
- Environmental Testing Capabilities
- Defense Logistics & Aerospace Supplier under FSCM 97722

We would like to be your primary source for all your magnetic components. Our engineering staff welcomes the opportunity to work with you to develop new designs and provide samples of your new component designs. Our sales office staff is dedicated to customer needs and will make it easy for you to deal with PCA.

Communications



Telephone: (818) 892-0761



Facsimile: (818) 894-5791



Telex (RCA Global Communications): 282 892



Modem 300, 1200 & Fastlink: (818) 891-3644

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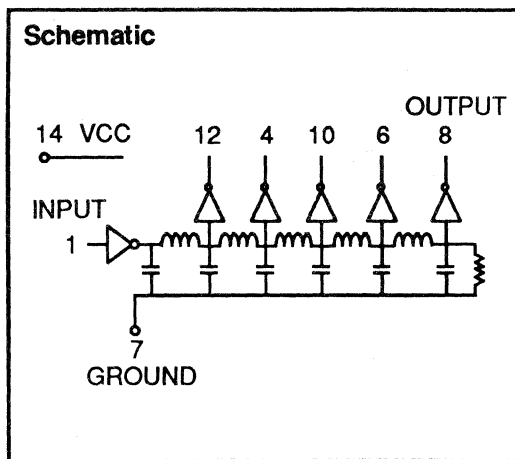
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14 Pin DIP 5 Tap TTL Compatible Active Delay Lines

| TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER | TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER |
|---------------------------|-----------------------------|----------------|---------------------------|-----------------------------|----------------|
| 5, 10, 15, 20 | 25 | EP8200 | 80, 160, 240, 320 | 400 | EP8208 |
| 6, 12, 18, 24 | 30 | EP8213 | 84, 168, 252, 336 | 420 | EP8218 |
| 7, 14, 21, 28 | 35 | EP8214 | 88, 176, 264, 352 | 440 | EP8222 |
| 8, 16, 24, 32 | 40 | EP8215 | 90, 180, 270, 360 | 450 | EP8209 |
| 9, 18, 27, 36 | 45 | EP8216 | 94, 188, 282, 376 | 470 | EP8223 |
| 10, 20, 30, 40 | 50 | EP8201 | 100, 200, 300, 400 | 500 | EP8210 |
| 12, 24, 36, 48 | 60 | EP8211 | 110, 220, 330, 440 | 550 | EP8230 |
| 15, 30, 45, 60 | 75 | EP8217 | 120, 240, 360, 480 | 600 | EP8224 |
| 20, 40, 60, 80 | 100 | EP8202 | 130, 260, 390, 520 | 650 | EP8231 |
| 25, 50, 75, 100 | 125 | EP8219 | 140, 280, 420, 560 | 700 | EP8225 |
| 30, 60, 90, 120 | 150 | EP8203 | 150, 300, 450, 600 | 750 | EP8229 |
| 35, 70, 105, 140 | 175 | EP8220 | 160, 320, 480, 640 | 800 | EP8226 |
| 40, 80, 120, 160 | 200 | EP8204 | 170, 340, 510, 680 | 850 | EP8232 |
| 45, 90, 135, 180 | 225 | EP8221 | 180, 360, 540, 720 | 900 | EP8227 |
| 50, 100, 150, 200 | 250 | EP8205 | 190, 380, 570, 760 | 950 | EP8233 |
| 60, 120, 180, 240 | 300 | EP8206 | 200, 400, 600, 800 | 1000 | EP8228 |
| 70, 140, 210, 280 | 350 | EP8207 | | | |

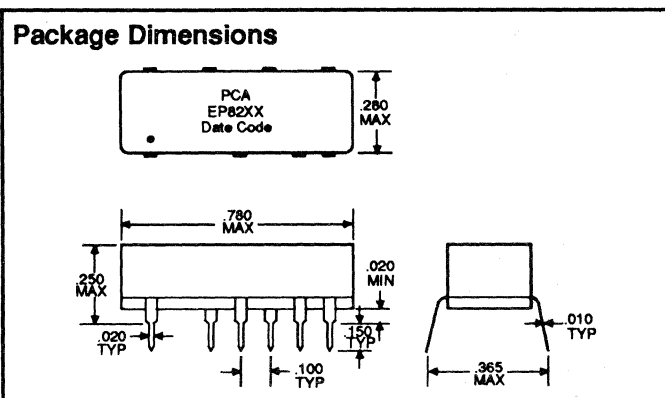
Delay times referenced from input to leading edges

| DC Electrical Characteristics | | | Min | Max | Unit |
|-------------------------------|------------------------------|---|-----|-------------|------|
| Parameter | Test Conditions | | | | |
| V _{OH} | High-Level Output Voltage | V _{CC} = min. V _{IL} = max. I _{OH} = max | 2.7 | | V |
| V _{OL} | Low-Level Output Voltage | V _{CC} = min. V _{IH} = min. I _{OL} = max | | 0.5 | V |
| V _{IK} | Input Clamp Voltage | V _{CC} = min. I _I = I _{IK} | | -1.2 | V |
| I _{IH} | High-Level Input Current | V _{CC} = max. V _{IN} = 2.7V | | 50 | µA |
| | | V _{CC} = max. V _{IN} = 5.25V | | 1.0 | mA |
| I _{IL} | Low-Level Input Current | V _{CC} = max. V _{IN} = 0.5V | | -2 | mA |
| I _{OS} | Short Circuit Output Current | V _{CC} = max. V _{OUT} = 0. | -40 | -100 | mA |
| | | (One output at a time) | | | |
| I _{CC} H | High-Level Supply Current | V _{CC} = max. V _{IN} = OPEN | | 75 | mA |
| I _{CC} L | Low-Level Supply Current | V _{CC} = max. V _{IN} = 0 | | 75 | mA |
| T _{RO} | Output Rise Time | T _d ≤ 500 nS (0.75 to 2.4 Volts) | | 4 | nS |
| | | T _d > 500 nS | | 5 | nS |
| N _H | Fanout High-Level Output | V _{CC} = max. V _{OH} = 2.7V | | 20 TTL LOAD | |
| N _L | Fanout Low-Level Output | V _{CC} = max. V _{OL} = 0.5V | | 10 TTL LOAD | |



| Recommended Operating Conditions | | | | |
|----------------------------------|--------------------------------|------|------|------|
| | | Min | Max | Unit |
| V _{CC} | Supply Voltage | 4.75 | 5.25 | V |
| V _{IH} | High-Level Input Voltage | 2.0 | | V |
| V _{IL} | Low-Level Input Voltage | | 0.8 | V |
| I _{IK} | Input Clamp Current | | -18 | mA |
| I _{OH} | High-Level Output Current | | -1.0 | mA |
| I _{OL} | Low-Level Output Current | | 20 | mA |
| PW* | Pulse Width of Total Delay | 40 | | % |
| d* | Duty Cycle | | 40 | % |
| T _A | Operating Free-Air Temperature | 0 | +70 | °C |

*These two values are inter-dependent.



| Input Pulse Test Conditions @ 25° C | | | Unit |
|-------------------------------------|---|-----|-------|
| E _{IN} | Pulse Input Voltage | 3.2 | Volts |
| PW | Pulse Width % of Total Delay | 110 | % |
| T _{RI} | Pulse Rise Time (0.75 - 2.4 Volts) | 2.0 | nS |
| P _{RR} | Pulse Repetition Rate @ T _d ≤ 500 nS | 1.0 | MHz |
| | Pulse Repetition Rate @ T _d > 500 nS | 500 | KHz |
| V _{CC} | Supply Voltage | 5.0 | Volts |

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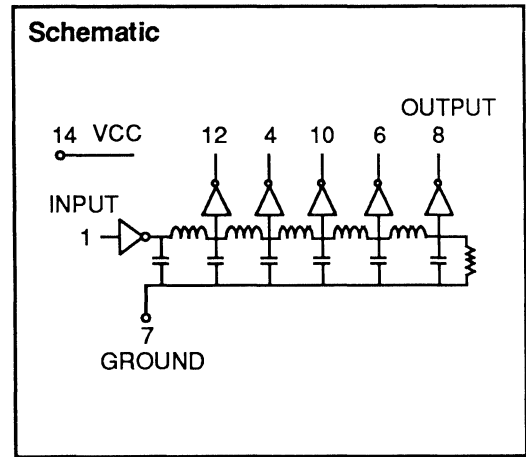
16799 SCHOENBORN ST.
SEPULVEDA, CA 91343
TEL: (818) 892-0761
FAX: (818) 894-5791
RCA Global 282 892

14 Pin DIP 5 Tap Low Power TTL Compatible Active Delay Lines

| TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER | TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER |
|---------------------------|-----------------------------|----------------|---------------------------|-----------------------------|----------------|
| 10, 20, 30, 40 | 50 | EP8270 | 30, 60, 90, 120 | 150 | EP8282 |
| 11, 22, 33, 44 | 55 | EP8271 | 35, 70, 105, 140 | 175 | EP8283 |
| 12, 24, 36, 48 | 60 | EP8272 | 40, 80, 120, 160 | 200 | EP8284 |
| 13, 26, 39, 52 | 65 | EP8273 | 45, 90, 135, 180 | 225 | EP8285 |
| 14, 28, 42, 56 | 70 | EP8274 | 50, 100, 150, 200 | 250 | EP8286 |
| 15, 30, 45, 60 | 75 | EP8275 | 55, 110, 165, 220 | 275 | EP8287 |
| 16, 32, 48, 64 | 80 | EP8276 | 60, 120, 180, 240 | 300 | EP8288 |
| 17, 34, 51, 68 | 85 | EP8277 | 70, 140, 210, 280 | 350 | EP8289 |
| 18, 36, 54, 72 | 90 | EP8278 | 80, 160, 240, 320 | 400 | EP8290 |
| 19, 38, 57, 76 | 95 | EP8279 | 90, 180, 270, 360 | 450 | EP8291 |
| 20, 40, 60, 80 | 100 | EP8280 | 100, 200, 300, 400 | 500 | EP8292 |
| 25, 50, 75, 100 | 125 | EP8281 | | | |

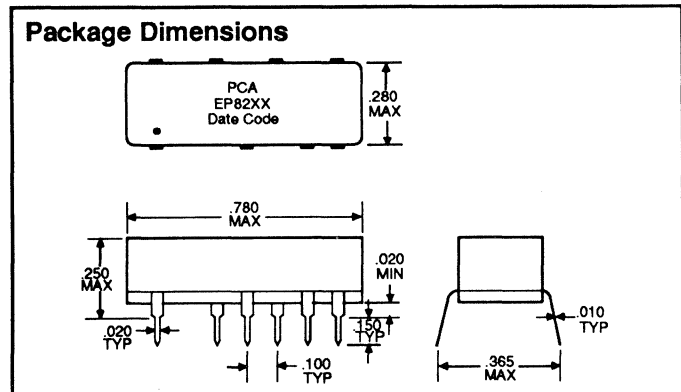
Delay times referenced from input to leading edges

| DC Electrical Characteristics | | Test Conditions | Min | Max | Unit |
|-------------------------------|------------------------------|--|-----|-------------|------|
| Parameter | | | | | |
| V _{OH} | High-Level Output Voltage | V _{CC} = min. V _{IL} = max. I _{OH} = max | 2.7 | | V |
| V _{OL} | Low-Level Output Voltage | V _{CC} = min. V _{IH} = min. I _{OL} = max | | 0.5 | V |
| V _{IK} | Input Clamp Voltage | V _{CC} = min. I _I = I _{IK} | | -1.5 | V |
| I _{IH} | High-Level Input Current | V _{CC} = max. V _{IN} = 2.7V | | 20 | μA |
| | | V _{CC} = max. V _{IN} = 5.25V | | 0.1 | mA |
| I _{IL} | Low-Level Input Current | V _{CC} = max. V _{IN} = 0.5V | | -0.36 | mA |
| I _{OS} | Short Circuit Output Current | V _{CC} = max. V _{OUT} = 0. (One output at a time) | -5 | -42 | mA |
| I _{CCH} | High-Level Supply Current | V _{CC} = max. V _{IN} = OPEN | | 30 | mA |
| I _{CCL} | Low-Level Supply Current | V _{CC} = max. V _{IN} = 0 | | 30 | mA |
| T _{RO} | Output Rise Time | T _d ≤ 500 nS (0.75 to 2.4 Volts) | | 8 | nS |
| | | T _d > 500 nS | | 8 | nS |
| N _H | Fanout High-Level Output | V _{CC} = max. V _{OH} = 2.7V | | 20 TTL LOAD | |
| N _L | Fanout Low-Level Output | V _{CC} = max. V _{OL} = 0.5V | | 10 TTL LOAD | |




| Recommended Operating Conditions | | Min | Max | Unit |
|----------------------------------|--------------------------------|------|------|------|
| V _{CC} | Supply Voltage | 4.75 | 5.25 | V |
| V _{IH} | High-Level Input Voltage | 2.0 | | V |
| V _{IL} | Low-Level Input Voltage | | 0.8 | V |
| I _{IK} | Input Clamp Current | | -18 | mA |
| I _{OH} | High-Level Output Current | | -0.4 | mA |
| I _{OL} | Low-Level Output Current | | 8 | mA |
| PW* | Pulse Width of Total Delay | 40 | | % |
| d* | Duty Cycle | | 40 | % |
| T _A | Operating Free-Air Temperature | 0 | +70 | °C |

*These two values are inter-dependent.



| Input Pulse Test Conditions | | Unit | |
|-----------------------------|---|------|-------|
| E _{IN} | Pulse Input Voltage | 3.2 | Volts |
| PW | Pulse Width % of Total Delay | 110 | % |
| T _{RI} | Pulse Rise Time (0.75 - 2.4 Volts) | 2.0 | nS |
| P _{RR} | Pulse Repetition Rate @ T _d ≤ 500 nS | 1.0 | MHz |
| | Pulse Repetition Rate @ T _d > 500 nS | 500 | KHz |
| V _{CC} | Supply Voltage | 5.0 | Volts |



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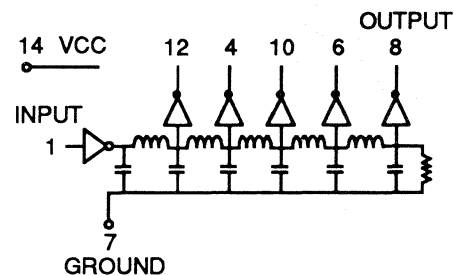
14 Pin DIP 5 Tap TTL Compatible High Speed Active Delay Lines

| TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER | TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER |
|---------------------------|-----------------------------|----------------|---------------------------|-----------------------------|----------------|
| 5, 10, 15, 20 | 25 | EP8700 | 80, 160, 240, 320 | 400 | EP8708 |
| 6, 12, 18, 24 | 30 | EP8713 | 84, 168, 252, 336 | 420 | EP8718 |
| 7, 14, 21, 28 | 35 | EP8714 | 88, 176, 264, 352 | 440 | EP8722 |
| 8, 16, 24, 32 | 40 | EP8715 | 90, 180, 270, 360 | 450 | EP8709 |
| 9, 18, 27, 36 | 45 | EP8716 | 94, 188, 282, 376 | 470 | EP8723 |
| 10, 20, 30, 40 | 50 | EP8701 | 100, 200, 300, 400 | 500 | EP8710 |
| 12, 24, 36, 48 | 60 | EP8711 | 110, 220, 330, 440 | 550 | EP8730 |
| 15, 30, 45, 60 | 75 | EP8717 | 120, 240, 360, 480 | 600 | EP8724 |
| 20, 40, 60, 80 | 100 | EP8702 | 130, 260, 390, 520 | 650 | EP8731 |
| 25, 50, 75, 100 | 125 | EP8719 | 140, 280, 420, 560 | 700 | EP8725 |
| 30, 60, 90, 120 | 150 | EP8703 | 150, 300, 450, 600 | 750 | EP8729 |
| 35, 70, 105, 140 | 175 | EP8720 | 160, 320, 480, 640 | 800 | EP8726 |
| 40, 80, 120, 160 | 200 | EP8704 | 170, 340, 510, 680 | 850 | EP8732 |
| 45, 90, 135, 180 | 225 | EP8721 | 180, 360, 540, 720 | 900 | EP8727 |
| 50, 100, 150, 200 | 250 | EP8705 | 190, 380, 570, 760 | 950 | EP8733 |
| 60, 120, 180, 240 | 300 | EP8706 | 200, 400, 600, 800 | 1000 | EP8728 |
| 70, 140, 210, 280 | 350 | EP8707 | | | |

Delay times referenced from input to leading and trailing edges

| DC Electrical Characteristics | | Test Conditions | Min | Max | Unit |
|-------------------------------|------------------------------|---|-----|-------------|---------|
| V_{OH} | High-Level Output Voltage | $V_{CC} = \text{min. } V_{IL} = \text{max. } I_{OH} = \text{max}$ | 2.7 | | V |
| V_{OL} | Low-Level Output Voltage | $V_{CC} = \text{min. } V_{IH} = \text{min. } I_{OL} = \text{max}$ | | 0.5 | V |
| V_{IK} | Input Clamp Voltage | $V_{CC} = \text{min. } I_I = I_{IK}$ | | -1.2 | V |
| I_{IH} | High-Level Input Current | $V_{CC} = \text{max. } V_{IN} = 2.7V$ | | 50 | μA |
| | | $V_{CC} = \text{max. } V_{IN} = 5.25V$ | | 1.0 | mA |
| I_{IL} | Low-Level Input Current | $V_{CC} = \text{max. } V_{IN} = 0.5V$ | | -2 | mA |
| I_{OS} | Short Circuit Output Current | $V_{CC} = \text{max. } V_{OUT} = 0.$ (One output at a time) | -40 | -100 | mA |
| I_{CCH} | High-Level Supply Current | $V_{CC} = \text{max. } V_{IN} = \text{OPEN}$ | | 75 | mA |
| I_{CCL} | Low-Level Supply Current | $V_{CC} = \text{max. } V_{IN} = 0$ | | 75 | mA |
| T_{RO} | Output Rise Time | $T_d \leq 500 \text{ nS (0.75 to 2.4 Volts)}$ $T_d > 500 \text{ nS}$ | 4 | 5 | nS |
| N_H | Fanout High-Level Output | $V_{CC} = \text{max. } V_{OH} = 2.7V$ | | 20 TTL LOAD | |
| N_L | Fanout Low-Level Output | $V_{CC} = \text{max. } V_{OL} = 0.5V$ | | 10 TTL LOAD | |

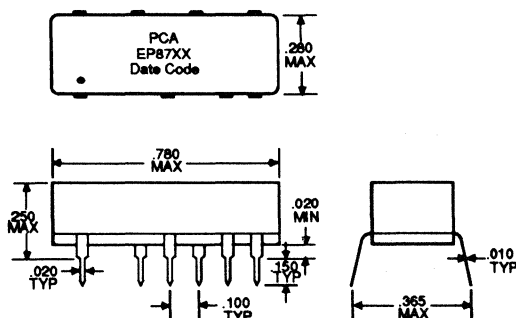
Schematic



| Recommended Operating Conditions | | Min | Max | Unit |
|----------------------------------|--------------------------------|------|------|-------------|
| V_{CC} | Supply Voltage | 4.75 | 5.25 | V |
| V_{IH} | High-Level Input Voltage | 2.0 | | V |
| V_{IL} | Low-Level Input Voltage | | 0.8 | V |
| I_{IK} | Input Clamp Current | | -18 | mA |
| I_{OH} | High-Level Output Current | | -1.0 | mA |
| I_{OL} | Low-Level Output Current | | 20 | mA |
| PW^* | Pulse Width of Total Delay | 40 | | % |
| d^* | Duty Cycle | | 40 | % |
| T_A | Operating Free-Air Temperature | 0 | +70 | $^{\circ}C$ |

*These two values are inter-dependent.

Package Dimensions



| Input Pulse Test Conditions @ 25° C | | Unit |
|-------------------------------------|---|-----------|
| E_{IN} | Pulse Input Voltage | 3.2 Volts |
| PW | Pulse Width % of Total Delay | 110 % |
| T_{RI} | Pulse Rise Time (0.75 - 2.4 Volts) | 2.0 nS |
| P_{RR} | Pulse Repetition Rate @ $T_d \leq 500 \text{ nS}$ | 1.0 MHz |
| | Pulse Repetition Rate @ $T_d > 500 \text{ nS}$ | 500 KHz |
| V_{CC} | Supply Voltage | 5.0 Volts |

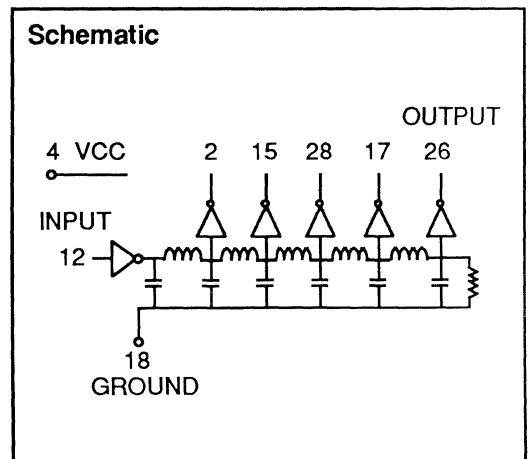
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TEL: (818) 892-0761
FAX: (818) 894-5791
RCA Global 282 892

28 Pin 5 Tap TTL Compatible J-Lead SMD Active Delay Lines

| TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER | TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER |
|---------------------------|-----------------------------|----------------|---------------------------|-----------------------------|----------------|
| 5, 10, 15, 20 | 25 | EP9100 | 20, 40, 60, 80 | 100 | EP9108 |
| 6, 12, 18, 24 | 30 | EP9101 | 25, 50, 75, 100 | 125 | EP9109 |
| 7, 14, 21, 28 | 35 | EP9102 | 30, 60, 90, 120 | 150 | EP9110 |
| 8, 16, 24, 32 | 40 | EP9103 | 35, 70, 105, 140 | 175 | EP9111 |
| 9, 18, 27, 36 | 45 | EP9104 | 40, 80, 120, 160 | 200 | EP9112 |
| 10, 20, 30, 40 | 50 | EP9105 | 45, 90, 135, 180 | 225 | EP9113 |
| 12, 24, 36, 48 | 60 | EP9106 | 50, 100, 150, 200 | 250 | EP9114 |
| 15, 30, 45, 60 | 75 | EP9107 | | | |

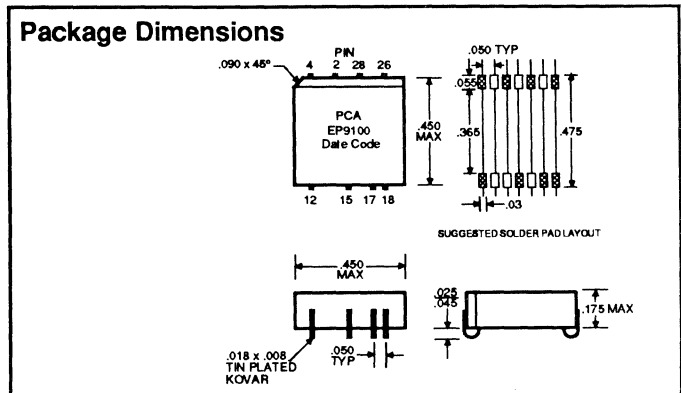
Delay times referenced from input to leading edges

| DC Electrical Characteristics | | | | | |
|-------------------------------|------------------------------|--|-----|-------------|----|
| Parameter | Test Conditions | Min | Max | Unit | |
| V _{OH} | High-Level Output Voltage | V _{CC} = min. V _{IL} = max. I _{OH} = max | 2.7 | | V |
| V _{OL} | Low-Level Output Voltage | V _{CC} = min. V _{IH} = min. I _{OL} = max | | 0.5 | V |
| V _{IK} | Input Clamp Voltage | V _{CC} = min. I _I = I _{IK} | | -1.2 | V |
| I _{IH} | High-Level Input Current | V _{CC} = max. V _{IN} = 2.7V | | 50 | μA |
| | | V _{CC} = max. V _{IN} = 5.25V | | 1.0 | mA |
| I _{IL} | Low-Level Input Current | V _{CC} = max. V _{IN} = 0.5V | | -2 | mA |
| I _{OS} | Short Circuit Output Current | V _{CC} = max. V _{OUT} = 0. (One output at a time) | -40 | -100 | mA |
| I _{CCH} | High-Level Supply Current | V _{CC} = max. V _{IN} = OPEN | | 75 | mA |
| I _{CCL} | Low-Level Supply Current | V _{CC} = max. V _{IN} = 0 | | 75 | mA |
| T _{RO} | Output Rise Time | T _d ≤ 500 nS (0.75 to 2.4 Volts) T _d > 500 nS | | 4 5 | nS |
| N _H | Fanout High-Level Output | V _{CC} = max. V _{OH} = 2.7V | | 20 TTL LOAD | |
| N _L | Fanout Low-Level Output | V _{CC} = max. V _{OL} = 0.5V | | 10 TTL LOAD | |



| Recommended Operating Conditions | | | | |
|----------------------------------|--------------------------------|------|------|------|
| Parameter | Test Conditions | Min | Max | Unit |
| V _{CC} | Supply Voltage | 4.75 | 5.25 | V |
| V _{IH} | High-Level Input Voltage | 2.0 | | V |
| V _{IL} | Low-Level Input Voltage | | 0.8 | V |
| I _{IK} | Input Clamp Current | | -18 | mA |
| I _{OH} | High-Level Output Current | | -1.0 | mA |
| I _{OL} | Low-Level Output Current | | 20 | mA |
| PW* | Pulse Width of Total Delay | 40 | | % |
| d* | Duty Cycle | | 40 | % |
| T _A | Operating Free-Air Temperature | 0 | +70 | °C |

*These two values are inter-dependent.



| Input Pulse Test Conditions @ 25° C | | | |
|-------------------------------------|---|-------|-------|
| Parameter | Test Conditions | Value | Unit |
| E _{IN} | Pulse Input Voltage | 3.2 | Volts |
| PW | Pulse Width % of Total Delay | 110 | % |
| T _{RI} | Pulse Rise Time (0.75 - 2.4 Volts) | 2.0 | nS |
| PRR | Pulse Repetition Rate @ T _d ≤ 500 nS | 1.0 | MHz |
| | Pulse Repetition Rate @ T _d > 500 nS | 500 | KHz |
| V _{CC} | Supply Voltage | 5.0 | Volts |

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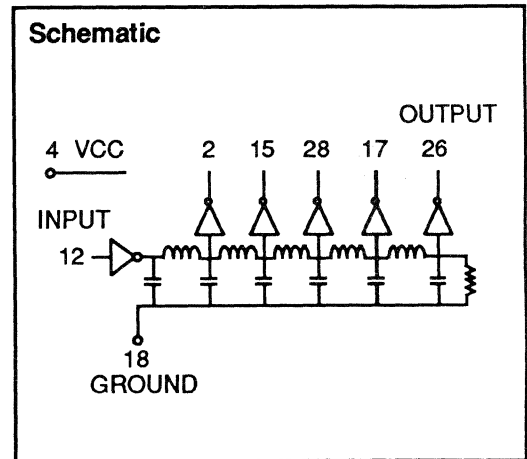
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FAX: (818) 894-5791
RCA Global 282 892

28 Pin 5 Tap TTL Compatible Gull-Wing SMD Active Delay Lines

| TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER | TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER |
|---------------------------|-----------------------------|----------------|---------------------------|-----------------------------|----------------|
| 5, 10, 15, 20 | 25 | EP9115 | 20, 40, 60, 80 | 100 | EP9123 |
| 6, 12, 18, 24 | 30 | EP9116 | 25, 50, 75, 100 | 125 | EP9124 |
| 7, 14, 21, 28 | 35 | EP9117 | 30, 60, 90, 120 | 150 | EP9125 |
| 8, 16, 24, 32 | 40 | EP9118 | 35, 70, 105, 140 | 175 | EP9126 |
| 9, 18, 27, 36 | 45 | EP9119 | 40, 80, 120, 160 | 200 | EP9127 |
| 10, 20, 30, 40 | 50 | EP9120 | 45, 90, 135, 180 | 225 | EP9128 |
| 12, 24, 36, 48 | 60 | EP9121 | 50, 100, 150, 200 | 250 | EP9129 |
| 15, 30, 45, 60 | 75 | EP9122 | | | |

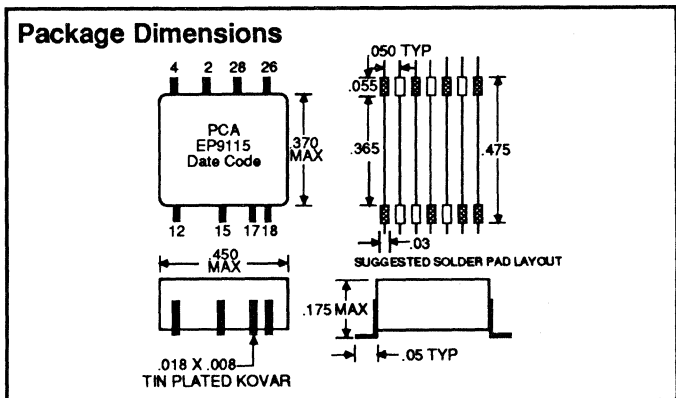
Delay times referenced from input to leading edges

| DC Electrical Characteristics | | | | | |
|-------------------------------|------------------------------|--|-----|-------------|------|
| Parameter | | Test Conditions | Min | Max | Unit |
| V _{OH} | High-Level Output Voltage | V _{CC} = min. V _{IL} = max. I _{OH} = max | 2.7 | | V |
| V _{OL} | Low-Level Output Voltage | V _{CC} = min. V _{IH} = min. I _{OL} = max | | 0.5 | V |
| V _{IK} | Input Clamp Voltage | V _{CC} = min. I _I = I _{IK} | | -1.2 | V |
| I _{IH} | High-Level Input Current | V _{CC} = max. V _{IN} = 2.7V | | 50 | µA |
| | | V _{CC} = max. V _{IN} = 5.25V | | 1.0 | mA |
| I _{IL} | Low-Level Input Current | V _{CC} = max. V _{IN} = 0.5V | | -2 | mA |
| I _{OS} | Short Circuit Output Current | V _{CC} = max. V _{OUT} = 0. (One output at a time) | -40 | -100 | mA |
| I _{CCH} | High-Level Supply Current | V _{CC} = max. V _{IN} = OPEN | | 75 | mA |
| I _{CCL} | Low-Level Supply Current | V _{CC} = max. V _{IN} = 0 | | 75 | mA |
| T _{RO} | Output Rise Time | T _d ≤ 500 nS (0.75 to 2.4 Volts) T _d > 500 nS | 4 | 5 | nS |
| N _H | Fanout High-Level Output | V _{CC} = max. V _{OH} = 2.7V | | 20 TTL LOAD | |
| N _L | Fanout Low-Level Output | V _{CC} = max. V _{OL} = 0.5V | | 10 TTL LOAD | |



| Recommended Operating Conditions | | | | |
|----------------------------------|--------------------------------|------|------|------|
| | | Min | Max | Unit |
| V _{CC} | Supply Voltage | 4.75 | 5.25 | V |
| V _{IH} | High-Level Input Voltage | 2.0 | | V |
| V _{IL} | Low-Level Input Voltage | | 0.8 | V |
| I _{IK} | Input Clamp Current | | -18 | mA |
| I _{OH} | High-Level Output Current | | -1.0 | mA |
| I _{OL} | Low-Level Output Current | | 20 | mA |
| PW* | Pulse Width of Total Delay | 40 | | % |
| d* | Duty Cycle | | 40 | % |
| T _A | Operating Free-Air Temperature | 0 | +70 | °C |

*These two values are inter-dependent.



| Input Pulse Test Conditions @ 25° C | | | | Unit |
|-------------------------------------|---|-----|--|-------|
| E _{IN} | Pulse Input Voltage | 3.2 | | Volts |
| PW | Pulse Width % of Total Delay | 110 | | % |
| T _{RI} | Pulse Rise Time (0.75 - 2.4 Volts) | 2.0 | | nS |
| P _{RR} | Pulse Repetition Rate @ T _d ≤ 500 nS | 1.0 | | MHz |
| | Pulse Repetition Rate @ T _d > 500 nS | 500 | | KHz |
| V _{CC} | Supply Voltage | 5.0 | | Volts |

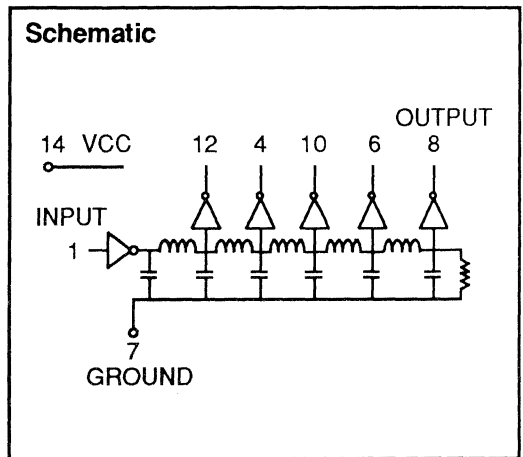
16799 SCHOENBORN ST.
SEPULVEDA, CA 91343
TEL: (818) 892-0761
FAX: (818) 894-5791
RCA Global 282 892

14 Pin Low Profile DIP 5 Tap TTL Compatible Active Delay Lines

| TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER | TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER |
|---------------------------|-----------------------------|----------------|---------------------------|-----------------------------|----------------|
| 5, 10, 15, 20 | 25 | EP9300 | 80, 160, 240, 320 | 400 | EP9308 |
| 6, 12, 18, 24 | 30 | EP9313 | 84, 168, 252, 336 | 420 | EP9318 |
| 7, 14, 21, 28 | 35 | EP9314 | 88, 176, 264, 352 | 440 | EP9322 |
| 8, 16, 24, 32 | 40 | EP9315 | 90, 180, 270, 360 | 450 | EP9309 |
| 9, 18, 27, 36 | 45 | EP9316 | 94, 188, 282, 376 | 470 | EP9323 |
| 10, 20, 30, 40 | 50 | EP9301 | 100, 200, 300, 400 | 500 | EP9310 |
| 12, 24, 36, 48 | 60 | EP9311 | 110, 220, 330, 440 | 550 | EP9330 |
| 15, 30, 45, 60 | 75 | EP9317 | 120, 240, 360, 480 | 600 | EP9324 |
| 20, 40, 60, 80 | 100 | EP9302 | 130, 260, 390, 520 | 650 | EP9331 |
| 25, 50, 75, 100 | 125 | EP9319 | 140, 280, 420, 560 | 700 | EP9325 |
| 30, 60, 90, 120 | 150 | EP9303 | 150, 300, 450, 600 | 750 | EP9329 |
| 35, 70, 105, 140 | 175 | EP9320 | 160, 320, 480, 640 | 800 | EP9326 |
| 40, 80, 120, 160 | 200 | EP9304 | 170, 340, 510, 680 | 850 | EP9332 |
| 45, 90, 135, 180 | 225 | EP9321 | 180, 360, 540, 720 | 900 | EP9327 |
| 50, 100, 150, 200 | 250 | EP9305 | 190, 380, 570, 760 | 950 | EP9333 |
| 60, 120, 180, 240 | 300 | EP9306 | 200, 400, 600, 800 | 1000 | EP9328 |
| 70, 140, 210, 280 | 350 | EP9307 | | | |

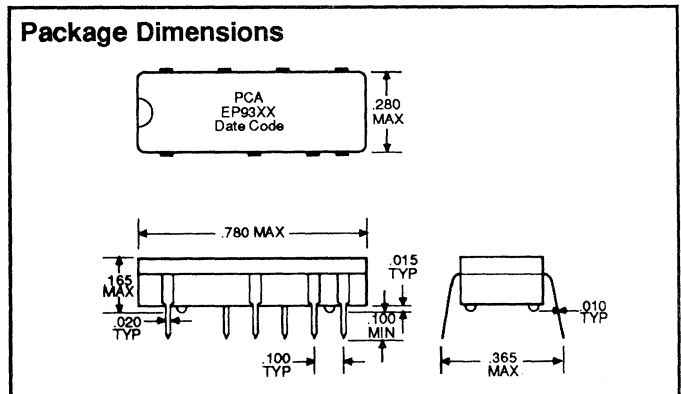
Delay times referenced from input to leading and trailing edges

| DC Electrical Characteristics | | Parameter | Test Conditions | Min | Max | Unit |
|-------------------------------|------------------------------|---|-----------------|-------------|---------|------|
| V_{OH} | High-Level Output Voltage | $V_{CC} = \min. V_{IL} = \max. I_{OH} = \max$ | 2.7 | | V | |
| V_{OL} | Low-Level Output Voltage | $V_{CC} = \min. V_{IH} = \min. I_{OL} = \max$ | 0.5 | | V | |
| V_{IK} | Input Clamp Voltage | $V_{CC} = \min. I_I = I_{IK}$ | -1.2 | | V | |
| I_{IH} | High-Level Input Current | $V_{CC} = \max. V_{IN} = 2.7V$ | 50 | | μA | |
| | | $V_{CC} = \max. V_{IN} = 5.25V$ | 1.0 | | mA | |
| I_{IL} | Low-Level Input Current | $V_{CC} = \max. V_{IN} = 0.5V$ | -2 | | mA | |
| I_{OS} | Short Circuit Output Current | $V_{CC} = \max. V_{OUT} = 0.$ (One output at a time) | -40 | -100 | mA | |
| I_{CCH} | High-Level Supply Current | $V_{CC} = \max. V_{IN} = OPEN$ | 75 | | mA | |
| I_{CCL} | Low-Level Supply Current | $V_{CC} = \max. V_{IN} = 0$ | 75 | | mA | |
| T_{RO} | Output Rise Time | $T_d \leq 500 \text{ nS (0.75 to 2.4 Volts)}$ $T_d > 500 \text{ nS}$ | 4 | 5 | nS | |
| N_H | Fanout High-Level Output | $V_{CC} = \max. V_{OH} = 2.7V$ | | 20 TTL LOAD | | |
| N_L | Fanout Low-Level Output | $V_{CC} = \max. V_{OL} = 0.5V$ | | 10 TTL LOAD | | |



| Recommended Operating Conditions | | Min | Max | Unit |
|----------------------------------|--------------------------------|------|------|-------------|
| V_{CC} | Supply Voltage | 4.75 | 5.25 | V |
| V_{IH} | High-Level Input Voltage | 2.0 | | V |
| V_{IL} | Low-Level Input Voltage | | 0.8 | V |
| I_{IK} | Input Clamp Current | | -18 | mA |
| I_{OH} | High-Level Output Current | | -1.0 | mA |
| I_{OL} | Low-Level Output Current | | 20 | mA |
| PW^* | Pulse Width of Total Delay | 40 | | % |
| d^* | Duty Cycle | | 40 | % |
| T_A | Operating Free-Air Temperature | 0 | +70 | $^{\circ}C$ |

*These two values are inter-dependent.



| Input Pulse Test Conditions @ 25 $^{\circ}C$ | | Unit | |
|--|---|------|-------|
| E_{IN} | Pulse Input Voltage | 3.2 | Volts |
| PW | Pulse Width % of Total Delay | 110 | % |
| T_{RI} | Pulse Rise Time (0.75 - 2.4 Volts) | 2.0 | nS |
| PRR | Pulse Repetition Rate @ $T_d \leq 500 \text{ nS}$ | 1.0 | MHz |
| | Pulse Repetition Rate @ $T_d > 500 \text{ nS}$ | 500 | KHz |
| V_{CC} | Supply Voltage | 5.0 | Volts |

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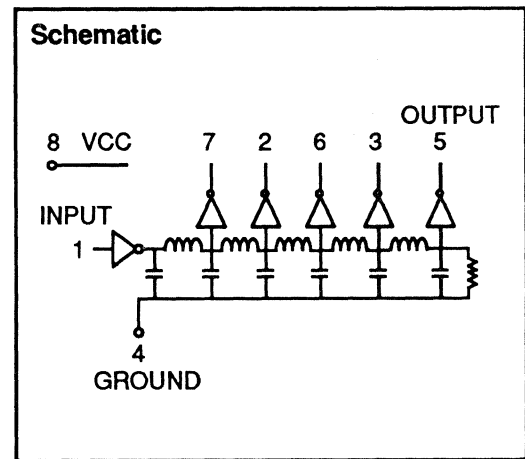
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SEPULVEDA, CA 91343
TEL: (818) 892-0761
FAX: (818) 894-5791
RCA Global 282 892

8 Pin Mini DIP 5 Tap TTL Compatible Active Delay Lines

| TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER | TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER |
|---------------------------|-----------------------------|----------------|---------------------------|-----------------------------|----------------|
| 5, 10, 15, 20 | 25 | EP9458-25 | 20, 40, 60, 80 | 100 | EP9458-100 |
| 6, 12, 18, 24 | 30 | EP9458-30 | 25, 50, 75, 100 | 125 | EP9458-125 |
| 7, 14, 21, 28 | 35 | EP9458-35 | 30, 60, 90, 120 | 150 | EP9458-150 |
| 8, 16, 24, 32 | 40 | EP9458-40 | 35, 70, 105, 140 | 175 | EP9458-175 |
| 9, 18, 27, 36 | 45 | EP9458-45 | 40, 80, 120, 160 | 200 | EP9458-200 |
| 10, 20, 30, 40 | 50 | EP9458-50 | 45, 90, 135, 180 | 225 | EP9458-225 |
| 12, 24, 36, 48 | 60 | EP9458-60 | 50, 100, 150, 200 | 250 | EP9458-250 |
| 15, 30, 45, 60 | 75 | EP9458-75 | | | |

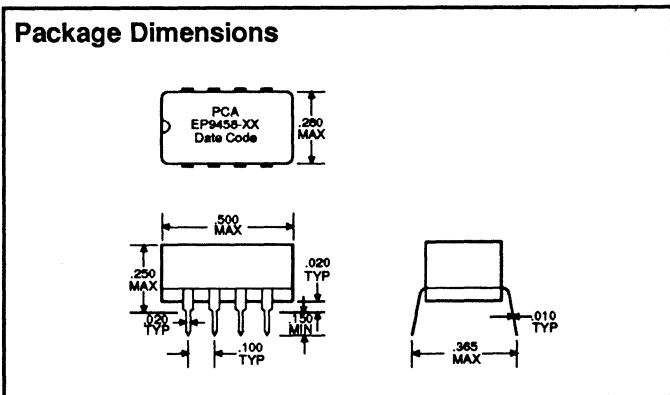
Delay times referenced from input to leading edges

| DC Electrical Characteristics | | | | | |
|-------------------------------|------------------------------|---|-----|-------------|----|
| Parameter | Test Conditions | Min | Max | Unit | |
| V_{OH} | High-Level Output Voltage | $V_{CC} = \text{min. } V_{IL} = \text{max. } I_{OH} = \text{max}$ | 2.7 | | V |
| V_{OL} | Low-Level Output Voltage | $V_{CC} = \text{min. } V_{IH} = \text{min. } I_{OL} = \text{max}$ | | 0.5 | V |
| V_{IK} | Input Clamp Voltage | $V_{CC} = \text{min. } I_I = I_{IK}$ | | -1.2 | V |
| I_{IH} | High-Level Input Current | $V_{CC} = \text{max. } V_{IN} = 2.7V$ | | 50 | µA |
| | | $V_{CC} = \text{max. } V_{IN} = 5.25V$ | | 1.0 | mA |
| I_{IL} | Low-Level Input Current | $V_{CC} = \text{max. } V_{IN} = 0.5V$ | | -2 | mA |
| I_{OS} | Short Circuit Output Current | $V_{CC} = \text{max. } V_{OUT} = 0.$ (One output at a time) | -40 | -100 | mA |
| I_{CCH} | High-Level Supply Current | $V_{CC} = \text{max. } V_{IN} = \text{OPEN}$ | | 75 | mA |
| I_{CCL} | Low-Level Supply Current | $V_{CC} = \text{max. } V_{IN} = 0$ | | 75 | mA |
| T_{RO} | Output Rise Time | $T_d \leq 500 \text{ nS}$ (0.75 to 2.4 Volts) | | 4 | nS |
| | | $T_d > 500 \text{ nS}$ | | 5 | nS |
| N_H | Fanout High-Level Output | $V_{CC} = \text{max. } V_{OH} = 2.7V$ | | 20 TTL LOAD | |
| N_L | Fanout Low-Level Output | $V_{CC} = \text{max. } V_{OL} = 0.5V$ | | 10 TTL LOAD | |



| Recommended Operating Conditions | | | | |
|----------------------------------|------|------|------|--|
| Parameter | Min | Max | Unit | |
| V_{CC} | 4.75 | 5.25 | V | |
| V_{IH} | 2.0 | | V | |
| V_{IL} | | 0.8 | V | |
| I_{IK} | | -18 | mA | |
| I_{OH} | | -1.0 | mA | |
| I_{OL} | | 20 | mA | |
| PW^* | 40 | | % | |
| d^* | | 40 | % | |
| T_A | 0 | +70 | °C | |

*These two values are inter-dependent.



| Input Pulse Test Conditions @ 25° C | | | |
|-------------------------------------|-------|-------|--|
| Parameter | Value | Unit | |
| E_{IN} | 3.2 | Volts | |
| PW | 110 | % | |
| T_{RI} | 2.0 | nS | |
| PRR | 1.0 | MHz | |
| | 500 | KHz | |
| V_{CC} | 5.0 | Volts | |

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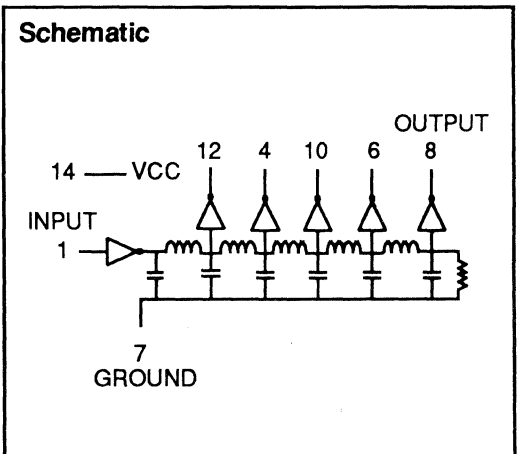
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SEPULVEDA, CA 91343
TEL: (818) 892-0761
FAX: (818) 894-5791
RCA Global 282 892

5 Tap TTL Compatible MIL 883 Active Delay Lines

| TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER | TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER |
|---------------------------|-----------------------------|----------------|---------------------------|-----------------------------|----------------|
| 5, 10, 15, 20 | 25 | EP9590-25 | 40, 80, 120, 160 | 200 | EP9590-200 |
| 6, 12, 18, 24 | 30 | EP9590-30 | 45, 90, 135, 180 | 225 | EP9590-225 |
| 7, 14, 21, 28 | 35 | EP9590-35 | 50, 100, 150, 200 | 250 | EP9590-250 |
| 8, 16, 24, 32 | 40 | EP9590-40 | 60, 120, 180, 240 | 300 | EP9590-300 |
| 9, 18, 27, 36 | 45 | EP9590-45 | 70, 140, 210, 280 | 250 | EP9590-280 |
| 10, 20, 30, 40 | 50 | EP9590-50 | 80, 160, 240, 320 | 400 | EP9590-400 |
| 12, 24, 36, 48 | 60 | EP9590-60 | 84, 168, 252, 336 | 420 | EP9590-420 |
| 15, 30, 45, 60 | 75 | EP9590-75 | 88, 176, 264, 352 | 440 | EP9590-440 |
| 20, 40, 60, 80 | 100 | EP9590-100 | 90, 180, 270, 360 | 450 | EP9590-450 |
| 25, 50, 75, 100 | 125 | EP9590-125 | 94, 188, 282, 376 | 470 | EP9590-470 |
| 30, 60, 90, 120 | 150 | EP9590-150 | 100, 200, 300, 400 | 500 | EP9590-500 |
| 35, 70, 105, 140 | 175 | EP9590-175 | | | |

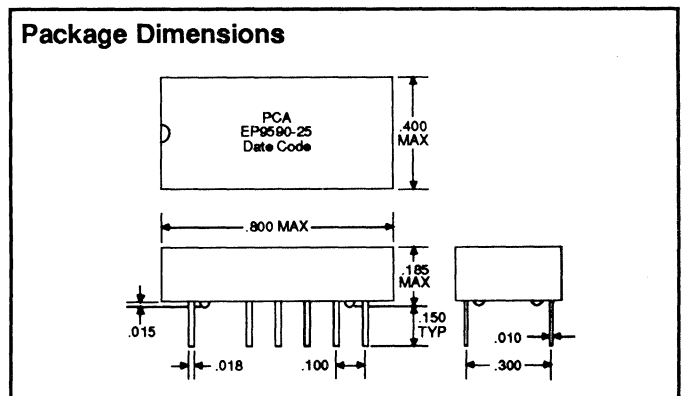
Delay times referenced from input to leading edges

| DC Electrical Characteristics | | Parameter | Test Conditions | Min | Max | Unit |
|-------------------------------|------------------------------|--|-----------------|-------------|-----|------|
| VOH | High-Level Output Voltage | V _{CC} = min. V _{IL} = max. I _{OH} = max | 2.7 | | V | |
| VOL | Low-Level Output Voltage | V _{CC} = min. V _{IH} = min. I _{OL} = max | 0.5 | | V | |
| V _{IK} | Input Clamp Voltage | V _{CC} = min. I _I = I _{IK} | -1.2 | | V | |
| I _{IH} | High-Level Input Current | V _{CC} = max. V _{IN} = 2.7V | 50 | | µA | |
| | | V _{CC} = max. V _{IN} = 5.25V | 1.0 | | mA | |
| I _{IL} | Low-Level Input Current | V _{CC} = max. V _{IN} = 0.5V | -2 | | mA | |
| I _{OS} | Short Circuit Output Current | V _{CC} = max. V _{OUT} = 0. (One output at a time) | -40 | -100 | mA | |
| I _{CCH} | High-Level Supply Current | V _{CC} = max. V _{IN} = OPEN | 75 | | mA | |
| I _{CCL} | Low-Level Supply Current | V _{CC} = max. V _{IN} = 0 | 75 | | mA | |
| T _{RO} | Output Rise Time | T _d ≤ 500 nS (0.75 to 2.4 Volts) | 4 | | nS | |
| | | T _d > 500 nS | 5 | | nS | |
| N _H | Fanout High-Level Output | V _{CC} = max. V _{OH} = 2.7V | | 20 TTL LOAD | | |
| N _L | Fanout Low-Level Output | V _{CC} = max. V _{OL} = 0.5V | | 10 TTL LOAD | | |



| Recommended Operating Conditions | | Min | Max | Unit |
|----------------------------------|--------------------------------|------|------|------|
| V _{CC} | Supply Voltage | 4.75 | 5.25 | V |
| V _{IH} | High-Level Input Voltage | 2.0 | | V |
| V _{IL} | Low-Level Input Voltage | | 0.8 | V |
| I _{IK} | Input Clamp Current | | -18 | mA |
| I _{OH} | High-Level Output Current | | -1.0 | mA |
| I _{OL} | Low-Level Output Current | | 20 | mA |
| P _W * | Pulse Width of Total Delay | 40 | | % |
| d* | Duty Cycle | | 40 | % |
| T _A | Operating Free-Air Temperature | -55 | +125 | °C |

*These two values are inter-dependent.



| Input Pulse Test Conditions @ 25° C | | Unit |
|-------------------------------------|---|-----------|
| E _{IN} | Pulse Input Voltage | 3.2 Volts |
| P _W | Pulse Width % of Total Delay | 110 % |
| T _{RI} | Pulse Rise Time (0.75 - 2.4 Volts) | 2.0 nS |
| P _{RR} | Pulse Repetition Rate @ T _d ≤ 500 nS | 1.0 MHz |
| | Pulse Repetition Rate @ T _d > 500 nS | 500 KHz |
| V _{CC} | Supply Voltage | 5.0 Volts |

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8 Pin SIL 5 Tap TTL Compatible Active Delay Lines

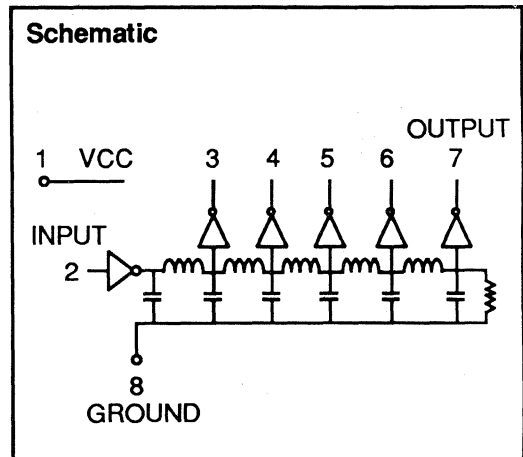
| TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER | TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER |
|---------------------------|-----------------------------|----------------|---------------------------|-----------------------------|----------------|
| 1 ± 0.5 | *4 ± 0.5 | EP9677-4 | 15 | 75 | EP9677-75 |
| 1.5 ± 0.5 | *6 ± 0.5 | EP9677-6 | 20 | 100 | EP9677-100 |
| 2 ± 1 | *8 ± 1.0 | EP9677-8 | 25 | 125 | EP9677-125 |
| 2.5 ± 1 | *10 | EP9677-10 | 30 | 150 | EP9677-150 |
| 3 ± 1 | *12 | EP9677-12 | 35 | 175 | EP9677-175 |
| 4 ± 1.5 | *16 | EP9677-16 | 40 | 200 | EP9677-200 |
| 5 | *20 | EP9677-20 | 50 | 250 | EP9677-250 |
| 6 | 30 | EP9677-30 | 60 | 300 | EP9677-300 |
| 7 | 35 | EP9677-35 | 70 | 350 | EP9677-350 |
| 8 | 40 | EP9677-40 | 80 | 400 | EP9677-400 |
| 9 | 45 | EP9677-45 | 90 | 450 | EP9677-450 |
| 10 | 50 | EP9677-50 | 100 | 500 | EP9677-500 |
| 12 | 60 | EP9677-60 | | | |

Delay times referenced from input to leading edges

*Delay times referenced from 1st tap

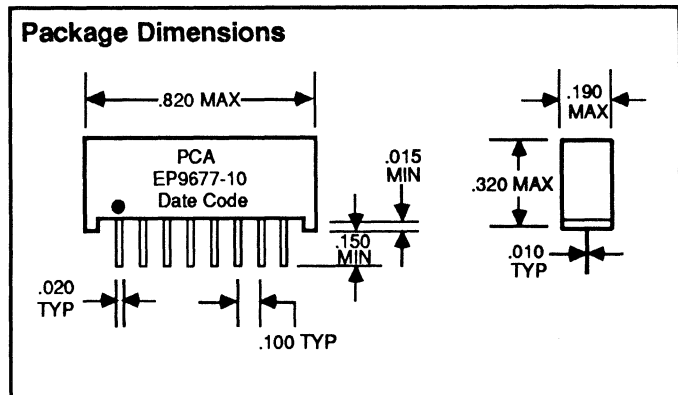
1st tap is the inherent delay: approx. 7 nS

| DC Electrical Characteristics | | | | | |
|-------------------------------|------------------------------|--|-----|-------------|----|
| Parameter | Test Conditions | Min | Max | Unit | |
| V _{OH} | High-Level Output Voltage | V _{CC} = min. V _{IL} = max. I _{OH} = max | 2.7 | | V |
| V _{OL} | Low-Level Output Voltage | V _{CC} = min. V _{IH} = min. I _{OL} = max | | 0.5 | V |
| V _{IK} | Input Clamp Voltage | V _{CC} = min. I _I = I _{IK} | | -1.2 | V |
| I _{IH} | High-Level Input Current | V _{CC} = max. V _{IN} = 2.7V | | 50 | µA |
| | | V _{CC} = max. V _{IN} = 5.25V | | 1.0 | mA |
| I _{IL} | Low-Level Input Current | V _{CC} = max. V _{IN} = 0.5V | | -2 | mA |
| I _{OS} | Short Circuit Output Current | V _{CC} = max. V _{OUT} = 0. (One output at a time) | -40 | -100 | mA |
| I _{CCH} | High-Level Supply Current | V _{CC} = max. V _{IN} = OPEN | | 75 | mA |
| I _{CCL} | Low-Level Supply Current | V _{CC} = max. V _{IN} = 0 | | 75 | mA |
| T _{RO} | Output Rise Time | T _d ≤ 500 nS (0.75 to 2.4 Volts) | | 4 | nS |
| | | T _d > 500 nS | | 5 | nS |
| N _H | Fanout High-Level Output | V _{CC} = max. V _{OH} = 2.7V | | 20 TTL LOAD | |
| N _L | Fanout Low-Level Output | V _{CC} = max. V _{OL} = 0.5V | | 10 TTL LOAD | |



| Recommended Operating Conditions | | | | |
|----------------------------------|------|------|------|--------------------------------|
| Parameter | Min | Max | Unit | |
| V _{CC} | 4.75 | 5.25 | V | Supply Voltage |
| V _{IH} | 2.0 | | V | High-Level Input Voltage |
| V _{IL} | | 0.8 | V | Low-Level Input Voltage |
| I _{IK} | | -18 | mA | Input Clamp Current |
| I _{OH} | | -1.0 | mA | High-Level Output Current |
| I _{OL} | | 20 | mA | Low-Level Output Current |
| PW* | 40 | | % | Pulse Width of Total Delay |
| d* | | 40 | % | Duty Cycle |
| T _A | 0 | +70 | °C | Operating Free-Air Temperature |

*These two values are inter-dependent.



| Input Pulse Test Conditions @ 25° C | | | | Unit |
|-------------------------------------|---|-----|--|-------|
| E _{IN} | Pulse Input Voltage | 3.2 | | Volts |
| PW | Pulse Width % of Total Delay | 110 | | % |
| T _{RI} | Pulse Rise Time (0.75 - 2.4 Volts) | 2.0 | | nS |
| PRR | Pulse Repetition Rate @ T _d ≤ 500 nS | 1.0 | | MHz |
| | Pulse Repetition Rate @ T _d > 500 nS | 500 | | KHz |
| V _{CC} | Supply Voltage | 5.0 | | Volts |

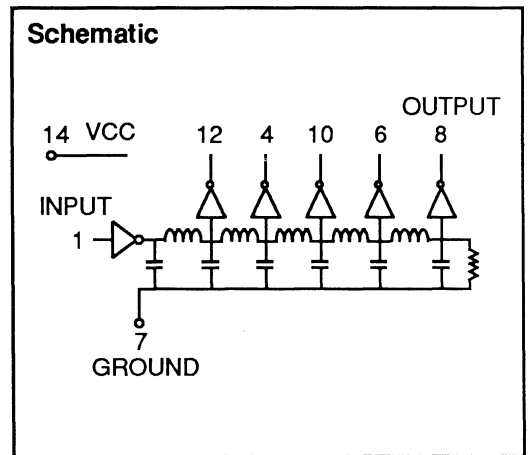
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RCA Global 282 892

14 Pin DIL 5 Tap TTL Compatible Active Delay Lines

| TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER | TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER |
|---------------------------|-----------------------------|----------------|---------------------------|-----------------------------|----------------|
| 5, 10, 15, 20 | 25 | EP9810-25 | 80, 160, 240, 320 | 400 | EP9810-400 |
| 6, 12, 18, 24 | 30 | EP9810-30 | 84, 168, 252, 336 | 420 | EP9810-420 |
| 7, 14, 21, 28 | 35 | EP9810-35 | 88, 176, 264, 352 | 440 | EP9810-440 |
| 8, 16, 24, 32 | 40 | EP9810-40 | 90, 180, 270, 360 | 450 | EP9810-450 |
| 9, 18, 27, 36 | 45 | EP9810-45 | 94, 188, 282, 376 | 470 | EP9810-470 |
| 10, 20, 30, 40 | 50 | EP9810-50 | 100, 200, 300, 400 | 500 | EP9810-500 |
| 12, 24, 36, 48 | 60 | EP9810-60 | 110, 220, 330, 440 | 550 | EP9810-550 |
| 15, 30, 45, 60 | 75 | EP9810-75 | 120, 240, 360, 480 | 600 | EP9810-600 |
| 20, 40, 60, 80 | 100 | EP9810-100 | 130, 260, 390, 520 | 650 | EP9810-650 |
| 25, 50, 75, 100 | 125 | EP9810-125 | 140, 280, 420, 560 | 700 | EP9810-700 |
| 30, 60, 90, 120 | 150 | EP9810-150 | 150, 300, 450, 600 | 750 | EP9810-750 |
| 35, 70, 105, 140 | 175 | EP9810-175 | 160, 320, 480, 640 | 800 | EP9810-800 |
| 40, 80, 120, 160 | 200 | EP9810-200 | 170, 340, 510, 680 | 850 | EP9810-850 |
| 45, 90, 135, 180 | 225 | EP9810-225 | 180, 360, 540, 720 | 900 | EP9810-900 |
| 50, 100, 150, 200 | 250 | EP9810-250 | 190, 380, 570, 760 | 950 | EP9810-950 |
| 60, 120, 180, 240 | 300 | EP9810-300 | 200, 400, 600, 800 | 1000 | EP9810-1000 |
| 70, 140, 210, 280 | 350 | EP9810-350 | | | |

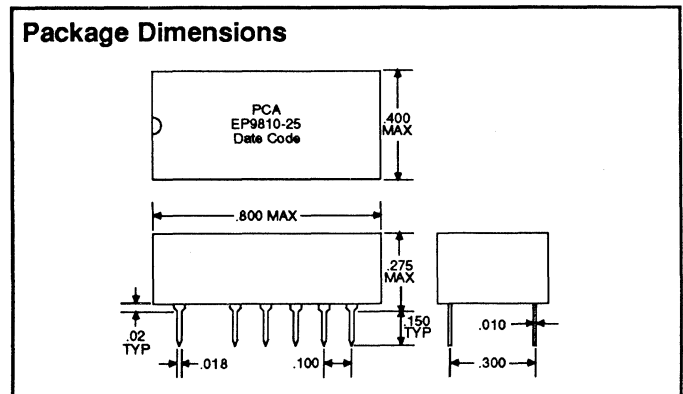
Delay times referenced from input to leading edges

| DC Electrical Characteristics | | Test Conditions | Min | Max | Unit |
|-------------------------------|------------------------------|---|-----|-------------|---------|
| V_{OH} | High-Level Output Voltage | $V_{CC} = \text{min. } V_{IH} = \text{max. } I_{OH} = \text{max}$ | 2.7 | | V |
| V_{OL} | Low-Level Output Voltage | $V_{CC} = \text{min. } V_{IH} = \text{min. } I_{OL} = \text{max}$ | | 0.5 | V |
| V_{IK} | Input Clamp Voltage | $V_{CC} = \text{min. } I_I = I_{IK}$ | | -1.2 | V |
| I_{IH} | High-Level Input Current | $V_{CC} = \text{max. } V_{IN} = 2.7V$ | | 50 | μA |
| | | $V_{CC} = \text{max. } V_{IN} = 5.25V$ | | 1.0 | mA |
| I_{IL} | Low-Level Input Current | $V_{CC} = \text{max. } V_{IN} = 0.5V$ | | -2 | mA |
| I_{OS} | Short Circuit Output Current | $V_{CC} = \text{max. } V_{OUT} = 0.$ (One output at a time) | -40 | -100 | mA |
| I_{CCH} | High-Level Supply Current | $V_{CC} = \text{max. } V_{IN} = \text{OPEN}$ | | 75 | mA |
| I_{CCL} | Low-Level Supply Current | $V_{CC} = \text{max. } V_{IN} = 0$ | | 75 | mA |
| T_{RO} | Output Rise Time | $T_d \leq 500 \text{ nS}$ (0.75 to 2.4 Volts) $T_d > 500 \text{ nS}$ | | 4 5 | nS |
| N_H | Fanout High-Level Output | $V_{CC} = \text{max. } V_{OH} = 2.7V$ | | 20 TTL LOAD | |
| N_L | Fanout Low-Level Output | $V_{CC} = \text{max. } V_{OL} = 0.5V$ | | 10 TTL LOAD | |



| Recommended Operating Conditions | | Min | Max | Unit |
|----------------------------------|--------------------------------|------|------|-------------|
| V_{CC} | Supply Voltage | 4.75 | 5.25 | V |
| V_{IH} | High-Level Input Voltage | 2.0 | | V |
| V_{IL} | Low-Level Input Voltage | | 0.8 | V |
| I_{IK} | Input Clamp Current | | -18 | mA |
| I_{OH} | High-Level Output Current | | -1.0 | mA |
| I_{OL} | Low-Level Output Current | | 20 | mA |
| PW^* | Pulse Width of Total Delay | 40 | | % |
| d^* | Duty Cycle | | 40 | % |
| T_A | Operating Free-Air Temperature | 0 | +70 | $^{\circ}C$ |

*These two values are inter-dependent.



| Input Pulse Test Conditions @ 25° C | | Unit |
|-------------------------------------|---|-----------|
| E_{IN} | Pulse Input Voltage | 3.2 Volts |
| PW | Pulse Width % of Total Delay | 110 % |
| T_{RI} | Pulse Rise Time (0.75 - 2.4 Volts) | 2.0 nS |
| PRR | Pulse Repetition Rate @ $T_d \leq 500 \text{ nS}$ | 1.0 MHz |
| | Pulse Repetition Rate @ $T_d > 500 \text{ nS}$ | 500 KHz |
| V_{CC} | Supply Voltage | 5.0 Volts |

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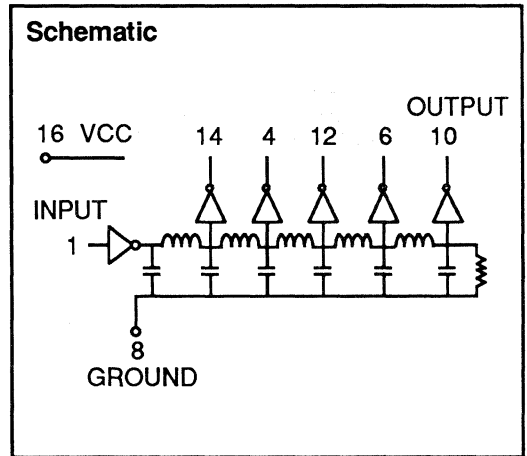
16799 SCHOENBORN ST.
SEPULVEDA, CA 91343
TEL: (818) 892-0761
FAX: (818) 894-5791
RCA Global 282 892

16 Pin DIP 5 Tap TTL Compatible Active Delay Lines

| TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER | TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER |
|---------------------------|-----------------------------|-------------|---------------------------|-----------------------------|-------------|
| 5, 10, 15, 20 | 25 | EPA054-25 | 80, 160, 240, 320 | 400 | EPA054-400 |
| 6, 12, 18, 24 | 30 | EPA054-30 | 84, 168, 252, 336 | 420 | EPA054-420 |
| 7, 14, 21, 28 | 35 | EPA054-35 | 88, 176, 264, 352 | 440 | EPA054-440 |
| 8, 16, 24, 32 | 40 | EPA054-40 | 90, 180, 270, 360 | 450 | EPA054-450 |
| 9, 18, 27, 36 | 45 | EPA054-45 | 94, 188, 282, 376 | 470 | EPA054-470 |
| 10, 20, 30, 40 | 50 | EPA054-50 | 100, 200, 300, 400 | 500 | EPA054-500 |
| 12, 24, 36, 48 | 60 | EPA054-60 | 110, 220, 330, 440 | 550 | EPA054-550 |
| 15, 30, 45, 60 | 75 | EPA054-75 | 120, 240, 360, 480 | 600 | EPA054-600 |
| 20, 40, 60, 80 | 100 | EPA054-100 | 130, 260, 390, 520 | 650 | EPA054-650 |
| 25, 50, 75, 100 | 125 | EPA054-125 | 140, 280, 420, 560 | 700 | EPA054-700 |
| 30, 60, 90, 120 | 150 | EPA054-150 | 150, 300, 450, 600 | 750 | EPA054-750 |
| 35, 70, 105, 140 | 175 | EPA054-175 | 160, 320, 480, 640 | 800 | EPA054-800 |
| 40, 80, 120, 160 | 200 | EPA054-200 | 170, 340, 510, 680 | 850 | EPA054-850 |
| 45, 90, 135, 180 | 225 | EPA054-225 | 180, 360, 540, 720 | 900 | EPA054-900 |
| 50, 100, 150, 200 | 250 | EPA054-250 | 190, 380, 570, 760 | 950 | EPA054-950 |
| 60, 120, 180, 240 | 300 | EPA054-300 | 200, 400, 600, 800 | 1000 | EPA054-1000 |
| 70, 140, 210, 280 | 350 | EPA054-350 | | | |

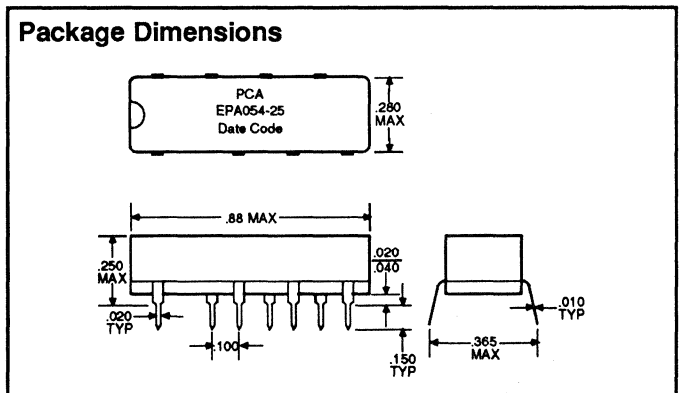
Delay times referenced from input to leading edges

| DC Electrical Characteristics | | Test Conditions | Min | Max | Unit |
|-------------------------------|------------------------------|---|-----|-------------|----------|
| V_{OH} | High-Level Output Voltage | $V_{CC} = \text{min. } V_{IL} = \text{max. } I_{OH} = \text{max}$ | 2.7 | | V |
| V_{OL} | Low-Level Output Voltage | $V_{CC} = \text{min. } V_{IH} = \text{min. } I_{OL} = \text{max}$ | | 0.5 | V |
| V_{IK} | Input Clamp Voltage | $V_{CC} = \text{min. } I_I = I_{IK}$ | | -1.2 | V |
| I_{IH} | High-Level Input Current | $V_{CC} = \text{max. } V_{IN} = 2.7V$ | | 50 | μA |
| | | $V_{CC} = \text{max. } V_{IN} = 5.25V$ | | 1.0 | mA |
| I_{IL} | Low-Level Input Current | $V_{CC} = \text{max. } V_{IN} = 0.5V$ | | -2 | mA |
| I_{OS} | Short Circuit Output Current | $V_{CC} = \text{max. } V_{OUT} = 0.$ (One output at a time) | -40 | -100 | mA |
| I_{CCH} | High-Level Supply Current | $V_{CC} = \text{max. } V_{IN} = \text{OPEN}$ | | 75 | mA |
| I_{CCL} | Low-Level Supply Current | $V_{CC} = \text{max. } V_{IN} = 0$ | | 75 | mA |
| T_{RO} | Output Rise Time | $T_d \leq 500 \text{ nS}$ (0.75 to 2.4 Volts) $T_d > 500 \text{ nS}$ | | 4 5 | nS nS |
| N_H | Fanout High-Level Output | $V_{CC} = \text{max. } V_{OH} = 2.7V$ | | 20 TTL LOAD | |
| N_L | Fanout Low-Level Output | $V_{CC} = \text{max. } V_{OL} = 0.5V$ | | 10 TTL LOAD | |



| Recommended Operating Conditions | | Min | Max | Unit |
|----------------------------------|--------------------------------|------|------|-------------|
| V_{CC} | Supply Voltage | 4.75 | 5.25 | V |
| V_{IH} | High-Level Input Voltage | 2.0 | | V |
| V_{IL} | Low-Level Input Voltage | | 0.8 | V |
| I_{IK} | Input Clamp Current | | -18 | mA |
| I_{OH} | High-Level Output Current | | -1.0 | mA |
| I_{OL} | Low-Level Output Current | | 20 | mA |
| PW^* | Pulse Width of Total Delay | 40 | | % |
| d^* | Duty Cycle | | 40 | % |
| T_A | Operating Free-Air Temperature | 0 | +70 | $^{\circ}C$ |

*These two values are inter-dependent.



| Input Pulse Test Conditions @ 25° C | | Unit |
|-------------------------------------|---|-----------|
| E_{IN} | Pulse Input Voltage | 3.2 Volts |
| PW | Pulse Width % of Total Delay | 110 % |
| T_{RI} | Pulse Rise Time (0.75 - 2.4 Volts) | 2.0 nS |
| PRR | Pulse Repetition Rate @ $T_d \leq 500 \text{ nS}$ | 1.0 MHz |
| | Pulse Repetition Rate @ $T_d > 500 \text{ nS}$ | 500 KHz |
| V_{CC} | Supply Voltage | 5.0 Volts |

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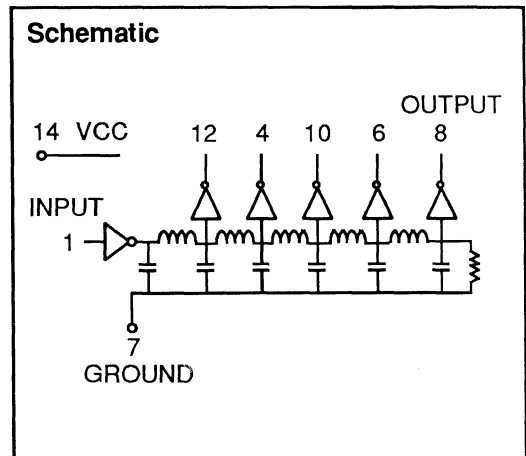
16799 SCHOENBORN ST.
SEPULVEDA, CA 91343
TEL: (818) 892-0761
FAX: (818) 894-5791
RCA Global 282 892

SMD 14-Pin 5 Tap TTL Compatible Active Delay Lines

| TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER | TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER |
|---------------------------|-----------------------------|----------------|---------------------------|-----------------------------|----------------|
| 5, 10, 15, 20 | 25 | EPA073-25 | 80, 160, 240, 320 | 400 | EPA073-400 |
| 6, 12, 18, 24 | 30 | EPA073-30 | 84, 168, 252, 336 | 420 | EPA073-420 |
| 7, 14, 21, 28 | 35 | EPA073-35 | 88, 176, 264, 352 | 440 | EPA073-440 |
| 8, 16, 24, 32 | 40 | EPA073-40 | 90, 180, 270, 360 | 450 | EPA073-450 |
| 9, 18, 27, 36 | 45 | EPA073-45 | 94, 188, 282, 376 | 470 | EPA073-470 |
| 10, 20, 30, 40 | 50 | EPA073-50 | 100, 200, 300, 400 | 500 | EPA073-500 |
| 12, 24, 36, 48 | 60 | EPA073-60 | 110, 220, 330, 440 | 550 | EPA073-550 |
| 15, 30, 45, 60 | 75 | EPA073-75 | 120, 240, 360, 480 | 600 | EPA073-600 |
| 20, 40, 60, 80 | 100 | EPA073-100 | 130, 260, 390, 520 | 650 | EPA073-650 |
| 25, 50, 75, 100 | 125 | EPA073-125 | 140, 280, 420, 560 | 700 | EPA073-700 |
| 30, 60, 90, 120 | 150 | EPA073-150 | 150, 300, 450, 600 | 750 | EPA073-750 |
| 35, 70, 105, 140 | 175 | EPA073-175 | 160, 320, 480, 640 | 800 | EPA073-800 |
| 40, 80, 120, 160 | 200 | EPA073-200 | 170, 340, 510, 680 | 850 | EPA073-850 |
| 45, 90, 135, 180 | 225 | EPA073-225 | 180, 360, 540, 720 | 900 | EPA073-900 |
| 50, 100, 150, 200 | 250 | EPA073-250 | 190, 380, 570, 760 | 950 | EPA073-950 |
| 60, 120, 180, 240 | 300 | EPA073-300 | 200, 400, 600, 800 | 1000 | EPA073-1000 |
| 70, 140, 210, 280 | 350 | EPA073-350 | | | |

Delay times referenced from input to leading edges

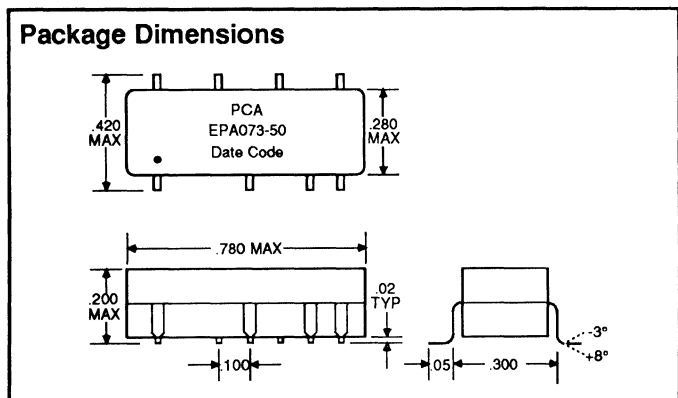
| DC Electrical Characteristics | | Test Conditions | Min | Max | Unit |
|-------------------------------|------------------------------|---|-----|-------------|---------|
| V_{OH} | High-Level Output Voltage | $V_{CC} = \text{min. } V_{IL} = \text{max. } I_{OH} = \text{max}$ | 2.7 | | V |
| V_{OL} | Low-Level Output Voltage | $V_{CC} = \text{min. } V_{IH} = \text{min. } I_{OL} = \text{max}$ | | 0.5 | V |
| V_{IK} | Input Clamp Voltage | $V_{CC} = \text{min. } I_I = I_{IK}$ | | -1.2 | V |
| I_{IH} | High-Level Input Current | $V_{CC} = \text{max. } V_{IN} = 2.7V$ | | 50 | μA |
| | | $V_{CC} = \text{max. } V_{IN} = 5.25V$ | | 1.0 | mA |
| I_{IL} | Low-Level Input Current | $V_{CC} = \text{max. } V_{IN} = 0.5V$ | | -2 | mA |
| I_{OS} | Short Circuit Output Current | $V_{CC} = \text{max. } V_{OUT} = 0.$ (One output at a time) | -40 | -100 | mA |
| I_{CCH} | High-Level Supply Current | $V_{CC} = \text{max. } V_{IN} = \text{OPEN}$ | | 75 | mA |
| I_{CCL} | Low-Level Supply Current | $V_{CC} = \text{max. } V_{IN} = 0$ | | 75 | mA |
| T_{RO} | Output Rise Time | $T_d \leq 500 \text{ nS}$ (0.75 to 2.4 Volts) $T_d > 500 \text{ nS}$ | | 4 5 | nS |
| N_H | Fanout High-Level Output | $V_{CC} = \text{max. } V_{OH} = 2.7V$ | | 20 TTL LOAD | |
| N_L | Fanout Low-Level Output | $V_{CC} = \text{max. } V_{OL} = 0.5V$ | | 10 TTL LOAD | |



| Recommended Operating Conditions | | Min | Max | Unit |
|----------------------------------|--------------------------------|------|------|-------------|
| V_{CC} | Supply Voltage | 4.75 | 5.25 | V |
| V_{IH} | High-Level Input Voltage | 2.0 | | V |
| V_{IL} | Low-Level Input Voltage | | 0.8 | V |
| I_{IK} | Input Clamp Current | | -18 | mA |
| I_{OH} | High-Level Output Current | | -1.0 | mA |
| I_{OL} | Low-Level Output Current | | 20 | mA |
| PW^* | Pulse Width of Total Delay | 40 | | % |
| d^* | Duty Cycle | | 40 | % |
| T_A | Operating Free-Air Temperature | 0 | +70 | $^{\circ}C$ |

*These two values are inter-dependent.

| Input Pulse Test Conditions @ 25 $^{\circ}C$ | | Unit |
|--|---|-----------|
| E_{IN} | Pulse Input Voltage | 3.2 Volts |
| PW | Pulse Width % of Total Delay | 110 % |
| T_{RI} | Pulse Rise Time (0.75 - 2.4 Volts) | 2.0 nS |
| PRR | Pulse Repetition Rate @ $T_d \leq 500 \text{ nS}$ | 1.0 MHz |
| | Pulse Repetition Rate @ $T_d > 500 \text{ nS}$ | 500 KHz |
| V_{CC} | Supply Voltage | 5.0 Volts |



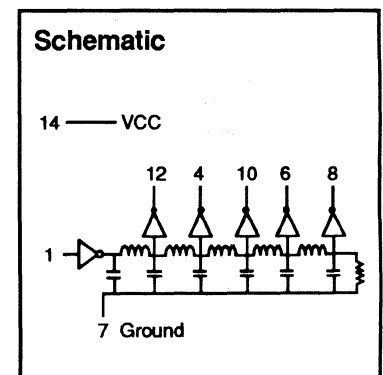
16799 SCHOENBORN ST.
SEPULVEDA, CA 91343
TEL: (818) 892-0761
FAX: (818) 894-5791
RCA Global 282 892

5 Tap High Speed CMOS (HCT) Compatible Active Delay Lines

| Tap Delays ±5% or 2nS | Total Delay ±5% or 2 nS | Part Number | Tap Delays ±5% or 2nS | Total Delay ±5% or 2 nS | Part Number |
|--------------------------|----------------------------|----------------|--------------------------|----------------------------|----------------|
| 12* 17 22 27 | 32 | EP9604-32 | 80 160 240 320 | 400 | EP9604-400 |
| 12* 18 24 30 | 36 | EP9604-36 | 84 168 252 336 | 420 | EP9604-420 |
| 12* 19 26 33 | 40 | EP9604-40 | 88 176 264 352 | 440 | EP9604-440 |
| 12* 20 28 36 | 44 | EP9604-44 | 90 180 270 360 | 450 | EP9604-450 |
| 12* 21 30 39 | 48 | EP9604-48 | 100 200 300 400 | 500 | EP9604-500 |
| 12* 22 32 42 | 52 | EP9604-52 | 110 220 330 440 | 550 | EP9604-550 |
| 12* 24 36 48 | 60 | EP9604-60 | 120 240 360 480 | 600 | EP9604-600 |
| 15 30 45 60 | 75 | EP9604-75 | 130 260 390 520 | 650 | EP9604-650 |
| 20 40 60 80 | 100 | EP9604-100 | 140 280 420 560 | 700 | EP9604-700 |
| 25 50 75 100 | 125 | EP9604-125 | 150 300 450 600 | 750 | EP9604-750 |
| 30 60 90 120 | 150 | EP9604-150 | 160 320 480 640 | 800 | EP9604-800 |
| 35 70 105 140 | 175 | EP9604-175 | 170 340 510 680 | 850 | EP9604-850 |
| 40 80 120 160 | 200 | EP9604-200 | 180 360 540 720 | 900 | EP9604-900 |
| 50 100 150 200 | 250 | EP9604-250 | 190 380 570 760 | 950 | EP9604-950 |
| 60 120 180 240 | 300 | EP9604-300 | 200 400 600 800 | 1000 | EP9604-1000 |
| 70 140 210 280 | 350 | EP9604-350 | | | |

* Inherent Delay • Delay times referenced from input to leading edges

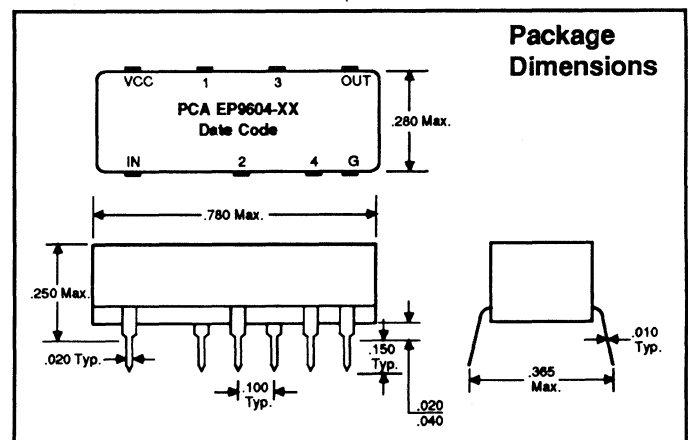
| DC Electrical Characteristics | | Test Conditions | Min | Max | Unit |
|-------------------------------|---------------------------|--|-----|------|------------|
| V _{IH} | High Level Input Voltage | V _{CC} =4.5 to 5.5 | 2.0 | | Volt |
| V _{IL} | Low Level Input Voltage | V _{CC} =4.5 to 5.5 | | 0.8 | Volt |
| V _{OH} | High Level Output Voltage | V _{CC} =4.5V, I _O =-4.0mA@V _{IH} or V _{IL} | 4.0 | | Volt |
| V _{OL} | Low Level Output Voltage | V _{CC} =4.5V, I _O =-4.0mA@V _{IH} or V _{IL} | | 0.3 | Volt |
| I _L | Input Leakage Current | V _{CC} =5.5V @V _{IH} or V _{IL} | | ±1.0 | uA |
| I _{CC} | Supply Current | V _{CC} =5.5V, V _{IN} =0 | | 15 | mA |
| T _{RO} | Output Rise Time | ≤550 nS (.75 - 2.4 Volts) | | 4 | nS |
| | | >550 nS | | 5 | nS |
| N _H | High Fanout | V _{CC} =5.5V, V _{OH} =4.0V | 10 | | LSTTL Load |



| Recommended Operating Conditions | | Min | Max | Unit |
|----------------------------------|--------------------------------|-----|-----------------|------|
| V _{CC} | DC Supply Voltage | 4.5 | 5.5 | Volt |
| V _I | DC Input Voltage Range | 0 | V _{CC} | Volt |
| V _O | DC Output Voltage Range | 0 | V _{CC} | Volt |
| I _O | DC Output Source/Sink Current | | 25 | mA |
| PW* | Pulse Width % of Total Delay | 40 | | % |
| D* | Duty Cycle | | 40 | % |
| T _A | Operating Free Air Temperature | 0 | 70 | °C |

*These two values are inter-dependent.

| Input Pulse Test Conditions @ 25°C (Taps Unloaded) | | |
|--|---|-----------|
| E _{IN} | Pulse Input Voltage | 3.2 Volts |
| PW | Pulse Width % of Total Delay | 150 % |
| T _{RI} | Input Rise Time (0.75 - 2.4 Volts) | 2.0 nS |
| P _{RR} | Pulse Repetition Rate @ T _d ≤ 500 nS | 1.0 MHz |
| | Pulse Repetition Rate @ T _d > 500 nS | 500 KHz |
| V _{CC} | Supply Voltage | 5.0 Volts |



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5 Tap 10K ECL Compatible Active Delay Lines

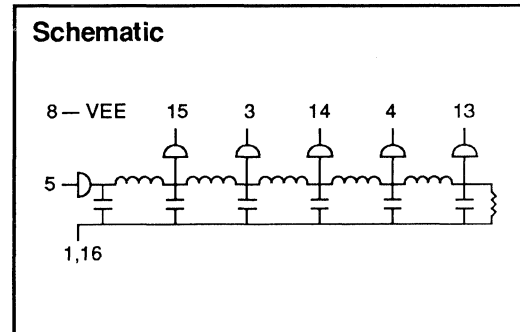
| TAP 1 nS ±5% | TAP 2 nS ±5% | TAP 3 nS ±5% | TAP 4 nS ±5% | OUTPUT nS ±5% | RISE TIME nS MAX | PART NUMBER |
|-----------------|-----------------|-----------------|-----------------|------------------|---------------------|----------------|
| 3.0 TYP† | 4 ± 0.3 | 5 ± 0.3 | 6 ± 0.3 | 7 ± 0.3 | 4 | EP9445-7 |
| 3.0 TYP† | 5 ± 0.5 | 7 ± 0.5 | 9 ± 0.5 | 11 ± 0.5 | 4 | EP9445-11 |
| 3.0 TYP | 6 ± 0.5 | 9 ± 0.5 | 12 ± 1.0 | 15 ± 1.5 | 4 | EP9445-15 |
| 4 ± 1.0 | 8 ± 0.5 | 12 ± 1.0 | 16 ± 1.5 | 20 ± 2.0 | 4 | EP9445-20 |
| 6 ± 1.0 | 12 ± 1.0 | 18 ± 1.5 | 24 ± 2.0 | 30 ± 2.0 | 4 | EP9445-30 |
| 8 ± 1.0 | 16 ± 1.5 | 24 ± 2.0 | 32 ± 2.0 | 40 | 5 | EP9445-40 |
| 10 ± 1.0 | 20 ± 2.0 | 30 ± 2.0 | 40 | 50 | 5 | EP9445-50 |
| 15 ± 1.5 | 30 ± 2.0 | 45 | 60 | 75 | 8 | EP9445-75 |
| 20 ± 2.0 | 40 | 60 | 80 | 100 | 10 | EP9445-100 |
| 30 ± 2.0 | 60 | 90 | 120 | 150 | 15 | EP9445-150 |
| 40 | 80 | 120 | 160 | 200 | 20 | EP9445-200 |
| 50 | 100 | 150 | 200 | 250 | 25 | EP9445-250 |
| 60 | 120 | 180 | 240 | 300 | 30 | EP9445-300 |
| 70 | 140 | 210 | 280 | 350 | 35 | EP9445-350 |
| 80 | 160 | 240 | 320 | 400 | 40 | EP9445-400 |
| 90 | 180 | 270 | 360 | 450 | 45 | EP9445-450 |
| 100 | 200 | 300 | 400 | 500 | 50 | EP9445-500 |
| 120 | 240 | 360 | 480 | 600 | 50 | EP9445-600 |
| 140 | 280 | 420 | 560 | 700 | 50 | EP9445-700 |
| 160 | 320 | 480 | 640 | 800 | 50 | EP9445-800 |
| 180 | 360 | 520 | 720 | 900 | 50 | EP9445-900 |
| 200 | 400 | 600 | 800 | 1000 | 50 | EP9445-1000 |

Delay time measured at -1.3V, no load
 Delay times referenced from input to leading edges
 †Inherent delay

Rise time output measured from 20% to 80%
 Output terminated (externally) with 50Ω to -2.0Vdc

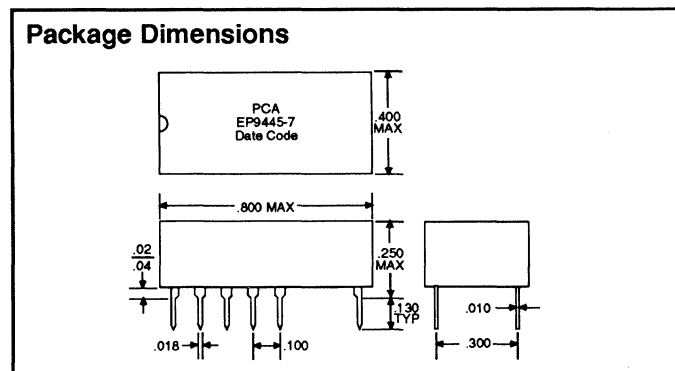
| DC Electrical Characteristics | | | | | |
|-------------------------------|-------------------------------------|-----------------------|------|-------|------|
| Parameter | | *Test Conditions | Min | Max | Unit |
| VOH | High-Level Output Voltage | V _{IL} = Min | -960 | | mV |
| VOHT | High-Level Output Threshold Voltage | | -980 | | mV |
| VOLT | Low-Level Output Threshold Voltage | V _{IH} = Max | | -1630 | mV |
| VOH | Low-Level Output Voltage | | | -1650 | mV |
| I _{IH} | High-Level Input Current | V _{IH} = Max | | 265 | μA |
| I _{IL} | Low-Level Input Current | V _{IL} = Min | 0.5 | | μA |
| I _{EE} | V _{EE} Supply Current | | | 50 | mA |

* (V_{CC1} = V_{CC2} = GRD, V_{EE} = -5.2V ± 0.01V, Output Loading with 50Ω to -2.0V ± 0.01V)



| Recommended Operating Conditions | | | | |
|----------------------------------|------------------------------------|------|-------|------|
| | | Min | Max | Unit |
| V _{EE} | Supply Voltage (Negative) | 4.94 | 5.46 | V |
| V _{CC} | Circuit Ground (Pins 1 and 16) | 0 | 0 | V |
| V _{IH} | High-Level Input Voltage | -980 | | mV |
| V _{IHT} | High-Level Input Threshold Voltage | | -1105 | mV |
| V _{I_{LT}} | Low-Level Input Threshold Voltage | | -1475 | mV |
| V _{IL} | Low-Level Input Voltage | | -1630 | mV |
| PW* | Pulse Width of Total Delay | 300 | | % |
| d* | Duty Cycle | | 20 | % |
| T _A | Operating Free-Air Temperature | -30 | +80 | °C |

*These two values are inter-dependent.



| Input Pulse Test Conditions @ 25° C | | |
|-------------------------------------|------------------------------|-------------------------|
| V _{IN} | Pulse Input Voltage | -1.0V (-0.75 to -1.75V) |
| PW | Pulse Width of Total Delay | 3x Total Delay |
| T _{RI} | Pulse Rise Time (20% to 80%) | 2 nS |
| V _{EE} | Supply Voltage | -5.2V |

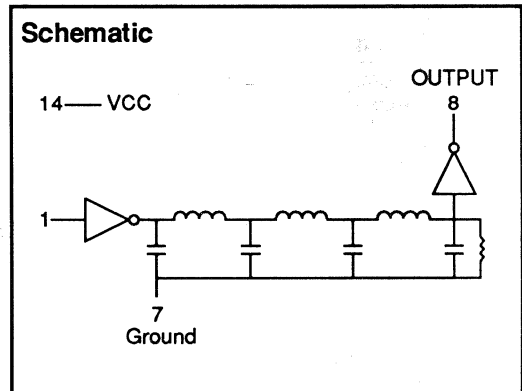
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 SEPULVEDA, CA 91343
 TEL: (818) 892-0761
 FAX: (818) 894-5791
 RCA Global 282 892

14 Pin DIP Single Output TTL Compatible Active Delay Lines

| TIME DELAYS (nS) ±5% or 2 nS | PART NUMBER | TIME DELAYS (nS) ±5% or 2 nS | PART NUMBER | TIME DELAYS (nS) ±5% or 2 nS | PART NUMBER |
|------------------------------------|----------------|------------------------------------|----------------|------------------------------------|----------------|
| 5 | EP9430-5 | 23 | EP9430-23 | 125 | EP9430-125 |
| 6 | EP9430-6 | 24 | EP9430-24 | 150 | EP9430-150 |
| 7 | EP9430-7 | 25 | EP9430-25 | 175 | EP9430-175 |
| 8 | EP9430-8 | 30 | EP9430-30 | 200 | EP9430-200 |
| 9 | EP9430-9 | 35 | EP9430-35 | 225 | EP9430-225 |
| 10 | EP9430-10 | 40 | EP9430-40 | 250 | EP9430-250 |
| 11 | EP9430-11 | 45 | EP9430-45 | 275 | EP9430-275 |
| 12 | EP9430-12 | 50 | EP9430-50 | 300 | EP9430-300 |
| 13 | EP9430-13 | 55 | EP9430-55 | 350 | EP9430-350 |
| 14 | EP9430-14 | 60 | EP9430-60 | 400 | EP9430-400 |
| 15 | EP9430-15 | 65 | EP9430-65 | 500 | EP9430-500 |
| 16 | EP9430-16 | 70 | EP9430-70 | 600 | EP9430-600 |
| 17 | EP9430-17 | 75 | EP9430-75 | 700 | EP9430-700 |
| 18 | EP9430-18 | 80 | EP9430-80 | 800 | EP9430-800 |
| 19 | EP9430-19 | 85 | EP9430-85 | 900 | EP9430-900 |
| 20 | EP9430-20 | 90 | EP9430-90 | 1000 | EP9430-1000 |
| 21 | EP9430-21 | 95 | EP9430-95 | | |
| 22 | EP9430-22 | 100 | EP9430-100 | | |

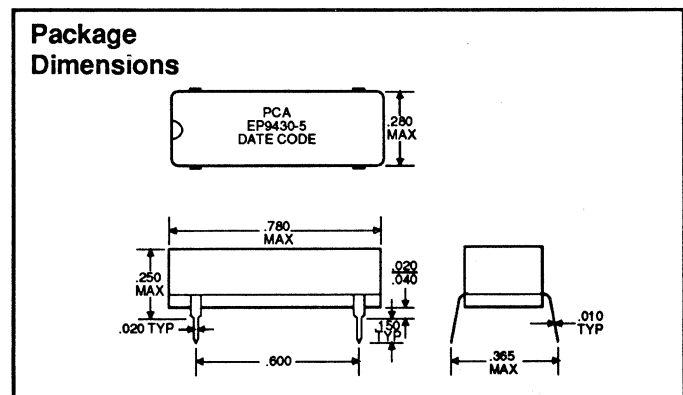
Delay times referenced from input to leading edges

| DC Electrical Characteristics | | | | | |
|-------------------------------|------------------------------|---|-------|------|----------|
| Parameter | Test Conditions | Min | Max | Unit | |
| V_{OH} | High-Level Output Voltage | $V_{CC} = \min. V_{IL} = \max. I_{OH} = \max$ | 2.7 | | V |
| V_{OL} | Low-Level Output Voltage | $V_{CC} = \min. V_{IH} = \min. I_{OL} = \max$ | 0.5 | | V |
| V_{IK} | Input Clamp Voltage | $V_{CC} = \min. I_I = I_{IK}$ | -1.2V | | V |
| I_{IH} | High-Level Input Current | $V_{CC} = \max. V_{IN} = 2.7V$ | 50 | | μA |
| | | $V_{CC} = \max. V_{IN} = 5.25V$ | 1.0 | | mA |
| I_{IL} | Low-Level Input Current | $V_{CC} = \max. V_{IN} = 0.5V$ | -2 | | mA |
| I_{OS} | Short Circuit Output Current | $V_{CC} = \max. V_{OUT} = 0.$ | -40 | -100 | mA |
| I_{CCH} | High-Level Supply Current | $V_{CC} = \max. V_{IN} = OPEN$ | 75 | | mA |
| I_{CCL} | Low-Level Supply Current | $V_{CC} = \max. V_{IN} = 0$ | 75 | | mA |
| T_{RO} | Output Rise Time | $V_{CC} = 5.0V (.75 - 2.4 \text{ Volts})$ | 4 | | nS |
| N_H | Fanout High-Level Output | $V_{CC} = \max. V_{OH} = 2.7V$ | 20 | | TTL LOAD |
| N_L | Fanout Low-Level Output | $V_{CC} = \max. V_{OL} = 0.5V$ | 10 | | TTL LOAD |



| Recommended Operating Conditions | | | | |
|----------------------------------|--------------------------------|------|------|-------------|
| | | Min | Max | Unit |
| V_{CC} | Supply Voltage | 4.75 | 5.25 | V |
| V_{IH} | High-Level Input Voltage | 2.0 | | V |
| V_{IL} | Low-Level Input Voltage | | 0.8 | V |
| I_{IK} | Input Clamp Current | | -18 | mA |
| I_{OH} | High-Level Output Current | | -1.0 | mA |
| I_{OL} | Low-Level Output Current | | 20 | mA |
| PW^* | Pulse Width of Total Delay | 40 | | % |
| d^* | Duty Cycle | | 40 | % |
| T_A | Operating Free-Air Temperature | 0 | +70 | $^{\circ}C$ |

*These two values are inter-dependent.



| Input Pulse Test Conditions @ 25° C | | | |
|-------------------------------------|---|-----|-------|
| | | | Unit |
| E_{IN} | Pulse Input Voltage | 3.2 | Volts |
| PW | Pulse Width % of Total Delay | 110 | % |
| T_{RI} | Pulse Rise Time (0.75 - 2.4 Volts) | 2.0 | nS |
| P_{RR} | Pulse Repetition Rate @ $T_d \leq 500$ nS | 1.0 | MHz |
| | Pulse Repetition Rate @ $T_d > 500$ nS | 500 | KHz |
| V_{CC} | Supply Voltage | 5.0 | Volts |

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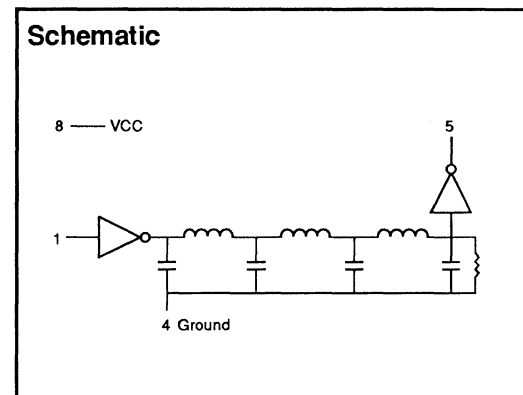
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TEL: (818) 892-0761
FAX: (818) 894-5791
RCA Global 282 892

Mini Dip Single Output TTL Compatible Active Delay Lines

| TIME DELAY (ns) ±5% or 2 nS | PART NUMBER | TIME DELAY (ns) ±5% or 2 nS | PART NUMBER |
|--------------------------------|----------------|--------------------------------|----------------|
| 5 | EP9460-5 | 60 | EP9460-60 |
| 10 | EP9460-10 | 75 | EP9460-75 |
| 15 | EP9460-15 | 100 | EP9460-100 |
| 20 | EP9460-20 | 125 | EP9460-125 |
| 25 | EP9460-25 | 150 | EP9460-150 |
| 30 | EP9460-30 | 175 | EP9460-175 |
| 35 | EP9460-35 | 200 | EP9460-200 |
| 40 | EP9460-40 | 225 | EP9460-225 |
| 45 | EP9460-45 | 250 | EP9460-250 |
| 50 | EP9460-50 | | |

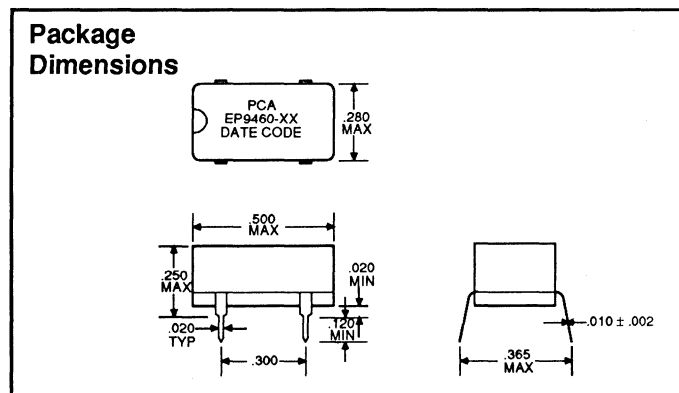
Delay times referenced to leading edges.

| DC Electrical Characteristics | | Test Conditions | Min | Max | Unit |
|-------------------------------|------------------------------|---|-----|-------------|---------|
| V_{OH} | High-Level Output Voltage | $V_{CC} = \min. V_{IL} = \max. I_{OH} = \max$ | 2.7 | | V |
| V_{OL} | Low-Level Output Voltage | $V_{CC} = \min. V_{IH} = \min. I_{OL} = \max$ | | 0.5 | V |
| V_{IK} | Input Clamp Voltage | $V_{CC} = \min. I_I = I_{IK}$ | | -1.2V | V |
| I_{IH} | High-Level Input Current | $V_{CC} = \max. V_{IN} = 2.7V$ | | 50 | μA |
| | | $V_{CC} = \max. V_{IN} = 5.25V$ | | 1.0 | mA |
| I_{IL} | Low-Level Input Current | $V_{CC} = \max. V_{IN} = 0.5V$ | | -2 | mA |
| I_{OS} | Short Circuit Output Current | $V_{CC} = \max. V_{OUT} = 0.$ | -40 | -100 | mA |
| I_{CCH} | High-Level Supply Current | $V_{CC} = \max. V_{IN} = OPEN$ | | 75 | mA |
| I_{CCL} | Low-Level Supply Current | $V_{CC} = \max. V_{IN} = 0$ | | 75 | mA |
| T_{RO} | Output Rise Time | $V_{CC} = 5.0 V (.75 - 2.4 \text{ Volts})$ | | 4 | nS |
| N_H | Fanout High-Level Output | $V_{CC} = \max. V_{OH} = 2.7V$ | | 20 TTL LOAD | |
| N_L | Fanout Low-Level Output | $V_{CC} = \max. V_{OL} = 0.5V$ | | 10 TTL LOAD | |



| Recommended Operating Conditions | | Min | Max | Unit |
|----------------------------------|--------------------------------|------|------|-------------|
| V_{CC} | Supply Voltage | 4.75 | 5.25 | V |
| V_{IH} | High-Level Input Voltage | 2.0 | | V |
| V_{IL} | Low-Level Input Voltage | | 0.8 | V |
| I_{IK} | Input Clamp Current | | -18 | mA |
| I_{OH} | High-Level Output Current | | -1.0 | mA |
| I_{OL} | Low-Level Output Current | | 20 | mA |
| PW^* | Pulse Width of Total Delay | 40 | | % |
| d^* | Duty Cycle | | 40 | % |
| T_A | Operating Free-Air Temperature | 0 | +70 | $^{\circ}C$ |

*These two values are inter-dependent.



| Input Pulse Test Conditions @ 25° C | | Unit |
|-------------------------------------|---|-----------|
| E_{IN} | Pulse Input Voltage | 3.2 Volts |
| PW | Pulse Width % of Total Delay | 110 % |
| T_{RI} | Pulse Rise Time (0.75 - 2.4 Volts) | 2.0 nS |
| PRR | Pulse Repetition Rate @ $T_d \leq 500 \text{ nS}$ | 1.0 MHz |
| | Pulse Repetition Rate @ $T_d > 500 \text{ nS}$ | 500 KHz |
| V_{CC} | Supply Voltage | 5.0 Volts |

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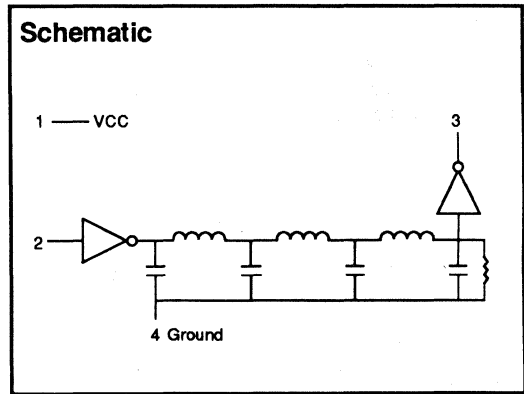
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SEPULVEDA, CA 91343
TEL: (818) 892-0761
FAX: (818) 894-5791
RCA Global 282 892

Mini SIL Single Output TTL Compatible Active Delay Lines

| TIME DELAYS * (nS) ±5% or 2 nS | PART NUMBER | TIME DELAYS * (nS) ±5% or 2 nS | PART NUMBER |
|-----------------------------------|----------------|-----------------------------------|----------------|
| 5 | EP9748-5 | 60 | EP9748-60 |
| 10 | EP9748-10 | 75 | EP9748-75 |
| 15 | EP9748-15 | 100 | EP9748-100 |
| 20 | EP9748-20 | 125 | EP9748-125 |
| 25 | EP9748-25 | 150 | EP9748-150 |
| 30 | EP9748-30 | 175 | EP9748-175 |
| 35 | EP9748-35 | 200 | EP9748-200 |
| 40 | EP9748-40 | 225 | EP9748-225 |
| 45 | EP9748-45 | 250 | EP9748-250 |
| 50 | EP9748-50 | | |

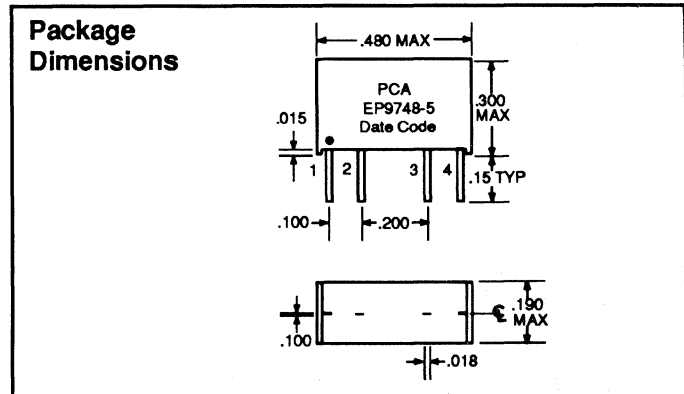
* Delay times referenced from input to leading edges

| DC Electrical Characteristics | | | | | |
|-------------------------------|------------------------------|---|-----|-------------|----|
| Parameter | Test Conditions | Min | Max | Unit | |
| V _{OH} | High-Level Output Voltage | V _{CC} = min. V _{IL} = max. I _{OH} = max | 2.7 | | V |
| V _{OL} | Low-Level Output Voltage | V _{CC} = min. V _{IH} = min. I _{OL} = max | | 0.5 | V |
| V _{IK} | Input Clamp Voltage | V _{CC} = min. I _I = I _{IK} | | -1.2V | V |
| I _{IH} | High-Level Input Current | V _{CC} = max. V _{IN} = 2.7V | | 50 | µA |
| | | V _{CC} = max. V _{IN} = 5.25V | | 1.0 | mA |
| I _{IL} | Low-Level Input Current | V _{CC} = max. V _{IN} = 0.5V | | -2 | mA |
| I _{OS} | Short Circuit Output Current | V _{CC} = max. V _{OUT} = 0. | -40 | -100 | mA |
| I _{CC1} | High-Level Supply Current | V _{CC} = max. V _{IN} = OPEN | | 75 | mA |
| I _{CC2} | Low-Level Supply Current | V _{CC} = max. V _{IN} = 0 | | 75 | mA |
| T _{RO} | Output Rise Time | V _{CC} = 5.0 V (.75 - 2.4 Volts) | | 4 | nS |
| N _H | Fanout High-Level Output | V _{CC} = max. V _{OH} = 2.7V | | 20 TTL LOAD | |
| N _L | Fanout Low-Level Output | V _{CC} = max. V _{OL} = 0.5V | | 10 TTL LOAD | |



| Recommended Operating Conditions | | | | |
|----------------------------------|--------------------------------|------|------|------|
| | | Min | Max | Unit |
| V _{CC} | Supply Voltage | 4.75 | 5.25 | V |
| V _{IH} | High-Level Input Voltage | 2.0 | | V |
| V _{IL} | Low-Level Input Voltage | | 0.8 | V |
| I _{IK} | Input Clamp Current | | -18 | mA |
| I _{OH} | High-Level Output Current | | -1.0 | mA |
| I _{OL} | Low-Level Output Current | | 20 | mA |
| PW* | Pulse Width of Total Delay | 40 | | % |
| d* | Duty Cycle | | 40 | % |
| T _A | Operating Free-Air Temperature | 0 | +70 | °C |

*These two values are inter-dependent.



| Input Pulse Test Conditions @ 25° C | | | |
|-------------------------------------|---|-----|-------|
| | | | Unit |
| E _{IN} | Pulse Input Voltage | 3.2 | Volts |
| PW | Pulse Width % of Total Delay | 110 | % |
| T _{RI} | Pulse Rise Time (0.75 - 2.4 Volts) | 2.0 | nS |
| P _{RR} | Pulse Repetition Rate @ T _d ≤ 500 nS | 1.0 | MHz |
| | Pulse Repetition Rate @ T _d > 500 nS | 500 | KHz |
| V _{CC} | Supply Voltage | 5.0 | Volts |

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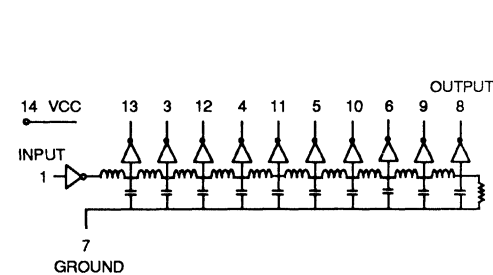
10 Tap TTL Compatible Active Delay Modules

| TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER | TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER |
|---------------------------|-----------------------------|----------------|---------------------------|-----------------------------|----------------|
| 5 | 50 | EP8301 | 44 | 440 | EP8322 |
| 6 | 60 | EP8311 | 45 | 450 | EP8309 |
| 7.5 | 75 | EP8317 | 47 | 470 | EP8323 |
| 10 | 100 | EP8302 | 50 | 500 | EP8310 |
| 12.5 | 125 | EP8319 | 55 | 550 | EP8330 |
| 15 | 150 | EP8303 | 60 | 600 | EP8324 |
| 17.5 | 175 | EP8320 | 65 | 650 | EP8331 |
| 20 | 200 | EP8304 | 70 | 700 | EP8325 |
| 22.5 | 225 | EP8321 | 75 | 750 | EP8329 |
| 25 | 250 | EP8305 | 80 | 800 | EP8326 |
| 30 | 300 | EP8306 | 85 | 850 | EP8332 |
| 35 | 350 | EP8307 | 90 | 900 | EP8327 |
| 40 | 400 | EP8308 | 95 | 950 | EP8333 |
| 42 | 420 | EP8318 | 100 | 1000 | EP8328 |

Delay times referenced from input to leading edges

| DC Electrical Characteristics | | Test Conditions | Min | Max | Unit |
|-------------------------------|------------------------------|--|-----|-------------|------|
| Parameter | | | | | |
| V _{OH} | High-Level Output Voltage | V _{CC} = min. V _{IL} = max. I _{OH} = max | 2.7 | | V |
| V _{OL} | Low-Level Output Voltage | V _{CC} = min. V _{IH} = min. I _{OL} = max | | 0.5 | V |
| V _{IK} | Input Clamp Voltage | V _{CC} = min. I _I = I _{IK} | | -1.2V | V |
| I _{IH} | High-Level Input Current | V _{CC} = max. V _{IN} = 2.7V | | 50 | µA |
| | | V _{CC} = max. V _{IN} = 5.25V | | 1.0 | mA |
| I _{IL} | Low-Level Input Current | V _{CC} = max. V _{IN} = 0.5V | | -2 | mA |
| I _{OS} | Short Circuit Output Current | V _{CC} = max. V _{OUT} = 0. (One output at a time) | -40 | -100 | mA |
| I _{CCH} | High-Level Supply Current | V _{CC} = max. V _{IN} = OPEN | | 150 | mA |
| I _{CCL} | Low-Level Supply Current | V _{CC} = max. V _{IN} = 0 | | 150 | mA |
| T _{RO} | Output Rise Time | T _d ≤ 500 nS (0.75 to 2.4 Volts) | | 4 | nS |
| | | T _d > 500 nS | | 5 | nS |
| N _H | Fanout High-Level Output | V _{CC} = max. V _{OH} = 2.7V | | 20 TTL LOAD | |
| N _L | Fanout Low-Level Output | V _{CC} = max. V _{OL} = 0.5V | | 10 TTL LOAD | |

Schematic

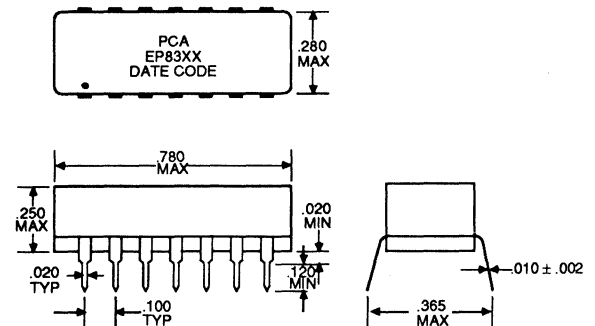


| Recommended Operating Conditions | | Min | Max | Unit |
|----------------------------------|--------------------------------|------|------|------|
| V _{CC} | Supply Voltage | 4.75 | 5.25 | V |
| V _{IH} | High-Level Input Voltage | 2.0 | | V |
| V _{IL} | Low-Level Input Voltage | | 0.8 | V |
| I _{IK} | Input Clamp Current | | -18 | mA |
| I _{OH} | High-Level Output Current | | -1.0 | mA |
| I _{OL} | Low-Level Output Current | | 20 | mA |
| PW* | Pulse Width of Total Delay | 40 | | % |
| d* | Duty Cycle | | 40 | % |
| T _A | Operating Free-Air Temperature | 0 | +70 | °C |

*These two values are inter-dependent.

| Input Pulse Test Conditions @ 25° C | | Unit | |
|-------------------------------------|---|------|-------|
| E _{IN} | Pulse Input Voltage | 3.2 | Volts |
| PW | Pulse Width % of Total Delay | 110 | % |
| T _{RI} | Pulse Rise Time (0.75 - 2.4 Volts) | 2.0 | nS |
| PRR | Pulse Repetition Rate @ T _d ≤ 500 nS | 1.0 | MHz |
| | Pulse Repetition Rate @ T _d > 500 nS | 500 | KHz |
| V _{CC} | Supply Voltage | 5.0 | Volts |

Package Dimensions



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10 Tap TTL Compatible Active Delay Lines MIL 883

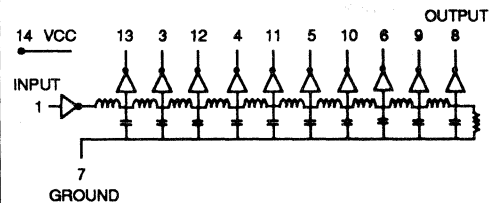
| TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER | TAP DELAYS ±5% or 2 nS | TOTAL DELAYS ±5% or 2 nS | PART NUMBER |
|---------------------------|-----------------------------|----------------|---------------------------|-----------------------------|----------------|
| 5 | 50 | EP9749-50 | 44 | 440 | EP9749-440 |
| 6 | 60 | EP9749-60 | 45 | 450 | EP9749-450 |
| 7.5 | 75 | EP9749-75 | 47 | 470 | EP9749-470 |
| 10 | 100 | EP9749-100 | 50 | 500 | EP9749-500 |
| 12.5 | 125 | EP9749-125 | 55 | 550 | EP9749-550 |
| 15 | 150 | EP9749-150 | 60 | 600 | EP9749-600 |
| 17.5 | 175 | EP9749-175 | 65 | 650 | EP9749-650 |
| 20 | 200 | EP9749-200 | 70 | 700 | EP9749-700 |
| 22.5 | 225 | EP9749-225 | 75 | 750 | EP9749-750 |
| 25 | 250 | EP9749-250 | 80 | 800 | EP9749-800 |
| 30 | 300 | EP9749-300 | 85 | 850 | EP9749-850 |
| 35 | 350 | EP9749-350 | 90 | 900 | EP9749-900 |
| 40 | 400 | EP9749-400 | 95 | 950 | EP9749-950 |
| 42 | 420 | EP9749-420 | 100 | 1000 | EP9749-1000 |

Delay times referenced from input to leading edges

All units are supplied with ceramic IC's that have been screened to MIL-STD-883

| DC Electrical Characteristics | | | | | |
|-------------------------------|------------------------------|--|-----|-------------|----|
| Parameter | Test Conditions | Min | Max | Unit | |
| V _{OH} | High-Level Output Voltage | V _{CC} = min. V _{IL} = max. I _{OH} = max | 2.7 | | V |
| V _{OL} | Low-Level Output Voltage | V _{CC} = min. V _{IH} = min. I _{OL} = max | | 0.5 | V |
| V _{IK} | Input Clamp Voltage | V _{CC} = min. I _I = I _{IK} | | -1.2V | V |
| I _{IH} | High-Level Input Current | V _{CC} = max. V _{IN} = 2.7V | | 50 | µA |
| | | V _{CC} = max. V _{IN} = 5.25V | | 1.0 | mA |
| I _{IL} | Low-Level Input Current | V _{CC} = max. V _{IN} = 0.5V | | -2 | mA |
| I _{OS} | Short Circuit Output Current | V _{CC} = max. V _{OUT} = 0. (One output at a time) | -40 | -100 | mA |
| I _{CCH} | High-Level Supply Current | V _{CC} = max. V _{IN} = OPEN | | 150 | mA |
| I _{CCL} | Low-Level Supply Current | V _{CC} = max. V _{IN} = 0 | | 150 | mA |
| T _{RO} | Output Rise Time | T _d ≤ 500 nS (0.75 to 2.4 Volts) | | 4 | nS |
| | | T _d > 500 nS | | 5 | nS |
| N _H | Fanout High-Level Output | V _{CC} = max. V _{OH} = 2.7V | | 20 TTL LOAD | |
| N _L | Fanout Low-Level Output | V _{CC} = max. V _{OL} = 0.5V | | 10 TTL LOAD | |

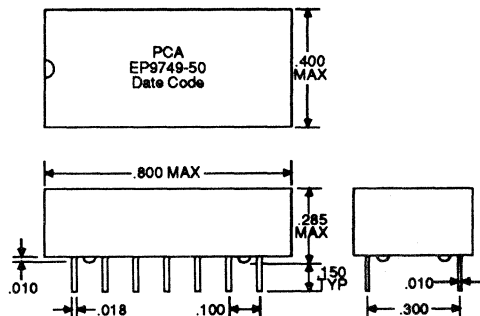
Schematic



| Recommended Operating Conditions | | | | |
|----------------------------------|--------------------------------|-----|------|------|
| | | Min | Max | Unit |
| V _{CC} | Supply Voltage | 4.5 | 5.5 | V |
| V _{IH} | High-Level Input Voltage | 2.0 | | V |
| V _{IL} | Low-Level Input Voltage | | 0.8 | V |
| I _{IK} | Input Clamp Current | | -18 | mA |
| I _{OH} | High-Level Output Current | | -1.0 | mA |
| I _{OL} | Low-Level Output Current | | 20 | mA |
| PW* | Pulse Width of Total Delay | 40 | | % |
| d* | Duty Cycle | | 40 | % |
| T _A | Operating Free-Air Temperature | -55 | +125 | °C |

*These two values are inter-dependent.

Package Dimensions



| Input Pulse Test Conditions @ 25° C | | | | Unit |
|-------------------------------------|---|-----|--|-------|
| E _{IN} | Pulse Input Voltage | 3.2 | | Volts |
| PW | Pulse Width % of Total Delay | 110 | | % |
| T _{RI} | Pulse Rise Time (0.75 - 2.4 Volts) | 2.0 | | nS |
| P _{RR} | Pulse Repetition Rate @ T _d ≤ 500 nS | 1.0 | | MHz |
| | Pulse Repetition Rate @ T _d > 500 nS | 500 | | KHz |
| V _{CC} | Supply Voltage | 5.0 | | Volts |

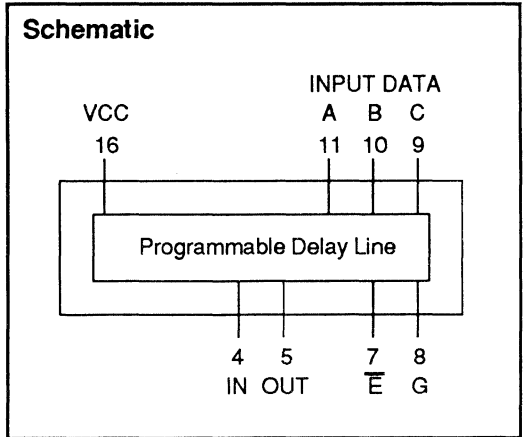
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RCA Global 282 892

3 Bit Programmable TTL Delay Lines

| PART NUMBER | MIN DELAY ±2 nS | MAX DELAY nS | STEP | OUTPUT DELAY TIME PROGRAMMING (nS) | | | | | | | |
|-------------|--------------------|-----------------|-------------|------------------------------------|-----|-----|-----|-----|-----|-----|-----|
| | | | | DATA INPUT (CBA) | | | | | | | |
| | | | | 000 | 001 | 010 | 011 | 100 | 101 | 110 | 111 |
| EP8076-1 | 7 | 14 | 1 ± 5 nS | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| EP8076-2 | 7 | 21 | 2 ± 5 nS | 7 | 9 | 11 | 13 | 15 | 17 | 19 | 21 |
| EP8076-3 | 7 | 28 | 3 ± 6 nS | 7 | 10 | 13 | 16 | 19 | 22 | 25 | 28 |
| EP8076-4 | 7 | 35 | 4 ± 8 nS | 7 | 11 | 15 | 19 | 23 | 27 | 31 | 35 |
| EP8076-5 | 7 | 42 | 5 ± 1.0 nS | 7 | 12 | 17 | 22 | 27 | 32 | 37 | 42 |
| EP8076-6 | 7 | 49 | 6 ± 1.0 nS | 7 | 13 | 19 | 25 | 31 | 37 | 43 | 49 |
| EP8076-7 | 7 | 56 | 7 ± 1.0 nS | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 |
| EP8076-8 | 7 | 63 | 8 ± 1.0 nS | 7 | 15 | 23 | 31 | 39 | 47 | 55 | 63 |
| EP8076-9 | 7 | 70 | 9 ± 1.0 nS | 7 | 16 | 25 | 34 | 43 | 52 | 61 | 70 |
| EP8076-10 | 7 | 77 | 10 ± 1.0 nS | 7 | 17 | 27 | 37 | 47 | 57 | 67 | 77 |

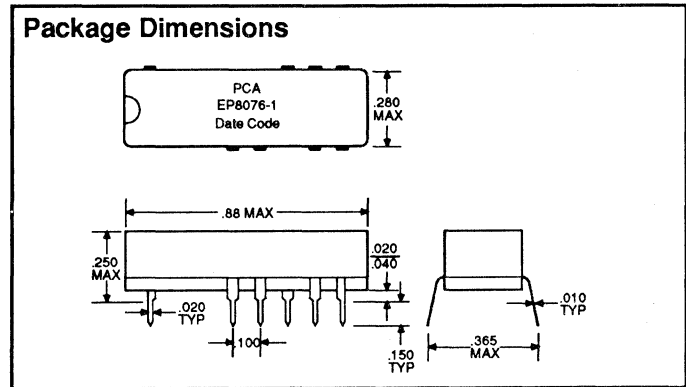
Max delay tolerances ±2 nS or ±5% whichever is greater
All delays measured at 1.5V level on leading edge, no load (enable = "0")

| DC Electrical Characteristics | | | | | |
|-------------------------------|------------------------------|--|-----|-------------|----|
| Parameter | Test Conditions | Min | Max | Unit | |
| V _{OH} | High-Level Output Voltage | V _{CC} = min. V _{IL} = max. I _{OH} = max | 2.7 | | V |
| V _{OL} | Low-Level Output Voltage | V _{CC} = min. V _{IH} = min. I _{OL} = max | | 0.5 | V |
| V _{IK} | Input Clamp Voltage | V _{CC} = min. I _I = I _{IK} | | -1.2 | V |
| I _{IH} | High-Level Input Current | V _{CC} = max. V _{IN} = 2.7V | | 50 | µA |
| | | V _{CC} = max. V _{IN} = 5.25V | | 1.0 | mA |
| I _{IL} | Low-Level Input Current | V _{CC} = max. V _{IN} = 0.5V | | -2 | mA |
| I _{OS} | Short Circuit Output Current | V _{CC} = max. V _{OUT} = 0. (One output at a time) | -40 | -100 | mA |
| I _{CCH} | High-Level Supply Current | V _{CC} = max. V _{IN} = OPEN | | 45 | mA |
| I _{CCL} | Low-Level Supply Current | V _{CC} = max. V _{IN} = 0 | | 90 | mA |
| T _{RO} | Output Rise Time | T _d ≤ 500 nS (0.75 to 2.4 Volts) | | 4 | nS |
| N _H | Fanout High-Level Output | V _{CC} = max. V _{OH} = 2.7V | | 20 TTL LOAD | |
| N _L | Fanout Low-Level Output | V _{CC} = max. V _{OL} = 0.5V | | 10 TTL LOAD | |




| Recommended Operating Conditions | | | | |
|----------------------------------|--------------------------------|------|------|------|
| | | Min | Max | Unit |
| V _{CC} | Supply Voltage | 4.75 | 5.25 | V |
| V _{IH} | High-Level Input Voltage | 2.0 | | V |
| V _{IL} | Low-Level Input Voltage | | 0.8 | V |
| I _{IK} | Input Clamp Current | | -18 | mA |
| I _{OH} | High-Level Output Current | | -1.0 | mA |
| I _{OL} | Low-Level Output Current | | 20 | mA |
| PW* | Pulse Width of Total Delay | 100 | | % |
| d* | Duty Cycle | | 20 | % |
| T _A | Operating Free-Air Temperature | 0 | +70 | °C |

*These two values are inter-dependent.



| Input Pulse Test Conditions | | | Unit |
|-----------------------------|---|-----|-------|
| E _{IN} | Pulse Input Voltage | 3.2 | Volts |
| PW | Pulse Width % of Total Delay | 150 | % |
| T _{RI} | Pulse Rise Time (0.75 - 2.4 Volts) | 2.0 | nS |
| P _{RR} | Pulse Repetition Rate @ T _d ≤ 500 nS | 1.0 | MHz |
| V _{CC} | Supply Voltage | 5.0 | Volts |



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TTL Square-Wave Generator

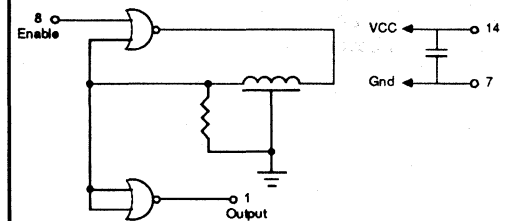
Features

- Output frequencies from 2 to 100 MHz $\pm 5\%$
- Low Profile 14 pin dual-in-line package
- Operating temperature range 0 to 70 °C
- Output synchronized using enable line
- 50% duty cycle
- Schottky TTL

| PART NUMBER | MHz $\pm 5\%$ | PART NUMBER | MHz $\pm 5\%$ |
|-------------|---------------|-------------|---------------|
| EP8250 | 2 | EP8259 | 35 |
| EP8251 | 3 | EP8260 | 40 |
| EP8252 | 4 | EP8261 | 45 |
| EP8253 | 5 | EP8262 | 50 |
| EP8254 | 10 | EP8263 | 60 |
| EP8255 | 15 | EP8264 | 70 |
| EP8256 | 20 | EP8265 | 80 |
| EP8757 | 25 | EP8266 | 90 |
| EP8258 | 30 | EP8267 | 100 |

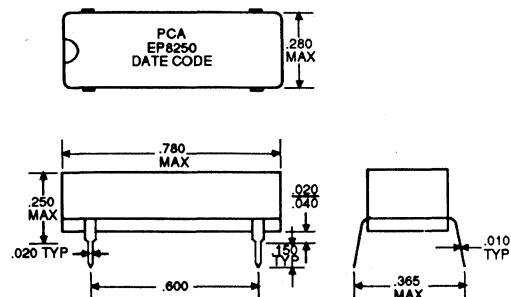
| DC Electrical Characteristics | | | | | |
|-------------------------------|------------------------------|---|-----|-------------|---------|
| Parameter | Test Conditions | Min | Max | Unit | |
| V_{OH} | High-Level Output Voltage | $V_{CC} = \text{min. } V_{IL} = \text{max. } I_{OH} = \text{max}$ | 2.7 | | V |
| V_{OL} | Low-Level Output Voltage | $V_{CC} = \text{min. } V_{IH} = \text{min. } I_{OL} = \text{max}$ | | 0.5 | V |
| V_{IK} | Input Clamp Voltage | $V_{CC} = \text{min. } I_I = I_{IK}$ | | -1.2V | V |
| I_{IH} | High-Level Input Current | $V_{CC} = \text{max. } V_{IN} = 2.7V$ | | 50 | μA |
| | | $V_{CC} = \text{max. } V_{IN} = 5.25V$ | | 1.0 | mA |
| I_{IL} | Low-Level Input Current | $V_{CC} = \text{max. } V_{IN} = 0.5V$ | | -2 | mA |
| I_{OS} | Short Circuit Output Current | $V_{CC} = \text{max. } V_{OUT} = 0.$ | -40 | -100 | mA |
| I_{CCH} | High-Level Supply Current | $V_{CC} = \text{max. } V_{IN} = \text{OPEN}$ | | 75 | mA |
| I_{CCL} | Low-Level Supply Current | $V_{CC} = \text{max. } V_{IN} = 0$ | | 75 | mA |
| T_{RO} | Output Rise Time | $V_{CC} = 5.0V$ | | 4 | nS |
| N_H | Fanout High-Level Output | $V_{CC} = \text{max. } V_{OH} = 2.7V$ | | 20 TTL LOAD | |
| N_L | Fanout Low-Level Output | $V_{CC} = \text{max. } V_{OL} = 0.5V$ | | 10 TTL LOAD | |

Schematic



| Recommended Operating Conditions | | | | |
|----------------------------------|--------------------------------|------|------|------|
| | | Min | Max | Unit |
| V_{CC} | Supply Voltage | 4.75 | 5.25 | V |
| V_{IH} | High-Level Input Voltage | 2.0 | | V |
| V_{IL} | Low-Level Input Voltage | | 0.8 | V |
| I_{IK} | Input Clamp Current | | -18 | mA |
| I_{OH} | High-Level Output Current | | -1.0 | mA |
| I_{OL} | Low-Level Output Current | | 20 | mA |
| d | Duty Cycle | 45 | 55 | % |
| T_A | Operating Free-Air Temperature | 0 | +70 | °C |

Package Dimensions

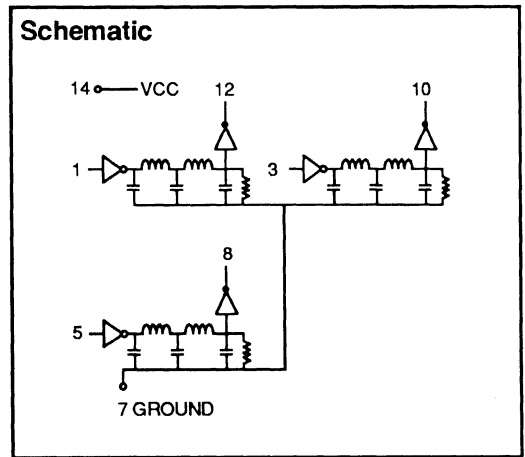


Triple TTL Compatible Active Delay Lines

| DELAY TIME ±5% or 2 nS | PART NUMBER | DELAY TIME ±5 or 2 nS | PART NUMBER | DELAY TIME ±5% or 2 nS | PART NUMBER |
|---------------------------|----------------|--------------------------|----------------|---------------------------|----------------|
| 5 | EP9206-5 | 19 | EP9206-19 | 65 | EP9206-65 |
| 6 | EP9206-6 | 20 | EP9206-20 | 70 | EP9206-70 |
| 7 | EP9206-7 | 21 | EP9206-21 | 75 | EP9206-75 |
| 8 | EP9206-8 | 22 | EP9206-22 | 80 | EP9206-80 |
| 9 | EP9206-9 | 23 | EP9206-23 | 85 | EP9206-85 |
| 10 | EP9206-10 | 24 | EP9206-24 | 90 | EP9206-90 |
| 11 | EP9206-11 | 25 | EP9206-25 | 95 | EP9206-95 |
| 12 | EP9206-12 | 30 | EP9206-30 | 100 | EP9206-100 |
| 13 | EP9206-13 | 35 | EP9206-35 | 125 | EP9206-125 |
| 14 | EP9206-14 | 40 | EP9206-40 | 150 | EP9206-150 |
| 15 | EP9206-15 | 45 | EP9206-45 | 175 | EP9206-175 |
| 16 | EP9206-16 | 50 | EP9206-50 | 200 | EP9206-200 |
| 17 | EP9206-17 | 55 | EP9206-55 | 225 | EP9206-225 |
| 18 | EP9206-18 | 60 | EP9206-60 | 250 | EP9206-250 |

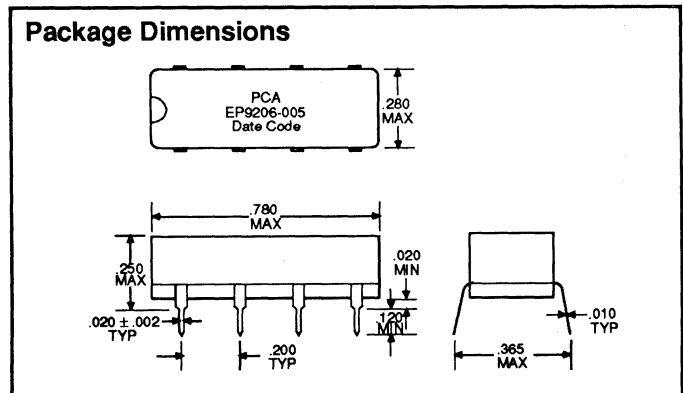
Delay Times referenced from input to leading edges.

| DC Electrical Characteristics | | | | | |
|-------------------------------|------------------------------|--|-----|-------------|------|
| Parameter | Test Conditions | | Min | Max | Unit |
| V _{OH} | High-Level Output Voltage | V _{CC} = min. V _{IL} = max. I _{OH} = max | 2.7 | | V |
| V _{OL} | Low-Level Output Voltage | V _{CC} = min. V _{IH} = min. I _{OL} = max | | 0.5 | V |
| V _{IK} | Input Clamp Voltage | V _{CC} = min. I _I = I _{IK} | | -1.2V | V |
| I _{IH} | High-Level Input Current | V _{CC} = max. V _{IN} = 2.7V | | 50 | µA |
| | | V _{CC} = max. V _{IN} = 5.25V | | 1.0 | mA |
| I _{IL} | Low-Level Input Current | V _{CC} = max. V _{IN} = 0.5V | | -2 | mA |
| I _{OS} | Short Circuit Output Current | V _{CC} = max. V _{OUT} = 0. (One output at a time) | -40 | -100 | mA |
| I _{CCH} | High-Level Supply Current | V _{CC} = max. V _{IN} = OPEN | | 115 | mA |
| I _{CCL} | Low-Level Supply Current | V _{CC} = max. V _{IN} = 0 | | 115 | mA |
| T _{RO} | Output Rise Time | | | 4 | nS |
| N _H | Fanout High-Level Output | V _{CC} = max. V _{OH} = 2.7V | | 20 TTL LOAD | |
| N _L | Fanout Low-Level Output | V _{CC} = max. V _{OL} = 0.5V | | 10 TTL LOAD | |



| Recommended Operating Conditions | | | | |
|----------------------------------|--------------------------------|------|------|------|
| | | Min | Max | Unit |
| V _{CC} | Supply Voltage | 4.75 | 5.25 | V |
| V _{IH} | High-Level Input Voltage | 2.0 | | V |
| V _{IL} | Low-Level Input Voltage | | 0.8 | V |
| I _{IK} | Input Clamp Current | | -18 | mA |
| I _{OH} | High-Level Output Current | | -1.0 | mA |
| I _{OL} | Low-Level Output Current | | 20 | mA |
| PW* | Pulse Width of Total Delay | 40 | | % |
| d* | Duty Cycle | | 40 | % |
| T _A | Operating Free-Air Temperature | 0 | +70 | °C |

*These two values are inter-dependent.



| Input Pulse Test Conditions @ 25° C | | | | Unit |
|-------------------------------------|---|-----|--|-------|
| E _{IN} | Pulse Input Voltage | 3.2 | | Volts |
| PW | Pulse Width % of Total Delay | 110 | | % |
| T _{RI} | Pulse Rise Time (0.75 - 2.4 Volts) | 2.0 | | nS |
| P _{RR} | Pulse Repetition Rate @ T _d ≤ 500 nS | 1.0 | | MHz |
| | Pulse Repetition Rate @ T _d > 500 nS | 500 | | KHz |
| V _{CC} | Supply Voltage | 5.0 | | Volts |

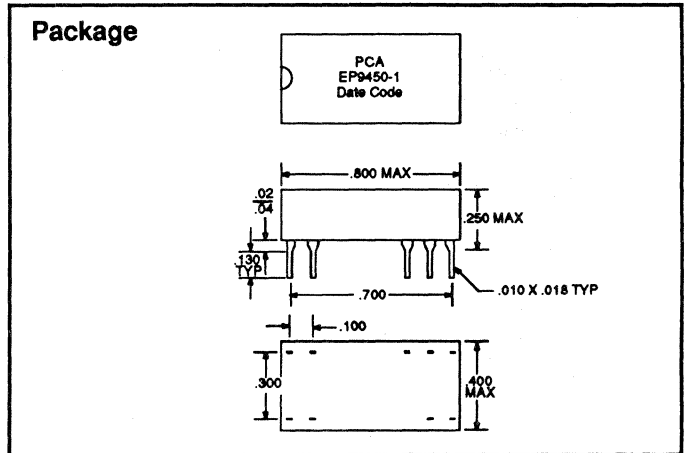
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3 Bit Programmable ECL Delay Lines

| DELAYS AND TOLERANCES (in nS) | | | | | | | | | | | | |
|-------------------------------|----------------------|-----------------|------------|--|--------------------------------------|-----|-----|-----|-----|-----|-----|-----|
| PART NUMBER | MIN DELAY (Inherent) | MAX DELAY (Nom) | DELAY/STEP | STEP DELAY TOLERANCE (Ref. Inherent Delay) | TRUTH TABLE (Programming Pins = CBA) | | | | | | | |
| | | | | | 000 | 001 | 010 | 011 | 100 | 101 | 110 | 111 |
| EP9450-1 | 3.0±.3 | 10 | 1±.3 | ±0.4 nS or ±5% | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| EP9450-2 | 3.0±.3 | 17 | 2±.4 | ±0.6 nS or ±5% | 3 | 5 | 7 | 9 | 11 | 13 | 15 | 17 |
| EP9450-3 | 3.0±.3 | 24 | 3±.5 | ±0.8 nS or ±5% | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 |
| EP9450-4 | 3.0±.3 | 31 | 4±.5 | ±1.0 nS or ±5% | 3 | 7 | 11 | 15 | 19 | 23 | 27 | 31 |
| EP9450-5 | 3.0±.3 | 38 | 5±.5 | ±1.0 nS or ±5% | 3 | 8 | 13 | 18 | 23 | 28 | 33 | 38 |
| EP9450-6 | 3.0±.3 | 45 | 6±.6 | ±2.0 nS or ±5% | 3 | 9 | 15 | 21 | 27 | 33 | 39 | 45 |
| EP9450-7 | 3.0±.3 | 52 | 7±.7 | ±2.0 nS or ±5% | 3 | 10 | 17 | 24 | 31 | 38 | 45 | 52 |
| EP9450-8 | 3.0±.3 | 59 | 8±.8 | ±2.0 nS or ±5% | 3 | 11 | 19 | 27 | 35 | 43 | 51 | 59 |
| EP9450-9 | 3.0±.3 | 66 | 9±.9 | ±2.0 nS or ±5% | 3 | 12 | 21 | 30 | 39 | 48 | 57 | 66 |
| EP9450-10 | 3.0±.3 | 73 | 10±1.0 | ±2.0 nS or ±5% | 3 | 13 | 23 | 33 | 43 | 53 | 63 | 73 |
| EP9450-15 | 3.0±.3 | 108 | 15±1.5 | ±2.0 nS or ±5% | 3 | 18 | 33 | 48 | 63 | 78 | 93 | 108 |
| EP9450-20 | 3.0±.3 | 143 | 20±2.0 | ±2.0 nS or ±5% | 3 | 23 | 43 | 63 | 83 | 103 | 123 | 143 |
| EP9450-25 | 3.0±.3 | 178 | 25±2.0 | ±2.0 nS or ±5% | 3 | 28 | 53 | 78 | 103 | 128 | 153 | 178 |
| EP9450-30 | 3.0±.3 | 213 | 30±2.0 | ±2.0 nS or ±5% | 3 | 33 | 63 | 93 | 123 | 153 | 183 | 213 |
| EP9450-35 | 3.0±.3 | 248 | 35±2.0 | ±2.0 nS or ±5% | 3 | 38 | 73 | 108 | 143 | 178 | 213 | 248 |
| EP9450-40 | 3.0±.3 | 283 | 40±2.5 | ±2.0 nS or ±5% | 3 | 43 | 83 | 123 | 163 | 203 | 243 | 283 |
| EP9450-45 | 3.0±.3 | 318 | 45±2.5 | ±2.0 nS or ±5% | 3 | 48 | 93 | 138 | 183 | 228 | 273 | 318 |
| EP9450-50 | 3.0±.3 | 353 | 50±2.5 | ±2.0 nS or ±5% | 3 | 53 | 103 | 153 | 203 | 253 | 303 | 353 |

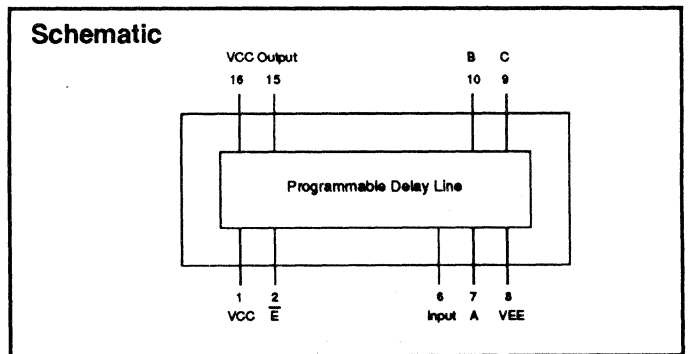
Delay times referenced from input to leading edges

| DC Electrical Characteristics | | | | | |
|---|-------------------------------------|-----------------------|-------|------|----|
| $(V_{CC1} = V_{CC2} = \text{GRD}, V_{EE} = 5.2V \pm 0.01V)$ | | | | | |
| Output Loading With 50 Ohms to $-2.0V \pm 0.01V$ | | | | | |
| Parameter | Test Conditions | Min | Max | Unit | |
| V_{OH} | High Level Output Voltage | $V_{IL} = \text{Min}$ | -960 | | mV |
| V_{OHT} | High Level Output Threshold Voltage | | -980 | | mV |
| V_{OLT} | Low Level Output Threshold Voltage | | -1630 | | mV |
| V_{OL} | Low Level Output Voltage | $V_{IH} = \text{Max}$ | -1650 | | mV |
| I_{IH} | High Level Input Current | $V_{IH} = \text{Max}$ | 15 | | mA |
| I_{IL} | Low Level Input Current | $V_{IL} = \text{Min}$ | 0.5 | | mA |
| I_{EE} | V_{EE} Supply Current | | 75 | | mA |



| Recommended Operating Conditions | | | | |
|----------------------------------|------------------------------------|-------|-------|------|
| Parameter | | Min | Max | Unit |
| V_{EE} | Supply Voltage (Negative) | 4.94 | 5.46 | V |
| V_{CC} | Circuit Ground (Pins 1 and 16) | 0 | 0 | V |
| V_{IH} | High Level Input Voltage | -980 | -810 | mV |
| V_{IHT} | High Level Input Threshold Voltage | -1105 | | mV |
| V_{IL} | Low Level Input Voltage | -1850 | -1630 | mV |
| V_{ILT} | Low Level Input Threshold Voltage | | -1475 | mV |
| PW^* | Pulse Width of Total Delay | 40 | | % |
| d^* | Duty Cycle | | 40 | % |
| T_A | Operating Free-Air Temperature | -30 | +80 | °C |

*These two values are inter-dependent.



| Input Pulse Test Conditions @ 25° C | | |
|-------------------------------------|----------------------------|-------------------------|
| V_{IN} | Pulse Input Voltage | -1.0V (-0.75 to -1.75V) |
| P_{IN} | Pulse Width of Total Delay | 3 x Max Delay |
| T_{RI} | Pulse Rise Time | 2 nS |
| V_{EE} | Supply Voltage | -5.2V |

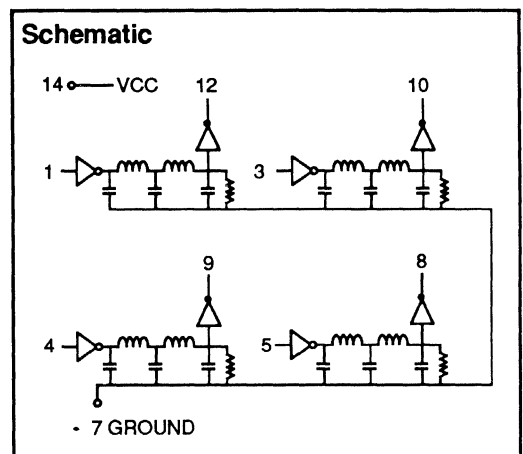
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RCA Global 282 892

Quad TTL Compatible Active Delay Lines

| DELAY TIME ±5% or 2 nS | PART NUMBER | DELAY TIME ±5 or 2 nS | PART NUMBER | DELAY TIME ±5% or 2 nS | PART NUMBER |
|---------------------------|----------------|--------------------------|----------------|---------------------------|----------------|
| 5 | EP9734-5 | 16 | EP9734-16 | 35 | EP9734-35 |
| 6 | EP9734-6 | 17 | EP9734-17 | 40 | EP9734-40 |
| 7 | EP9734-7 | 18 | EP9734-18 | 45 | EP9734-45 |
| 8 | EP9734-8 | 19 | EP9734-19 | 50 | EP9734-50 |
| 9 | EP9734-9 | 20 | EP9734-20 | 55 | EP9734-55 |
| 10 | EP9734-10 | 21 | EP9734-21 | 60 | EP9734-60 |
| 11 | EP9734-11 | 22 | EP9734-22 | 65 | EP9734-65 |
| 12 | EP9734-12 | 23 | EP9734-23 | 70 | EP9734-70 |
| 13 | EP9734-13 | 24 | EP9734-24 | 75 | EP9734-75 |
| 14 | EP9734-14 | 25 | EP9734-25 | | |
| 15 | EP9734-15 | 30 | EP9734-30 | | |

Delay Times referenced from input to leading edges.

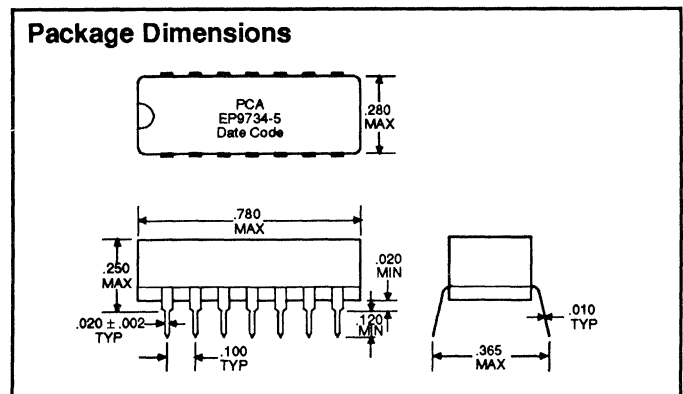
| DC Electrical Characteristics | | | | | |
|-------------------------------|------------------------------|--|-----|-------------|----|
| Parameter | Test Conditions | Min | Max | Unit | |
| V _{OH} | High-Level Output Voltage | V _{CC} = min. V _{IL} = max. I _{OH} = max | 2.7 | | V |
| V _{OL} | Low-Level Output Voltage | V _{CC} = min. V _{IH} = min. I _{OL} = max | | 0.5 | V |
| V _{IK} | Input Clamp Voltage | V _{CC} = min. I _I = I _{IK} | | -1.2V | V |
| I _{IH} | High-Level Input Current | V _{CC} = max. V _{IN} = 2.7V | | 50 | µA |
| | | V _{CC} = max. V _{IN} = 5.25V | | 1.0 | mA |
| I _{IL} | Low-Level Input Current | V _{CC} = max. V _{IN} = 0.5V | | -2 | mA |
| I _{OS} | Short Circuit Output Current | V _{CC} = max. V _{OUT} = 0. (One output at a time) | -40 | -100 | mA |
| I _{CCH} | High-Level Supply Current | V _{CC} = max. V _{IN} = OPEN | | 150 | mA |
| I _{CCL} | Low-Level Supply Current | V _{CC} = max. V _{IN} = 0 | | 150 | mA |
| T _{RO} | Output Rise Time | | | 4 | nS |
| N _H | Fanout High-Level Output | V _{CC} = max. V _{OH} = 2.7V | | 20 TTL LOAD | |
| N _L | Fanout Low-Level Output | V _{CC} = max. V _{OL} = 0.5V | | 10 TTL LOAD | |



| Recommended Operating Conditions | | | | |
|----------------------------------|--------------------------------|------|------|------|
| | | Min | Max | Unit |
| V _{CC} | Supply Voltage | 4.75 | 5.25 | V |
| V _{IH} | High-Level Input Voltage | 2.0 | | V |
| V _{IL} | Low-Level Input Voltage | | 0.8 | V |
| I _{IK} | Input Clamp Current | | -18 | mA |
| I _{OH} | High-Level Output Current | | -1.0 | mA |
| I _{OL} | Low-Level Output Current | | 20 | mA |
| PW* | Pulse Width of Total Delay | 40 | | % |
| d* | Duty Cycle | | 40 | % |
| T _A | Operating Free-Air Temperature | 0 | +70 | °C |

*These two values are inter-dependent.

| Input Pulse Test Conditions @ 25° C | | | |
|-------------------------------------|---|-----|-------|
| | | | Unit |
| E _{IN} | Pulse Input Voltage | 3.2 | Volts |
| PW | Pulse Width % of Total Delay | 110 | % |
| T _{RI} | Pulse Rise Time (0.75 - 2.4 Volts) | 2.0 | nS |
| PRR | Pulse Repetition Rate @ T _d ≤ 500 nS | 1.0 | MHz |
| | Pulse Repetition Rate @ T _d > 500 nS | 500 | KHz |
| V _{CC} | Supply Voltage | 5.0 | Volts |



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TTL Pulse Width Generators

Features

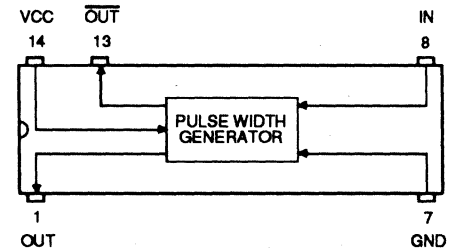
- Precise output pulse width
- Positive-edge triggered (10nS) min.
- Fast rise and fall time (4nS max measured from 0.75V to 2.4V)
- Low Profile 14 pin DIP for auto-insertion

| PART NUMBER | PULSE WIDTH * ±2 NS or ±5% (PWO) | MAX OUTPUT FREQ (mHz) |
|-------------|--|--------------------------|
| EP9981-5 | 5 | 100 |
| EP9981-10 | 10 | 50 |
| EP9981-15 | 15 | 33 |
| EP9981-20 | 20 | 25 |
| EP9981-25 | 25 | 20 |
| EP9981-30 | 30 | 16 |
| EP9981-35 | 35 | 14 |
| EP9981-40 | 40 | 12 |
| EP9981-45 | 45 | 11 |
| EP9981-50 | 50 | 10 |
| EP9981-60 | 60 | 8.4 |
| EP9981-70 | 70 | 7.1 |
| EP9981-80 | 80 | 6.3 |
| EP9981-90 | 90 | 5.5 |
| EP9981-100 | 100 | 5.0 |

* Measured at 1.5V Levels

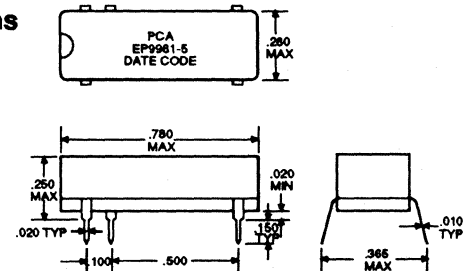
| DC Electrical Characteristics | | | | | |
|-------------------------------|------------------------------|---|-----|-------------|----|
| Parameter | Test Conditions | Min | Max | Unit | |
| V _{OH} | High-Level Output Voltage | V _{CC} = min. V _{IL} = max. I _{OH} = max | 2.7 | | V |
| V _{OL} | Low-Level Output Voltage | V _{CC} = min. V _{IH} = min. I _{OL} = max | | 0.5 | V |
| V _{IK} | Input Clamp Voltage | V _{CC} = min. I _I = I _{IK} | | -1.2V | V |
| I _{IH} | High-Level Input Current | V _{CC} = max. V _{IN} = 2.7V | | 50 | µA |
| I _{IL} | Low-Level Input Current | V _{CC} = max. V _{IN} = 0.5V | | -2 | mA |
| I _{OS} | Short Circuit Output Current | V _{CC} = max. | -40 | -100 | mA |
| I _{CCH} | High-Level Supply Current | V _{CC} = max. V _{IN} = OPEN | | 75 | mA |
| I _{CCL} | Low-Level Supply Current | V _{CC} = max. V _{IN} = 0 | | 75 | mA |
| N _H | Fanout High-Level Output | V _{CC} = max. V _{OH} = 2.7V | | 20 TTL LOAD | |
| N _L | Fanout Low-Level Output | V _{CC} = max. V _{OL} = 0.5V | | 10 TTL LOAD | |

Schematic



| Recommended Operating Conditions | | | | |
|----------------------------------|--------------------------------|------|--------|------|
| | | Min | Max | Unit |
| V _{CC} | Supply Voltage | 4.75 | 5.25 | V |
| V _{IH} | High-Level Input Voltage | 2.0 | | V |
| V _{IL} | Low-Level Input Voltage | | 0.8 | V |
| I _{IK} | Input Clamp Current | | -18 | mA |
| I _{OH} | High-Level Output Current | | -1.0 | mA |
| I _{OL} | Low-Level Output Current | | 20 | mA |
| P | Period | | PWO x2 | nS |
| PWI | Input Pulse Width | 10 | | nS |
| T _A | Operating Free-Air Temperature | 0 | +70 | °C |

Package Dimensions



| Input Pulse Test Conditions @ 25° C | | | Unit |
|-------------------------------------|---------------------|--------|-------|
| E _{IN} | Pulse Input Voltage | 3.2 | Volts |
| T _{RI} | Pulse Rise Time | 2.0 | nS |
| PWI | Pulse Width | 10 | nS |
| P | Period | PWO x2 | nS |
| | (For EP9981-5) | 20 | nS |
| V _{CC} | Supply Voltage | 5.0 | Volts |

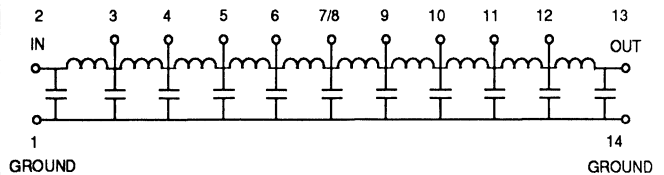
16799 SCHOENBORN ST.
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RCA Global 282 892

14 Pin Dip Delay Lines

| Zo OHM ±10% | DELAY nS ±5% or 2 nS | TAP DELAYS nS | RISE TIME nS MAX | ATTEN % MAX | PCA PART NUMBER | Zo OH ±10% | DELAY nS ±5% | TAP DELAYS ±10 or 2 nS | RISE TIME nS MAX | ATTEN % MAX | PCA PART NUMBER |
|-------------------|-------------------------------|---------------------|---------------------------|-------------------|-----------------------|------------------|--------------------|---------------------------------|---------------------------|-------------------|-----------------------|
| 50 | 16 | 1.6±0.6 | 3 | 1.6 | EP19830 | 100 | 60 | 6 | 11 | 2.0 | EP19836 |
| 50 | 20 | 2±0.6 | 3.5 | 1.6 | EP6889 | 100 | 75 | 7.5 | 15 | 4.0 | EP8476 |
| 50 | 24 | 2.4±0.6 | 4.5 | 1.6 | EP19831 | 100 | 100 | 10 | 17 | 4.0 | EP19825 |
| 50 | 50 | 5±2 | 8.5 | 1.6 | EP19821 | 100 | 125 | 12.5 | 21 | 7.0 | EP19826 |
| 50 | 100 | 10±2 | 17 | 3.8 | EP19822 | 100 | 150 | 15 | 25 | 8.0 | EP19827 |
| 50 | 125 | 12.5±2 | 21 | 6.5 | EP19823 | 100 | 200 | 20 | 34 | 10.0 | EP19828 |
| 100 | 30 | 3±0.6 | 5.5 | 2.0 | EP8684 | 100 | 250 | 25 | 42 | 12.0 | EP19829 |
| 100 | 35 | 3.5±0.8 | 6 | 2.0 | EP19833 | 200 | 68 | 6.8 | 12 | 10.0 | EP19838 |
| 100 | 37 | 3.7±0.8 | 6 | 2.0 | EP19834 | 200 | 75 | 7.5 | 13 | 10.0 | EP19839 |
| 100 | 40 | 4±1 | 8 | 2.0 | EP7179 | 200 | 80 | 8 | 14 | 10.0 | EP19840 |
| 100 | 47 | 4.7±1 | 8 | 2.0 | EP19835 | 200 | 95 | 9.5 | 17 | 10.0 | EP19841 |
| 100 | 50 | 5±2 | 8.5 | 2.0 | EP19824 | 200 | 120 | 12 | 21 | 10.0 | EP19842 |

| DC Electrical Characteristics | Min | Max | Unit |
|----------------------------------|-----|-----|----------|
| Distortion | | ±10 | % |
| Temperature Coefficient of Delay | | 100 | PPM/°C |
| Insulation Resistance @ 100 Vdc | 1K | | Meg Ohms |
| Dielectric Strength | | 100 | Vdc |

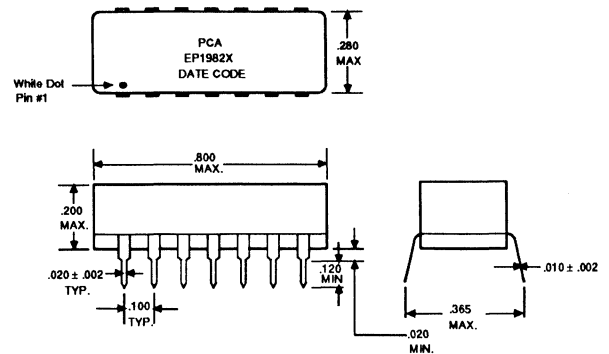
Schematic



| Recommended Operating Conditions | Min | Max | Unit |
|----------------------------------|-----|-----|------|
| P _W * | | 200 | % |
| D* | | 40 | % |
| T _A | 0 | 70 | °C |

*These two values are inter-dependent.

Package Dimensions



| Input Pulse Test Conditions @ 25°C | | |
|------------------------------------|---|----------|
| V _{IN} | Pulse Input Voltage | 10 Volts |
| P _W | Pulse Width % of Total Delay | 300 % |
| T _{RI} | Input Rise Time (10 - 90%) | 2.0 nS |
| PRR | Pulse Repetition Rate @ T _d ≤ 150 nS | 1.0 MHz |
| | Pulse Repetition Rate @ T _d > 150 nS | 300 KHz |

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14 Pin DIP Delay Lines

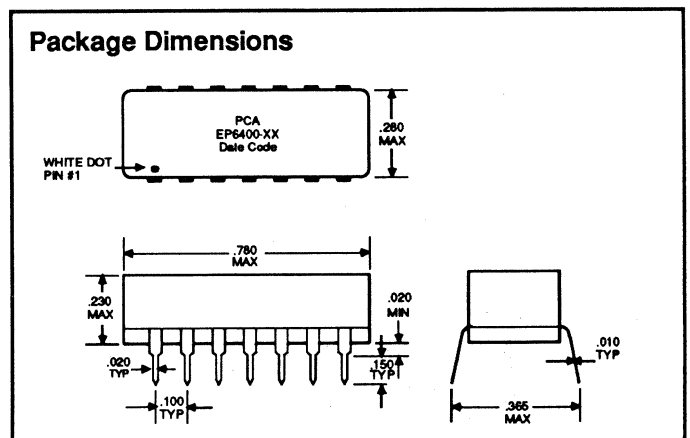
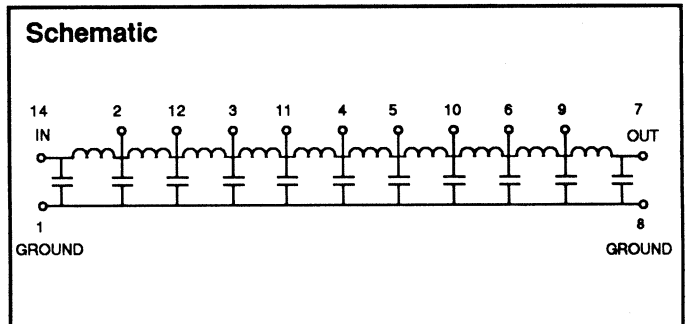
| Zo OHMS ±10% | DELAY NS ±5% or 2NS | TAP DELAYS ±10% | RISE TIME NS MAX | ATTEN DB MAX | PCA PART NUBER | Zo OHMS ±10% | DELAY NS ±5% or 2NS | TAP DELAYS ±10% | RISE TIME NS MAX | ATTEN DB MAX | PCA PART NUMBER |
|--------------------|---------------------------|-----------------------|---------------------------|--------------------|----------------------|--------------------|---------------------------|-----------------------|---------------------------|--------------------|-----------------------|
| 50 | 10 | 1 | 3 | 1 | EP6400-1 | 200 | 100 | 10 | 20 | 1 | EP6400-8 |
| 50 | 25 | 2.5 | 5 | 1 | EP6400-2 | 200 | 200 | 20 | 40 | 1 | EP6400-9 |
| 50 | 50 | 5 | 10 | 1 | EP6400-3 | 250 | 250 | 25 | 50 | 1 | EP6400-16 |
| 100 | 20 | 2 | 4 | 1 | EP6400-4 | 300 | 60 | 6 | 12 | 1 | EP6400-10 |
| 100 | 50 | 5 | 10 | 1 | EP6400-5 | 300 | 150 | 15 | 30 | 1 | EP6400-11 |
| 100 | 100 | 10 | 20 | 1 | EP6400-6 | 300 | 300 | 30 | 60 | 1 | EP6400-12 |
| 100 | 250 | 25 | 50 | 1 | EP6400-18 | 500 | 100 | 10 | 20 | 1 | EP6400-13 |
| 200 | 20 | 2 | 4 | 1 | EP6400-17 | 500 | 250 | 25 | 50 | 2 | EP6400-14 |
| 200 | 40 | 4 | 8 | 1 | EP6400-7 | 500 | 500 | 50 | 100 | 2 | EP6400-15 |


| DC Electrical Characteristics | Min | Max | Unit |
|----------------------------------|-----|-----|----------|
| Distortion | | ±10 | % |
| Temperature Coefficient of Delay | | 100 | PPM/°C |
| Insulation Resistance @ 100 Vdc | 1K | | Meg Ohms |
| Dielectric Strength | | 100 | Vdc |

| Recommended Operating Conditions | Min | Max | Unit |
|----------------------------------|-----|-----|------|
| PW* | | 200 | % |
| D* | | 40 | % |
| T _A | 0 | 70 | °C |

*These two values are inter-dependent.

| Input Pulse Test Conditions @ 25°C | | |
|------------------------------------|---|----------|
| V _{IN} | Pulse Input Voltage | 10 Volts |
| PW | Pulse Width % of Total Delay | 300 % |
| T _{RI} | Input Rise Time (10 - 90%) | 2.0 nS |
| P _{RR} | Pulse Repetition Rate @ T _d ≤ 150 nS | 1.0 MHz |
| | Pulse Repetition Rate @ T _d > 150 nS | 300 KHz |



| | |
|--|---|
|  | 16799 SCHOENBORN ST. |
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14 Pin Single-in-Line Package Delay Lines

| Zo OHMS ±10% | DELAY NS ±5% or 2 NS | TAP DELAYS ±5% or 2 NS | RISE TIME NS MAX | DCR OHMS MAX | PCA PART NUMBER | Zo OHMS ±10% | DELAY NS ±5% or 2 NS | TAP DELAYS ±5% or 2 NS | RISE TIME NS MAX | DCR OHMS MAX | PCA PART NUMBER |
|--------------------|-------------------------------|---------------------------------|---------------------------|--------------------|-----------------------|--------------------|-------------------------------|---------------------------------|---------------------------|--------------------|-----------------------|
| 50 | 10 | 1 | 2 | 1 | EP6700-1 | 100 | 20 | 2 | 4 | 4 | EP6700-11 |
| 50 | 20 | 2 | 4 | 1 | EP6700-2 | 100 | 40 | 4 | 8 | 4 | EP6700-12 |
| 50 | 30 | 3 | 6 | 1 | EP6700-3 | 100 | 60 | 6 | 12 | 4 | EP6700-13 |
| 50 | 40 | 4 | 8 | 1 | EP6700-4 | 100 | 80 | 8 | 16 | 4 | EP6700-14 |
| 50 | 50 | 5 | 10 | 1 | EP6700-5 | 100 | 100 | 10 | 20 | 4 | EP6700-15 |
| 50 | 60 | 6 | 12 | 2 | EP6700-6 | 100 | 120 | 12 | 24 | 6 | EP6700-16 |
| 50 | 70 | 7 | 14 | 2 | EP6700-7 | 100 | 140 | 14 | 28 | 6 | EP6700-17 |
| 50 | 80 | 8 | 16 | 2 | EP6700-8 | 100 | 160 | 16 | 32 | 6 | EP6700-18 |
| 50 | 90 | 9 | 18 | 2 | EP6700-9 | 100 | 180 | 18 | 36 | 6 | EP6700-19 |
| 50 | 100 | 10 | 20 | 2 | EP6700-10 | 100 | 200 | 20 | 40 | 6 | EP6700-20 |

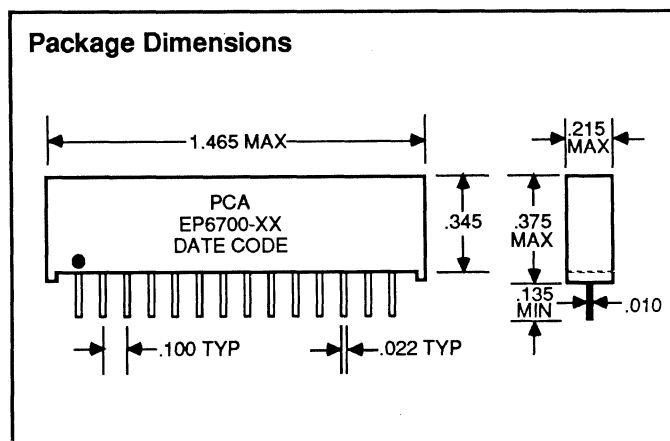
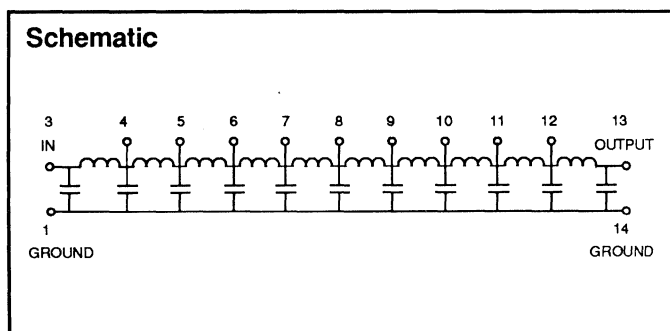
Optional: Output internally terminated, add "T" after PCA P/N; ex. EP6700-IT

| DC Electrical Characteristics | Min | Max | Unit |
|----------------------------------|-----|-----|----------|
| Distortion | | ±10 | % |
| Temperature Coefficient of Delay | | 100 | PPM/°C |
| Insulation Resistance @ 100 Vdc | 1K | | Meg Ohms |
| Dielectric Strength | | 100 | Vdc |

| Recommended Operating Conditions | Min | Max | Unit |
|----------------------------------|-----|-----|------|
| P _W * | | 200 | % |
| D* | | 40 | % |
| T _A | 0 | 70 | °C |

*These two values are inter-dependent.

| Input Pulse Test Conditions @ 25°C | | |
|------------------------------------|---|----------|
| V _{IN} | Pulse Input Voltage | 10 Volts |
| PW | Pulse Width % of Total Delay | 300 % |
| T _{RI} | Input Rise Time (10 - 90%) | 2.0 nS |
| PRR | Pulse Repetition Rate @ T _d ≤ 150 nS | 1.0 MHz |
| | Pulse Repetition Rate @ T _d > 150 nS | 300 KHz |



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8 Pin Single-in-Line Delay Lines

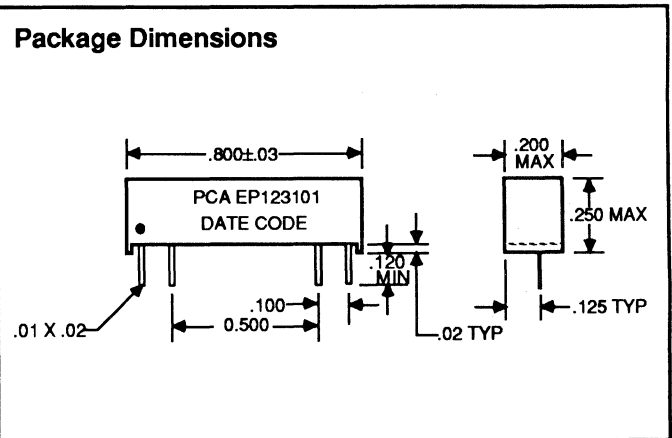
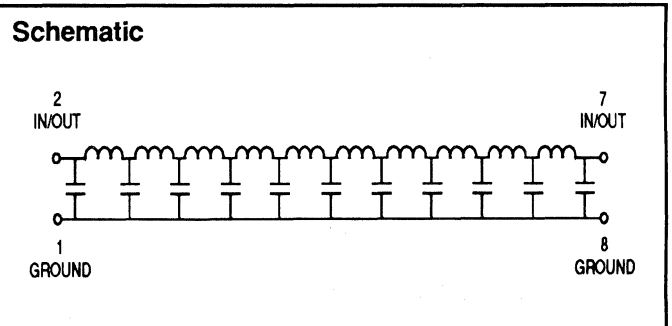
| Zo OHMS ±10 | DELAY NS MAX | DELAY TOL NS MAX | RISE TIME NS MAX (Calculated) | DCR OHMS MAX | PCA PART NUMBER | Zo OHMS ±10 | DELAY NS MAX | DELAY TOL NS MAX | RISE TIME NS MAX (Calculated) | DCR OHMS MAX | PCA PART NUMBER |
|-------------------|--------------------|---------------------------|--|--------------------|-----------------------|-------------------|--------------------|---------------------------|--|--------------------|-----------------------|
| 100 | 0.0 | +0.25 | 1.0 | 1.0 | EP123101 | 100 | 9.0 | ±0.25 | 1.9 | 1.0 | EP123119 |
| 100 | 0.5 | ±0.25 | 1.0 | 1.0 | EP123102 | 100 | 9.5 | ±0.25 | 2.0 | 1.0 | EP123120 |
| 100 | 1.0 | ±0.25 | 1.0 | 1.0 | EP123103 | 100 | 10.0 | ±0.25 | 2.0 | 1.0 | EP123121 |
| 100 | 1.5 | ±0.25 | 1.0 | 1.0 | EP123104 | 100 | 11.0 | ±0.25 | 2.2 | 2.0 | EP123123 |
| 100 | 2.0 | ±0.25 | 1.0 | 1.0 | EP123105 | 100 | 12.0 | ±0.25 | 2.3 | 2.0 | EP123125 |
| 100 | 2.5 | ±0.25 | 1.0 | 1.0 | EP123106 | 100 | 13.0 | ±0.25 | 2.5 | 2.0 | EP123127 |
| 100 | 3.0 | ±0.25 | 1.0 | 1.0 | EP123107 | 100 | 14.0 | ±0.25 | 2.6 | 2.0 | EP123129 |
| 100 | 3.5 | ±0.25 | 1.0 | 1.0 | EP123108 | 100 | 15.0 | ±0.25 | 2.8 | 2.0 | EP123131 |
| 100 | 4.0 | ±0.25 | 1.0 | 1.0 | EP123109 | 100 | 16.0 | ±0.25 | 3.0 | 2.5 | EP123133 |
| 100 | 4.5 | ±0.25 | 1.0 | 1.0 | EP123110 | 100 | 17.0 | ±0.25 | 3.2 | 2.5 | EP123135 |
| 100 | 5.0 | ±0.25 | 1.1 | 1.0 | EP123111 | 100 | 18.0 | ±0.25 | 3.4 | 2.5 | EP123137 |
| 100 | 5.5 | ±0.25 | 1.2 | 1.0 | EP123112 | 100 | 19.0 | ±0.25 | 3.6 | 2.5 | EP123139 |
| 100 | 6.0 | ±0.25 | 1.3 | 1.0 | EP123113 | 100 | 20.0 | ±0.50 | 3.8 | 2.5 | EP123141 |
| 100 | 6.5 | ±0.25 | 1.4 | 1.0 | EP123114 | 100 | 25.0 | ±0.50 | 4.5 | 4.0 | EP123146 |
| 100 | 7.0 | ±0.25 | 1.5 | 1.0 | EP123115 | 100 | 30.0 | ±0.50 | 5.5 | 4.5 | EP123151 |
| 100 | 7.5 | ±0.25 | 1.6 | 1.0 | EP123116 | 100 | 35.0 | ±0.50 | 6.4 | 5.5 | EP123156 |
| 100 | 8.0 | ±0.25 | 1.7 | 1.0 | EP123117 | 100 | 40.0 | ±0.50 | 7.4 | 6.0 | EP123161 |
| 100 | 8.5 | ±0.25 | 1.8 | 1.0 | EP123118 | | | | | | |


| DC Electrical Characteristics | Min | Max | Unit |
|----------------------------------|-----|-----|----------|
| Distortion | | ±10 | % |
| Temperature Coefficient of Delay | | 100 | PPM/°C |
| Insulation Resistance @ 100 Vdc | 1K | | Meg Ohms |
| Dielectric Strength | | 100 | Vdc |

| Recommended Operating Conditions | Min | Max | Unit |
|----------------------------------|-----|-----|------|
| P _W * | 200 | | % |
| D* | | 40 | % |
| T _A | 0 | 70 | °C |

*These two values are inter-dependent.

| Input Pulse Test Conditions @ 25°C | |
|------------------------------------|---------------------------------------|
| V _{IN} | Pulse Input Voltage 10 Volts |
| P _W | Pulse Width % of Total Delay 300 % |
| T _{RI} | Input Rise Time (10 - 90%) 2.0 nS |
| P _{RR} | Pulse Repetition Rate 1.0 MHz |




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7 Pin Single-in-Line Package Delay Lines

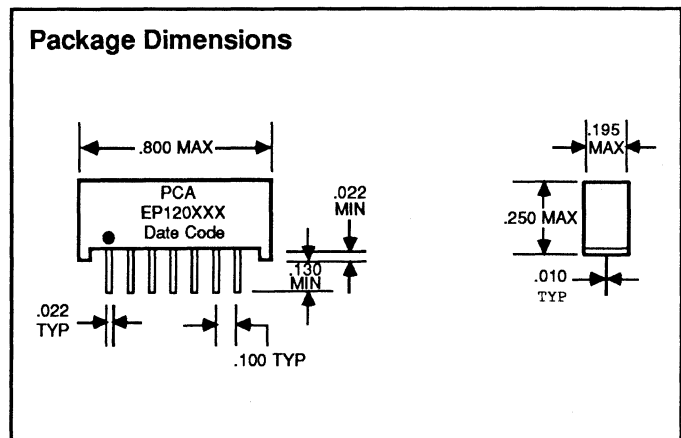
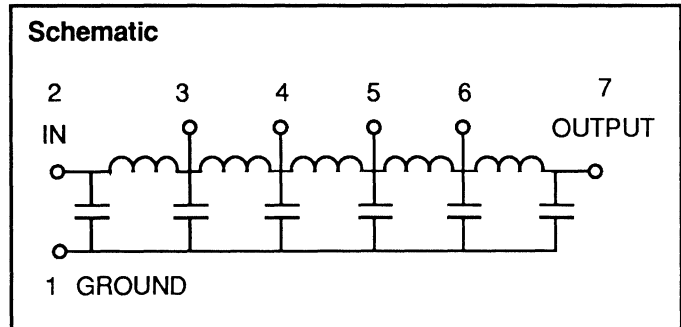
| Zo OHMS ±10% | DELAY NS ±5% or 2 NS | TAP DELAYS ±5% or 2 NS | RISE TIME NS MAX | DCR OHMS MAX | PCA PART NUMBER | Zo OHMS ±10% | DELAY NS ±5% or 2 NS | TAP DELAYS ±5% or 2 NS | RISE TIME NS MAX | DCR OHMS MAX | PCA PART NUMBER |
|--------------|----------------------|------------------------|------------------|--------------|-----------------|--------------|----------------------|------------------------|------------------|--------------|-----------------|
| 50 | 5 | 1 | 2 | 0.3 | EP120650 | 100 | 5 | 1 | 2 | 0.5 | EP120661 |
| 50 | 10 | 2 | 3 | 0.5 | EP120651 | 100 | 10 | 2 | 3.3 | 1.0 | EP120662 |
| 50 | 20 | 4 | 6 | 0.8 | EP120652 | 100 | 20 | 4 | 6 | 1.5 | EP120663 |
| 50 | 30 | 6 | 9 | 1.2 | EP120653 | 100 | 30 | 6 | 9 | 2.5 | EP120664 |
| 50 | 40 | 8 | 12 | 1.8 | EP120654 | 100 | 40 | 8 | 11 | 4.0 | EP120665 |
| 50 | 50 | 10 | 15 | 2.3 | EP120655 | 100 | 50 | 10 | 14 | 5.0 | EP120666 |
| 50 | 60 | 12 | 18 | 2.5 | EP120656 | 100 | 60 | 12 | 17 | 5.5 | EP120667 |
| 50 | 70 | 14 | 22 | 3.5 | EP120657 | 100 | 70 | 15 | 21 | 6.0 | EP120668 |
| 50 | 80 | 16 | 24 | 4.2 | EP120658 | 100 | 80 | 16 | 23 | 6.5 | EP120669 |
| 50 | 90 | 18 | 27 | 4.5 | EP120659 | 100 | 90 | 18 | 25 | 7.0 | EP120670 |
| 50 | 100 | 20 | 28 | 5.2 | EP120660 | 100 | 100 | 20 | 28 | 7.5 | EP120671 |

| DC Electrical Characteristics | Min | Max | Unit |
|----------------------------------|-----|-----|----------|
| Distortion | | ±10 | % |
| Temperature Coefficient of Delay | | 100 | PPM/°C |
| Insulation Resistance @ 100 Vdc | 1K | | Meg Ohms |
| Dielectric Strength | | 100 | Vdc |

| Recommended Operating Conditions | Min | Max | Unit |
|-----------------------------------|-----|-----|------|
| PW* Pulse Width % of Total Delay | 200 | | % |
| D* Duty Cycle | | 40 | % |
| TA Operating Free Air Temperature | 0 | 70 | °C |

*These two values are inter-dependent.

| Input Pulse Test Conditions @ 25°C | | |
|------------------------------------|------------------------------|----------|
| V _{IN} | Pulse Input Voltage | 10 Volts |
| PW | Pulse Width % of Total Delay | 300 % |
| T _{RI} | Input Rise Time (10 - 90%) | 2.0 nS |
| PRR | Pulse Repetition Rate | 1.0 MHz |



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24 Pin Dip Delay Lines

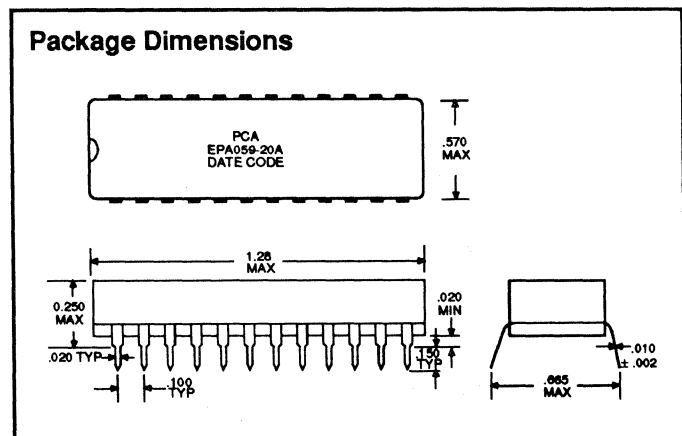
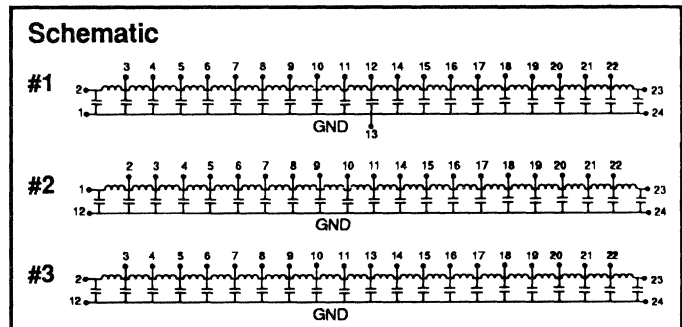
| Zo OHMS ±10% | TOTAL DELAY NS ±5% or ±2 NS | TAP TO TAP DELAYS NS | OUTPUT RISE TME NS MAX | ATTEN MAX % | SCHEMATIC #1 | PART NUMBER SCHEMATIC #2 | SCHEMATIC #3 |
|--------------------|-----------------------------------|----------------------------|------------------------------|-------------------|-----------------|--------------------------------|-----------------|
| 50 | 20 | 1±0.2 | 3 | 10 | EPA059-20A | EPA060-20A | EPA061-20A |
| 50 | 50 | 2.5±0.5 | 5 | 10 | EPA059-50A | EPA060-50A | EPA061-5050 |
| 50 | 100 | 5±1.0 | 10 | 10 | EPA059-100A | EPA060-100A | EPA061-100A |
| 50 | 200 | 10±1.0 | 20 | 10 | EPA059-200A | EPA060-200A | EPA061-200A |
| 100 | 20 | 1±0.2 | 3 | 10 | EPA059-20B | EPA060-20B | EPA061-20B |
| 100 | 50 | 2.5±0.5 | 5 | 10 | EPA059-50B | EPA060-50B | EPA061-50B |
| 100 | 100 | 5±1.0 | 10 | 10 | EPA059-100B | EPA060-100B | EPA061-100B |
| 100 | 200 | 10±1.0 | 20 | 10 | EPA059-200B | EPA060-200B | EPA061-200B |
| 100 | 500 | 25±2.5 | 50 | 20 | EPA059-500B | EPA060-500B | EPA061-500B |
| 100 | 1000 | 50±5.0 | 100 | 20 | EPA059-1000B | EPA060-1000B | EPA061-1000B |
| 200 | 20 | 1±0.2 | 3 | 10 | EPA059-20C | EPA060-20C | EPA061-20C |
| 200 | 50 | 2.5±0.5 | 5 | 10 | EPA059-50C | EPA060-50C | EPA061-50C |
| 200 | 100 | 5±1.0 | 10 | 10 | EPA059-100C | EPA060-100C | EPA061-100C |
| 200 | 500 | 25±2.5 | 50 | 20 | EPA059-500C | EPA060-500C | EPA061-500C |
| 200 | 1000 | 50±5.0 | 100 | 20 | EPA059-1000C | EPA060-1000C | EPA061-1000C |

| DC Electrical Characteristics | Min | Max | Unit |
|----------------------------------|-----|-----|----------|
| Distortion | | ±10 | % |
| Temperature Coefficient of Delay | | 100 | PPM/°C |
| Insulation Resistance @ 100 Vdc | 1K | | Meg Ohms |
| Dielectric Strength | | 100 | Vdc |

| Recommended Operating Conditions | Min | Max | Unit |
|----------------------------------|-----|-----|------|
| P _W * | | 200 | % |
| D* | | 40 | % |
| T _A | 0 | 70 | °C |

*These two values are inter-dependent.

| Input Pulse Test Conditions @ 25°C | | |
|------------------------------------|---|----------|
| V _{IN} | Pulse Input Voltage | 10 Volts |
| P _W | Pulse Width % of Total Delay | 300 % |
| T _{RI} | Input Rise Time (10 - 90%) | 2.0 nS |
| PRR | Pulse Repetition Rate @ T _d ≤ 150 nS | 1.0 MHz |
| | Pulse Repetition Rate @ T _d > 150 nS | 300 KHz |



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RCA Global 282 892

28 Pin SMD Delay Lines

| Zo OHMS ±10% | DELAY NS ±5% or 2NS | TAP DELAYS | RISE TIME NS MAX | ATTEN DB MAX | PCA PART NUMBER | Zo OHMS ±10% | DELAY NS ±5% or 2NS | TAP DELAYS | RISE TIME NS MAX | ATTEN DB MAX | PCA PART NUMBER |
|--------------------|---------------------------|---------------|---------------------------|--------------------|-----------------------|--------------------|---------------------------|---------------|---------------------------|--------------------|-----------------------|
| 100 | 25 | 2.5±0.5 | 5 | 2% | EP9130 | 200 | 25 | 2.5±0.5 | 5 | 2% | EP9145 |
| 100 | 30 | 3.0±0.5 | 6 | 2% | EP9131 | 200 | 30 | 3.0±0.5 | 6 | 2% | EP9146 |
| 100 | 35 | 3.5±0.5 | 7 | 2% | EP9132 | 200 | 35 | 3.5±0.5 | 7 | 2% | EP9147 |
| 100 | 40 | 4.0±0.5 | 8 | 2% | EP9133 | 200 | 40 | 4.0±0.5 | 8 | 2% | EP9148 |
| 100 | 45 | 4.5±0.5 | 9 | 2% | EP9134 | 200 | 45 | 4.5±0.5 | 9 | 2% | EP9149 |
| 100 | 50 | 5.0±1.0 | 10 | 2% | EP9135 | 200 | 50 | 5.0±0.5 | 10 | 2% | EP9150 |
| 100 | 60 | 6.0±1.0 | 12 | 2% | EP9136 | 200 | 60 | 6.0±1.0 | 12 | 2% | EP9151 |
| 100 | 75 | 7.5±1.0 | 15 | 4% | EP9137 | 200 | 75 | 7.5±1.0 | 15 | 4% | EP9152 |
| 100 | 100 | 10±2.0 | 20 | 4% | EP9138 | 200 | 100 | 10±2.0 | 20 | 4% | EP9153 |
| 100 | 125 | 12.5±2.0 | 25 | 7% | EP9139 | 200 | 125 | 12.5±2.0 | 25 | 7% | EP9154 |
| 100 | 150 | 15±2.0 | 30 | 8% | EP9140 | 200 | 150 | 15±2.0 | 30 | 8% | EP9155 |
| 100 | 175 | 17.5±2.0 | 35 | 10% | EP9141 | 200 | 175 | 17.5±2.0 | 35 | 10% | EP9156 |
| 100 | 200 | 20±2.0 | 40 | 10% | EP9142 | 200 | 200 | 20±2.0 | 40 | 12% | EP9157 |
| 100 | 225 | 22.5±2.0 | 45 | 10% | EP9143 | 200 | 225 | 22.5±2.0 | 45 | 12% | EP9158 |
| 100 | 250 | 25±2.0 | 50 | 12% | EP9144 | 200 | 250 | 25±2.0 | 50 | 12% | EP9159 |

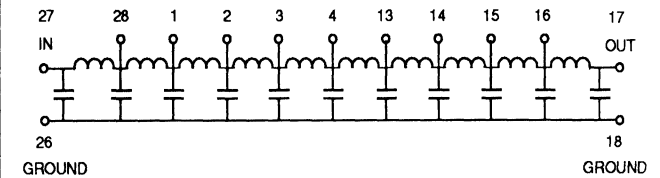
| DC Electrical Characteristics | Min | Max | Unit |
|----------------------------------|-----|-----|----------|
| Distortion | | ±10 | % |
| Temperature Coefficient of Delay | | 100 | PPM/°C |
| Insulation Resistance @ 100 Vdc | 1K | | Meg Ohms |
| Dielectric Strength | | 100 | Vdc |

| Recommended Operating Conditions | Min | Max | Unit |
|----------------------------------|--------------------------------|-----|-------|
| P _W * | Pulse Width % of Total Delay | 200 | % |
| D* | Duty Cycle | 40 | % |
| T _A | Operating Free Air Temperature | 0 | 70 °C |

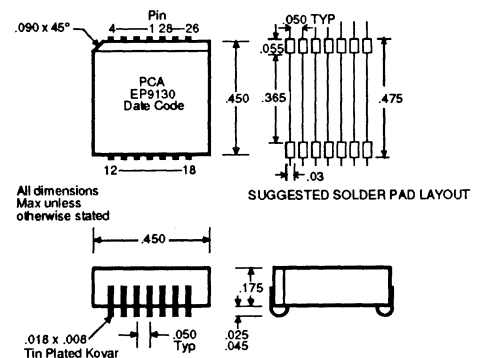
*These two values are inter-dependent.

| Input Pulse Test Conditions @ 25°C | | |
|------------------------------------|---|----------|
| V _{IN} | Pulse Input Voltage | 10 Volts |
| P _W | Pulse Width % of Total Delay | 300 % |
| T _{RI} | Input Rise Time (10 - 90%) | 2.0 nS |
| P _{RR} | Pulse Repetition Rate @ T _d ≤ 150 nS | 1.0 MHz |
| | Pulse Repetition Rate @ T _d > 150 nS | 300 KHz |

Schematic



Package Dimensions



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28 Pin Gull-Wing SMD Delay Lines

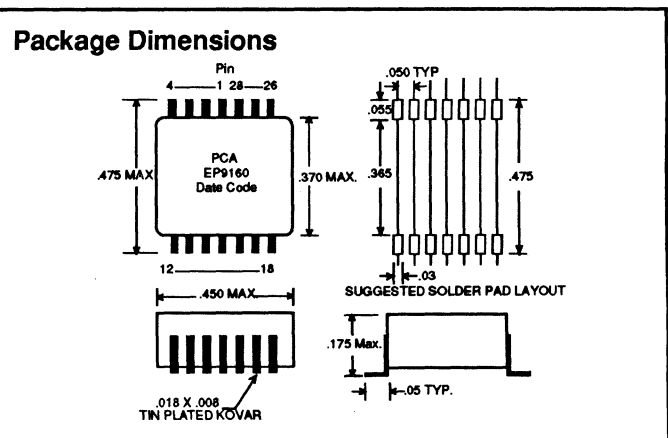
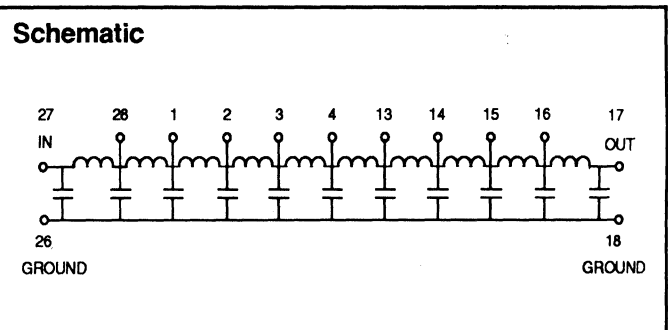

| Zo OHMS ±10% | DELAY NS ±5% or 2 NS | TAP DELAYS | RISE TIME NS MAX | ATTEN MAX | PCA PART NUMBER | Zo OHMS ±10% | DELAY NS ±5% or 2 NS | TAP DELAYS | RISE TIME NS MAX | ATTEN MAX | PCA PART NUMBER |
|--------------|----------------------|------------|------------------|-----------|-----------------|--------------|----------------------|------------|------------------|-----------|-----------------|
| 100 | 25 | 2.5±0.5 | 5 | 2% | EP9160 | 200 | 25 | 2.5±0.5 | 5 | 2% | EP9175 |
| 100 | 30 | 3.0±0.5 | 6 | 2% | EP9161 | 200 | 30 | 3.0±0.5 | 6 | 2% | EP9176 |
| 100 | 35 | 3.5±0.5 | 7 | 2% | EP9162 | 200 | 35 | 3.5±0.5 | 7 | 2% | EP9177 |
| 100 | 40 | 4.0±0.5 | 8 | 2% | EP9163 | 200 | 40 | 4.0±0.5 | 8 | 2% | EP9178 |
| 100 | 45 | 4.5±0.5 | 9 | 2% | EP9164 | 200 | 45 | 4.5±0.5 | 9 | 2% | EP9179 |
| 100 | 50 | 5.0±1.0 | 10 | 2% | EP9165 | 200 | 50 | 5.0±0.5 | 10 | 2% | EP9180 |
| 100 | 60 | 6.0±1.0 | 12 | 2% | EP9166 | 200 | 60 | 6.0±1.0 | 12 | 2% | EP9181 |
| 100 | 75 | 7.5±1.0 | 15 | 4% | EP9167 | 200 | 75 | 7.5±1.0 | 15 | 4% | EP9182 |
| 100 | 100 | 10±2.0 | 20 | 4% | EP9168 | 200 | 100 | 10±2.0 | 20 | 4% | EP9183 |
| 100 | 125 | 12.5±2.0 | 25 | 7% | EP9169 | 200 | 125 | 12.5±2.0 | 25 | 7% | EP9184 |
| 100 | 150 | 15±2.0 | 30 | 8% | EP9170 | 200 | 150 | 15±2.0 | 30 | 8% | EP9185 |
| 100 | 175 | 17.5±2.0 | 35 | 10% | EP9171 | 200 | 175 | 17.5±2.0 | 35 | 10% | EP9186 |
| 100 | 200 | 20±2.0 | 40 | 10% | EP9172 | 200 | 200 | 20±2.0 | 40 | 12% | EP9187 |
| 100 | 225 | 22.5±2.0 | 45 | 10% | EP9173 | 200 | 225 | 22.5±2.0 | 45 | 12% | EP9188 |
| 100 | 250 | 25±2.0 | 50 | 12% | EP9174 | 200 | 250 | 25±2.0 | 50 | 12% | EP9189 |

| DC Electrical Characteristics | Min | Max | Unit |
|----------------------------------|-----|-----|----------|
| Distortion | | ±10 | % |
| Temperature Coefficient of Delay | | 100 | PPM/°C |
| Insulation Resistance @ 100 Vdc | 1K | | Meg Ohms |
| Dielectric Strength | | 100 | Vdc |

| Recommended Operating Conditions | Min | Max | Unit |
|-----------------------------------|-----|-----|------|
| PW* Pulse Width % of Total Delay | 200 | | % |
| D* Duty Cycle | | 40 | % |
| TA Operating Free Air Temperature | 0 | 70 | °C |

*These two values are inter-dependent.

| Input Pulse Test Conditions @ 25°C | | |
|------------------------------------|---|----------|
| V _{IN} | Pulse Input Voltage | 10 Volts |
| PW | Pulse Width % of Total Delay | 300 % |
| T _{RI} | Input Rise Time (10 - 90%) | 2.0 nS |
| PRR | Pulse Repetition Rate @ T _d ≤ 150 nS | 1.0 MHz |
| | Pulse Repetition Rate @ T _d > 150 nS | 300 KHz |

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Variable Delay Lines

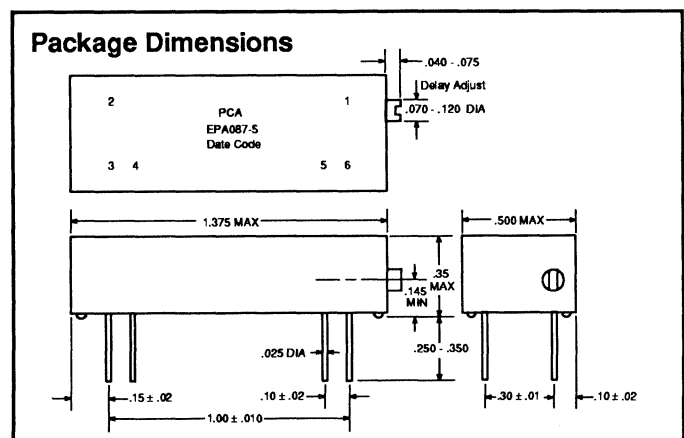
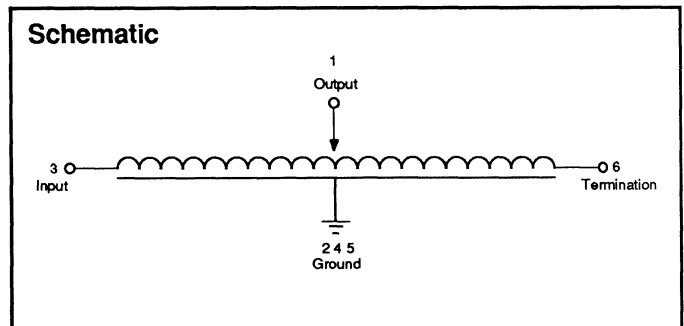
| PART NUMBER | VARIABLE DELAYS (nS) | | | DC RESISTANCE OHMS MAX | OUTPUT RISE TIME 20 - 80% NS MAX | CHAR. IMPEDANCE OHMS ± 10% |
|-------------|----------------------|-------|----------|------------------------|----------------------------------|----------------------------|
| | LOW MAX | RANGE | HIGH MIN | | | |
| EPA087-10A | 2 | 10 | 12 | 0.6 | 2.5 | 50 |
| EPA087-15A | 2 | 15 | 17 | 0.7 | 3.0 | 50 |
| EPA087-25A | 3 | 25 | 28 | 0.9 | 5.0 | 50 |
| EPA087-30A | 4 | 30 | 34 | 1.0 | 6.0 | 50 |
| EPA087-40A | 5 | 40 | 45 | 1.3 | 8.0 | 50 |
| EPA087-50A | 6 | 50 | 56 | 1.7 | 10.0 | 50 |
| EPA087-75A | 9 | 75 | 84 | 2.6 | 15.0 | 50 |
| EPA087-100A | 12 | 100 | 112 | 3.5 | 20.0 | 50 |
| EPA087-10F | 2 | 10 | 12 | 1.0 | 2.5 | 75 |
| EPA087-15F | 2 | 15 | 17 | 1.5 | 3.0 | 75 |
| EPA087-25F | 3 | 25 | 28 | 2.0 | 5.0 | 75 |
| EPA087-30F | 4 | 30 | 34 | 2.5 | 6.0 | 75 |
| EPA087-40F | 5 | 40 | 45 | 3.0 | 8.0 | 75 |
| EPA087-50F | 6 | 50 | 56 | 3.5 | 10.0 | 75 |
| EPA087-75F | 9 | 75 | 84 | 4.5 | 15.0 | 75 |
| EPA087-100F | 12 | 100 | 112 | 5.5 | 20.0 | 75 |
| EPA087-10B | 2 | 10 | 12 | 1.5 | 2.5 | 100 |
| EPA087-15B | 2 | 15 | 17 | 2.0 | 3.0 | 100 |
| EPA087-25B | 3 | 25 | 28 | 2.5 | 5.0 | 100 |
| EPA087-30B | 4 | 30 | 34 | 3.0 | 6.0 | 100 |
| EPA087-40B | 5 | 40 | 45 | 3.5 | 8.0 | 100 |
| EPA087-50B | 6 | 50 | 56 | 4.0 | 10.0 | 100 |
| EPA087-75B | 9 | 75 | 84 | 5.0 | 15.0 | 100 |
| EPA087-100B | 12 | 100 | 112 | 6.0 | 20.0 | 100 |

| DC Electrical Characteristics | Min | Max | Unit |
|----------------------------------|-----|-----|----------|
| Distortion | | ±10 | % |
| Temperature Coefficient of Delay | | 100 | PPM/°C |
| Insulation Resistance @ 100 Vdc | 1K | | Meg Ohms |
| Dielectric Strength | | 100 | Vdc |

| Recommended Operating Conditions | Min | Max | Unit |
|----------------------------------|--------------------------------|-----|------|
| PW* | Pulse Width % of Total Delay | 200 | % |
| D* | Duty Cycle | 40 | % |
| T _A | Operating Free Air Temperature | 0 | °C |

*These two values are inter-dependent.

| Input Pulse Test Conditions @ 25°C | | |
|------------------------------------|------------------------------|----------|
| V _{IN} | Pulse Input Voltage | 10 Volts |
| PW | Pulse Width % of Total Delay | 300 % |
| T _{RI} | Input Rise Time (10 - 90%) | 2.0 nS |
| PRR | Pulse Repetition Rate | 1.0 MHz |

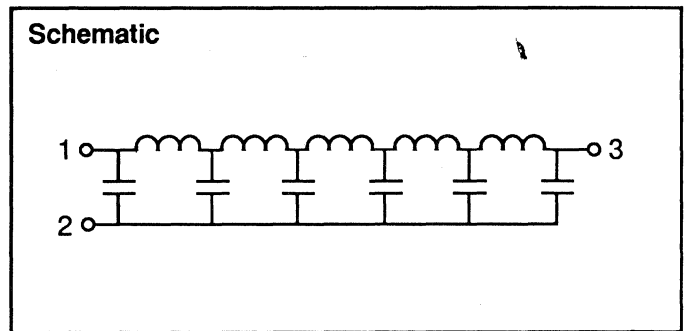


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Mini SIP Passive Delay Lines

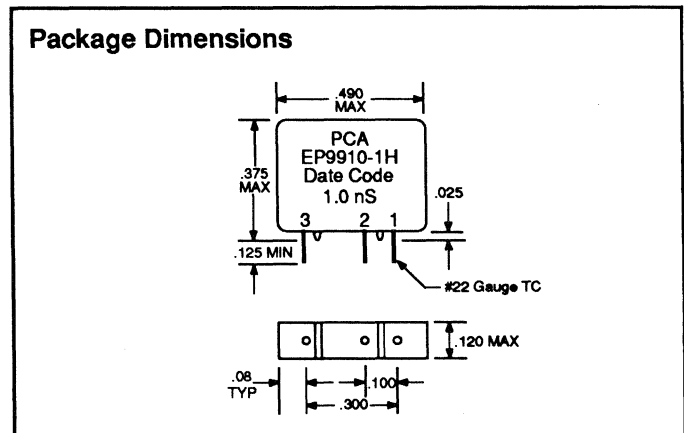
| TIME DELAY nS | RISE TIME 20-80% nS Max | DCR Ohms | IMPEDANCE $\pm 10\%$ | |
|------------------|-------------------------------|-------------|----------------------|------------|
| | | | 55 Ohms | 93 Ohms |
| 1 \pm 0.2 | 1.6 | 0.20 | EP9910-1H | EP9910-1I |
| 2 \pm .02 | 1.6 | 0.25 | EP9910-2H | EP9910-2I |
| 3 \pm 0.2 | 1.7 | 0.35 | EP9910-3H | EP9910-3I |
| 4 \pm 0.2 | 1.7 | 0.45 | EP9910-4H | EP9910-4I |
| 5 \pm 0.25 | 1.8 | 0.55 | EP9910-5H | EP9910-5I |
| 6 \pm 0.3 | 2.0 | 0.70 | EP9910-6H | EP9910-6I |
| 7 \pm 0.3 | 2.2 | 0.80 | EP9910-7H | EP9910-7I |
| 8 \pm 0.3 | 2.4 | 0.85 | EP9910-8H | EP9910-8I |
| 9 \pm 0.3 | 2.6 | 0.90 | EP9910-9H | EP9910-9I |
| 10 \pm 0.3 | 2.8 | 0.95 | EP9910-10H | EP9910-10I |

| DC Electrical Characteristics | Min | Max | Unit |
|----------------------------------|-----|----------|----------|
| Distortion | | ± 10 | % |
| Temperature Coefficient of Delay | | 100 | PPM/°C |
| Insulation Resistance @ 100 Vdc | 1K | | Meg Ohms |
| Dielectric Strength | | 100 | Vdc |



| Recommended Operating Conditions | | Min | Max | Unit |
|----------------------------------|--------------------------------|-----|-----|------|
| P _W * | Pulse Width % of Total Delay | 200 | | % |
| D* | Duty Cycle | | 40 | % |
| T _A | Operating Free Air Temperature | 0 | 70 | °C |

*These two values are inter-dependent.



| Input Pulse Test Conditions @ 25°C | | |
|------------------------------------|------------------------------|----------|
| V _{IN} | Pulse Input Voltage | 10 Volts |
| P _W | Pulse Width % of Total Delay | 300 % |
| T _{RI} | Input Rise Time (10 - 90%) | 2.0 nS |
| P _{RR} | Pulse Repetition Rate | 1.0 MHz |

| | |
|--|----------------------|
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| | SEPULVEDA, CA 91343 |
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| | RCA Global 282 892 |

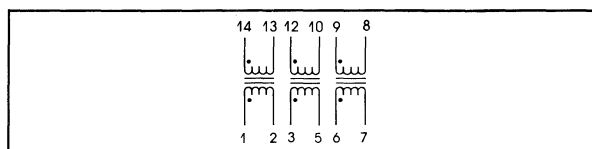
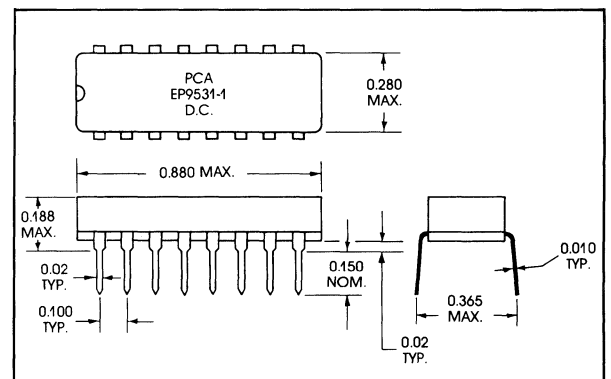
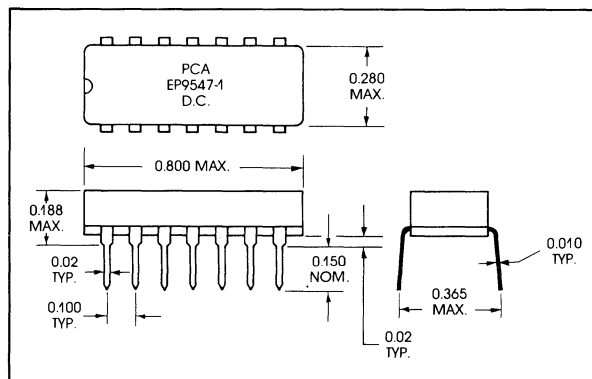
Isolation Transformers for LAN-ETHERNET Applications

Features

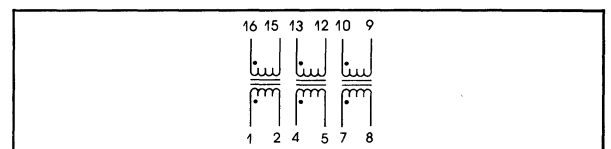
- Low profile for auto-insertion
- Available on 14 or 16 pin package
- Low leakage inductance (LE) and interwinding capacitance (CW)
- HIPOT-2000 Vrms. (to comply with LANS safety requirements)
- Turns ratio - 1:1 $\pm 5\%$

ELECTRICAL SPECIFICATIONS AT 25 °C

| PCA PART NO. | | OCL μH , $\pm 20\%$ | ET-CONSTANT $\text{V}\cdot\mu\text{s}$, MIN. | RISE TIME nS , MAX. | CW pF , MAX. | LE μH , MAX. | DCR OHMS , MAX. |
|--------------------|--------------------|-----------------------------------|--|---------------------------------|--------------------------|----------------------------|-----------------------------|
| PKG. A (14-PIN) | PKG. B (16 PIN) | | | | | | |
| EP9547-1 | EP9531-1 | 25 | 2.0 | 3.0 | 5 | 0.15 | 0.15 |
| EP9547-2 | EP9531-2 | 30 | 2.0 | 3.0 | 5 | 0.15 | 0.15 |
| EP9547-3 | EP9531-3 | 35 | 2.2 | 3.0 | 6 | 0.15 | 0.20 |
| EP9547-4 | EP9531-4 | 50 | 2.2 | 3.0 | 7 | 0.20 | 0.20 |
| EP9547-5 | EP9531-5 | 75 | 2.5 | 3.0 | 8 | 0.20 | 0.25 |
| EP9547-6 | EP9531-6 | 100 | 2.5 | 3.0 | 9 | 0.25 | 0.30 |
| EP9547-7 | EP9531-7 | 125 | 3.0 | 3.0 | 10 | 0.25 | 0.30 |
| EP9547-8 | EP9531-8 | 150 | 3.0 | 3.0 | 11 | 0.25 | 0.40 |
| EP9547-9 | EP9531-9 | 175 | 3.5 | 3.5 | 12 | 0.25 | 0.50 |
| EP9547-10 | EP9531-10 | 200 | 3.5 | 3.5 | 13 | 0.30 | 0.50 |



PACKAGE A



PACKAGE B



IT 1085

ELECTRONICS INC.

16799 SCHOENBORN STREET
SEPULVEDA, CA 91343

PHONE: (818) 892-0761
TELEX: 67-4681
TWX: 910-496-1525

Starlan Isolation Transformers

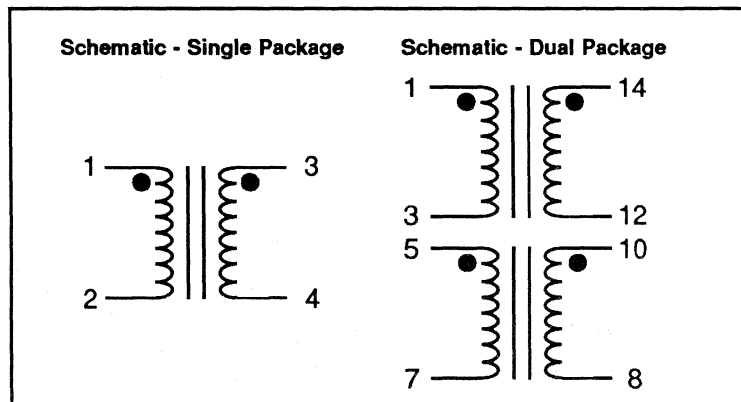
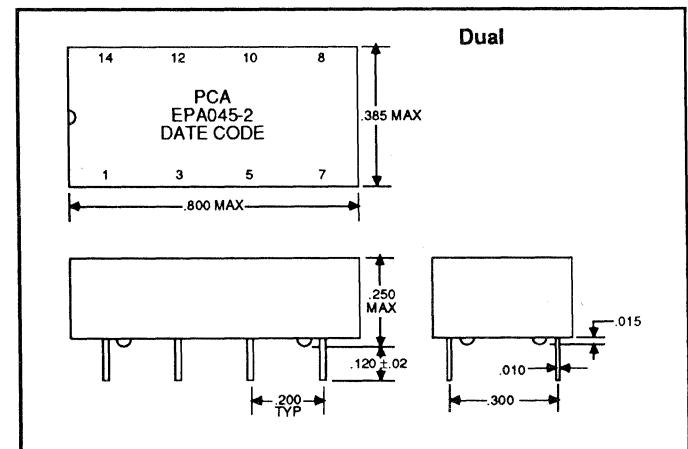
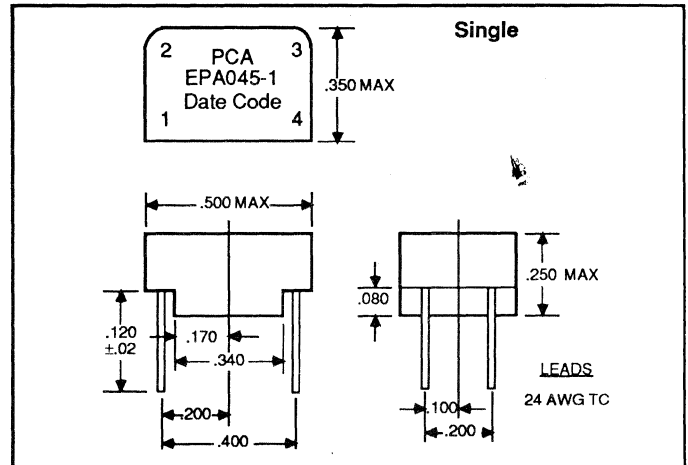
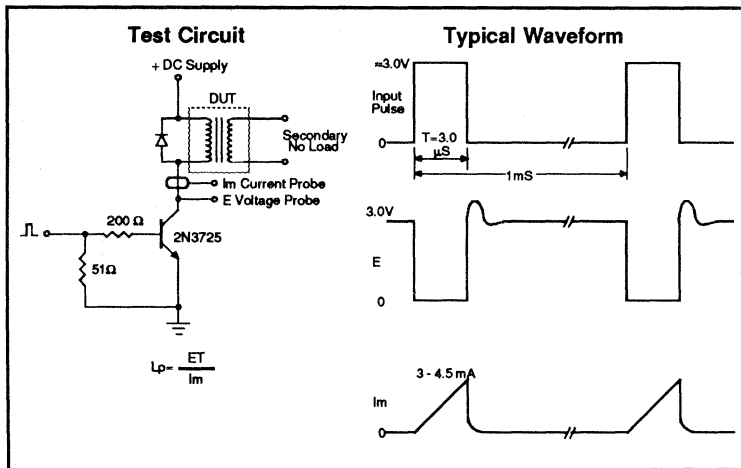
Features

- Available in single and dual low profile packages.
- HIPOT- 2000 Vrms (to comply with LAN'S International safety requirements).
- Designed for hub and node applications.
- Meet the high-reliability specs of the IEEE 802.3 Standard (Type 1 Base 5).

ELECTRICAL SPECIFICATIONS @ 25°C

| PARAMETERS | SPECIFICATIONS |
|--|--|
| Pulse Inductance measured at 3 V, and PW of 3 μ S at PRR of 1 mS | 2.5 mH \pm 20% (See Test Circuit) |
| Primary ET constant | 20.0 V- μ S min |
| Rise Time | 100 nS max |
| Pri/Sec inter-winding capacitance | 25 pF max |
| Pri/Sec leakage inductance | 8 μ H max |
| Pri or Sec DCR | 1.0 Ohms max |
| Turns Ratio | 1:1 \pm 5% |
| HIPOT between Pri and Sec and also from coil to coil in the Dual Package | 2000 V r m s |

| PCA P/N | TYPE | PACKAGE STYLE |
|----------|--------|---------------|
| EPA045-1 | Single | Case |
| EPA045-2 | Dual | 14 Pin Dip |



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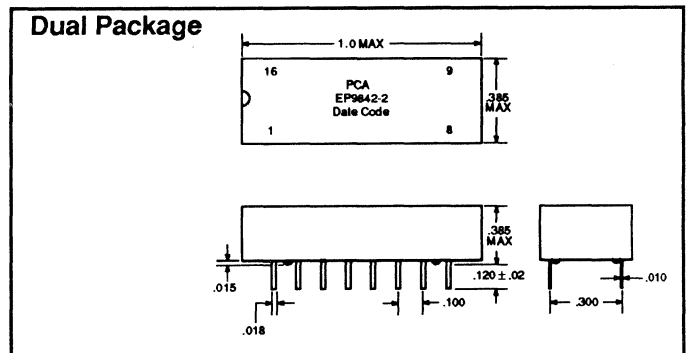
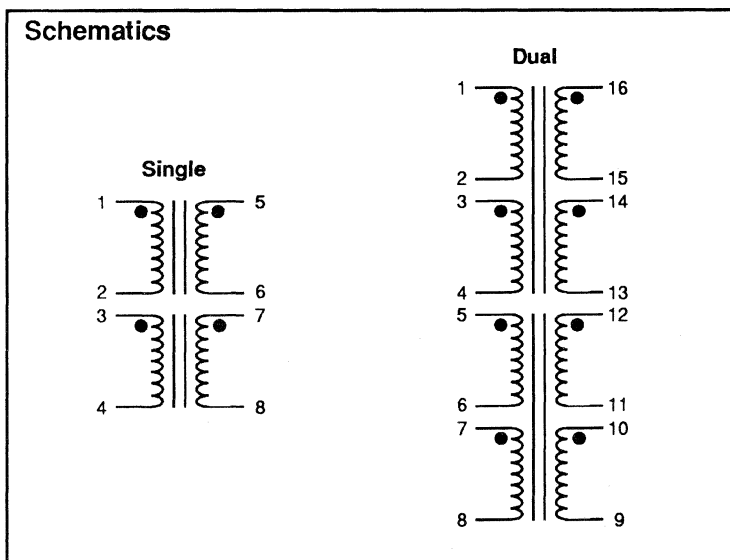
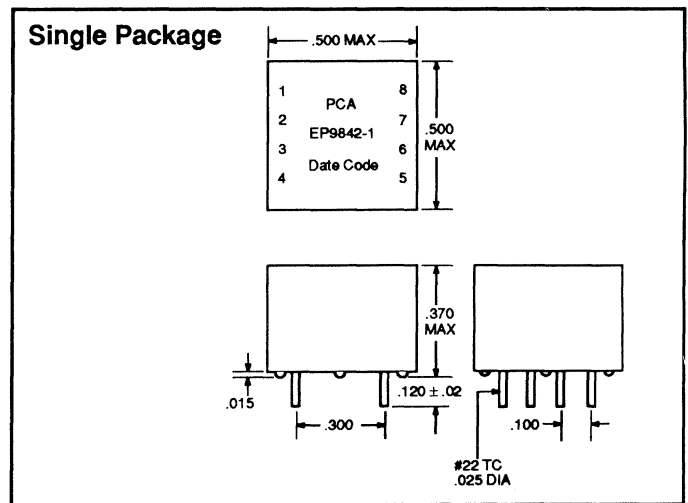
Token Ring Isolation Transformers

Features

- Available in single and dual low profile packages
- Hipot - 500Vrms (to comply with LAN's International Safety Requirements)
- Designed for IBM and TI token ring applications
IEEE 802.5 compatible

| ELECTRICAL SPECIFICATIONS @ 25 °C | |
|--|----------------------|
| PARAMETERS | SPECIFICATIONS |
| Primary Inductance @ 1 KHz | 1.0 mH for ref. only |
| Insertion Loss @ 10 mHz | 0.5 dB max |
| Common Mode Rejection Ratio @ 1.0 mHz | -60 dB min |
| Return Loss @ 5 mHz | 20 dB min |
| Turns Ratio | 1:1:2:2 ±5% |
| HIPOT between Pri and Sec and also from coil to coil in the Dual Package | 500 Vrms |

| PCA P/N | TYPE | PACKAGE STYLE |
|----------|--------|---------------|
| EP9842-1 | Single | Case |
| EP9842-2 | Dual | 16 Pin DIL |



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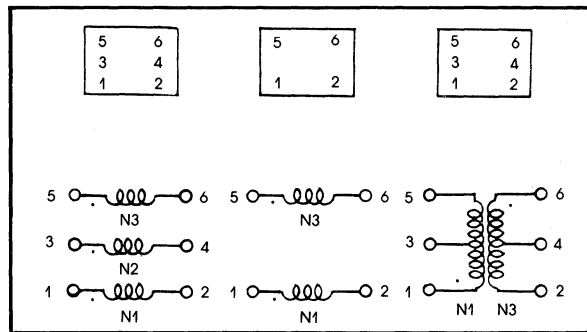
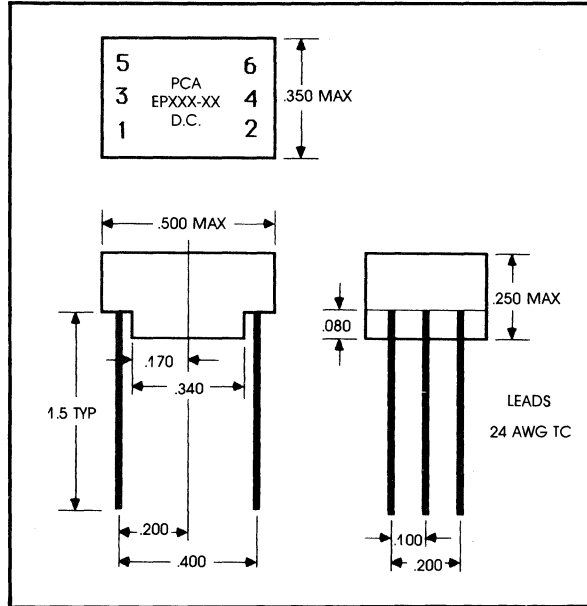
Stand-Off Type Pulse Transformer

Features

- Broad Range of Computer Applications:
 - Coupling
 - Memory Line Driver
 - Sense Line Output
 - Floating Switch
 - Common Mode Choke
- Available in a Wide Variety of Characteristics
- Compact Design

Method of Testing

- For primary inductance (Lm):
 - Rhode & Schwartz BN6100 Inductance Meter
- For leakage inductance and inter-winding capacitance:
 - Tektronix Type 130 LC Meter
- For effective distributed capacitance:
 - ESI Bridge Model No. 250A, or equivalent.



Two-Winding Transformer — Center Tapped

| URNS RATIO ±5% | PRIMARY INDUCTANCE uh ±20% | LEAKAGE INDUCTANCE uh MAX. | PRIMARY DCR OHMS MAX | INTERWINDING CAPACITANCE pf MAX. | EFFECTIVE DISTRIBUTED CAPACITANCE pf 1.6 GROUND | PRIMARY ET CONSTANT V-US MIN. | PART NO. |
|-------------------|----------------------------------|----------------------------------|-------------------------------|--|--|--|-------------|
| 1:1 | 6000 | 1.26 | 5 | 78 | 9 | 30 | EP-101C-602 |
| | 2200 | 0.78 | 2.9 | 42 | 7 | 17 | EP-101C-222 |
| | 400 | 0.56 | 1.4 | 15 | 5 | 7 | EP-101C-401 |
| | 140 | 0.49 | 0.9 | 9.7 | 4.5 | 3.5 | EP-101C-141 |

See Reverse Side for Technical Data

Three-Winding Transformers

| TURNS RATIO ±5% | PRIMARY INDUCTANCE uh ±20% | LEAKAGE INDUCTANCE uh MAX. | PRIMARY DCR OHMS MAX | INTERWINDING CAPACITANCE pf MAX. | EFFECTIVE DISTRIBUTED CAPACITANCE (pf max) | | PRIMARY ET CONSTANT V-uS MIN. | PART NO. |
|--------------------|----------------------------------|----------------------------------|-------------------------------|--|---|----------------|--|------------|
| | | | | | SHUNTING WINDING N1 1, 3, 5 GND. | 1, 4, 5 GND | | |
| 1:1:1 | 2500 | 1.2 | 3.1 | 45 | 4 | 50 | 18 | EP-111-252 |
| | 750 | 0.7 | 1.8 | 26 | 4 | 25 | 12 | EP-111-751 |
| | 250 | 0.5 | 1.1 | 16 | 4 | 16 | 6 | EP-111-251 |
| | 70 | 0.7 | 1.8 | 23 | 4 | 37 | 5 | EP-111-700 |
| | 50 | 0.5 | 1.4 | 21 | 4 | 27 | 4 | EP-111-500 |
| | 25 | 0.4 | 1.1 | 15 | 4 | 20 | 3 | EP-111-250 |
| | 15 | 0.4 | 0.9 | 13 | 4 | 18 | 2.5 | EP-111-150 |
| | 7 | 0.4 | 0.7 | 11 | 4 | 14 | 2 | EP-111-070 |
| 2:1:1 | 2500 | 7.0 | 2.8 | 24 | 6 | 14 | 18 | EP-211-252 |
| | 750 | 4.0 | 1.7 | 13 | 4.5 | 9 | 12 | EP-211-751 |
| | 250 | 2.5 | 1.0 | 10 | 4 | 7.5 | 6 | EP-211-251 |
| | 70 | 2.0 | 1.8 | 14 | 4 | 10 | 5 | EP-211-700 |
| | 50 | 2.0 | 1.5 | 13.5 | 4 | 10 | 4 | EP-211-500 |
| | 25 | 1.6 | 1.2 | 10 | 4 | 8 | 3 | EP-211-250 |
| | 12 | 1.0 | 0.9 | 8.5 | 4 | 7 | 2.5 | EP-211-120 |
| | 7 | 0.9 | 0.8 | 7.5 | 3 | 6 | 2 | EP-211-070 |
| 3:1:1 | 2500 | 6.5 | 2.8 | 21 | 5 | 12 | 18 | EP-311-252 |
| | 750 | 4.0 | 1.7 | 10.5 | 4 | 7.5 | 12 | EP-311-751 |
| | 250 | 1.8 | 1.0 | 9 | 4 | 6 | 6 | EP-311-251 |
| | 60 | 2.8 | 1.8 | 11 | 4 | 8 | 5 | EP-311-600 |
| | 50 | 2.5 | 1.5 | 10.5 | 4 | 8 | 4 | EP-311-500 |
| | 25 | 1.8 | 1.1 | 8 | 3 | 6 | 3 | EP-311-250 |
| | 12 | 1.6 | 0.9 | 7.5 | 3 | 5.5 | 2.5 | EP-311-120 |
| | 6 | 1.3 | 0.7 | 6.5 | 3 | 4.5 | 2 | EP-311-060 |
| 3:3:1 | 2500 | 8.0 | 3.1 | 30 | 6 | 28 | 18 | EP-331-252 |
| | 750 | 5.0 | 1.8 | 18 | 5 | 16 | 12 | EP-331-751 |
| | 250 | 2.0 | 1.1 | 12 | 5 | 11 | 6 | EP-331-251 |
| | 60 | 6.0 | 1.8 | 18 | 5 | 20 | 5 | EP-331-600 |
| | 40 | 3.1 | 1.4 | 16 | 5 | 19 | 4 | EP-331-400 |
| | 25 | 1.9 | 1.1 | 12 | 5 | 16 | 3 | EP-331-250 |
| | 12 | 1.7 | 0.9 | 10 | 4 | 13 | 2.5 | EP-331-120 |
| | 6 | 1.4 | 0.7 | 8.5 | 4 | 10.5 | 2 | EP-331-060 |

Current Sense Transformers

Frequency range 20 to 50 KHz

Specifications

| PART NUMBER | FIGURE | TURNS ±5% | INDUCTANCE MH MIN @1 & 3 | DCR OHMS MAX @1 & 3 |
|-------------|--------|--------------|--------------------------------|---------------------------|
| EP151686 | 1 | 50 | 5 | 0.6 |
| EP151687A | 1 | 100 | 20 | 1.2 |
| EP151688 | 1 | 200 | 80 | 4.0 |
| EP151717 | 2 | 50 CT | 5 | 0.6 |
| EP151718 | 2 | 100 CT | 20 | 1.2 |
| EP151719 | 2 | 200 CT | 80 | 4.0 |

Schematics

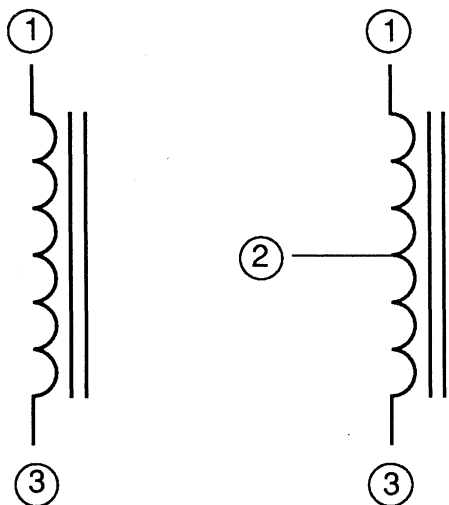
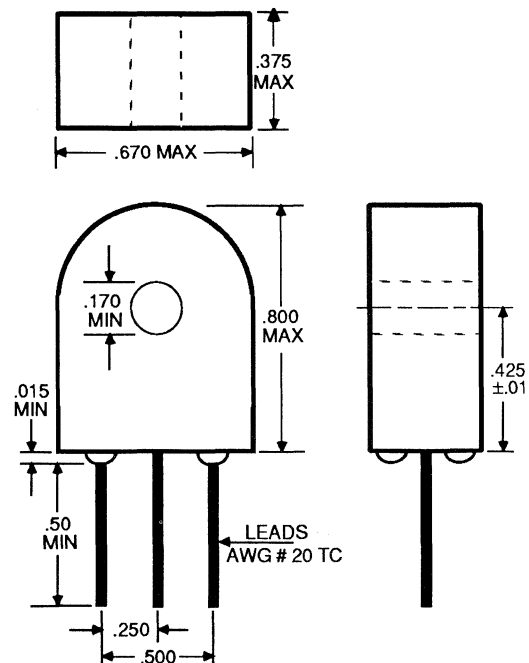


Figure 1

Figure 2


Package Dimensions



TEST CONDITIONS

Termination resistance 50, 100 & 200 Ω for 1 volt/ampere scaling

Peak current sense is 20 amperes with 40% duty factor



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Toroidal Power Inductors

Features

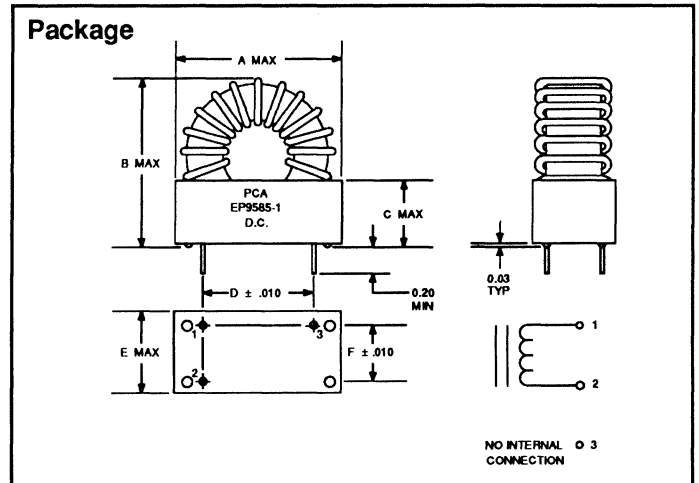
- 2:1 Inductance swing from 0 ADC to max rated DC current
- 40° C max temperature rise
- Available with or without case


| PART NUMBER | INDUCTANCE | | TEST LEVEL @ 15.75 KHz VRMS | INDUCTANCE @ 0 ADC | | ET 20 KHz V-μS | ET 20 KHz V-μS | LEAD DIA INCH ± .005 | PACKAGE |
|-------------|------------------|----------|-----------------------------|--------------------|--------|----------------|----------------|----------------------|---------|
| | RATED ADC μH MIN | ADC AMPS | | DCR OHMS MAX | μH MIN | | | | |
| EP9585-1 | 17 | 17 | 1.1 | 40 | .0065 | 190 | 130 | .081 | 3 |
| EP9585-2 | 32 | 16 | 2.2 | 74 | .0092 | 290 | 200 | .081 | 4 |
| EP9585-3 | 60 | 16 | 3.9 | 125 | .012 | 390 | 270 | .081 | 5 |
| EP9585-4 | 14 | 10 | 0.6 | 27 | .009 | 135 | 95 | .057 | 1 |
| EP9585-5 | 23 | 11 | 1.1 | 46 | .012 | 170 | 120 | .057 | 2 |
| EP9585-6 | 43 | 10 | 1.7 | 90 | .018 | 280 | 195 | .057 | 3 |
| EP9585-7 | 78 | 10 | 3.2 | 165 | .025 | 430 | 300 | .057 | 4 |
| EP9585-8 | 144 | 10 | 5.7 | 275 | .032 | 570 | 400 | .057 | 5 |
| EP9585-9 | 32 | 6.5 | 0.85 | 64 | .025 | 200 | 140 | .04 | 1 |
| EP9585-10 | 52 | 7 | 1.5 | 97 | .032 | 230 | 160 | .04 | 2 |
| EP9585-11 | 98 | 6 | 2.4 | 185 | .048 | 400 | 280 | .04 | 3 |
| EP9585-12 | 175 | 6 | 4.6 | 330 | .068 | 620 | 425 | .04 | 4 |
| EP9585-13 | 335 | 6 | 8.5 | 600 | .095 | 840 | 580 | .04 | 5 |

ADC=Rated DC Current

Dimensions

| PKG | A | B | C | D | E | F |
|-----|------|------|------|-------|------|------|
| 1 | 1.20 | 1.20 | .45 | .800 | .60 | .400 |
| 2 | 1.45 | 1.45 | .70 | .900 | .80 | .600 |
| 3 | 1.60 | 1.75 | .70 | .900 | .80 | .600 |
| 4 | 2.00 | 2.00 | .90 | 1.200 | .95 | .70 |
| 5 | 2.30 | 2.30 | 1.00 | 1.500 | 1.20 | .900 |

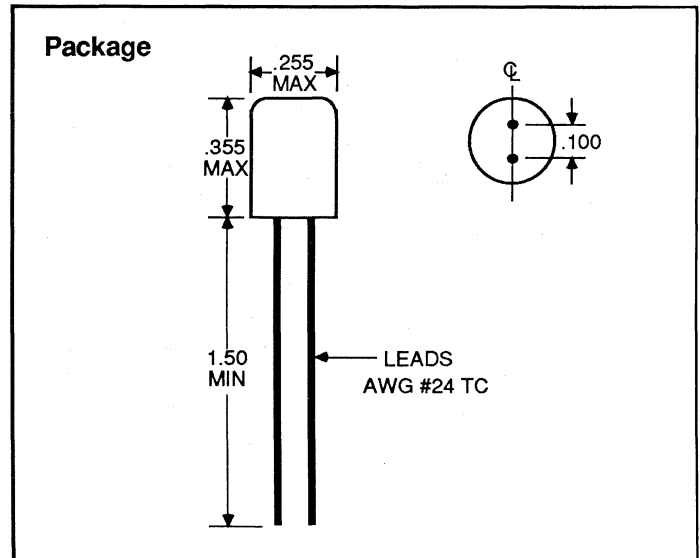




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Subminiature RF Inductors

- Transfer-Molded Epoxy
- Meets MIL-C-15305 Grade 1 Class 0
- For PC Mounted Applications
- Inductance Range from 10 to 100 μ H
- L & Q measured with Boonton 260A Q Meter



Specifications

| PCA PART NUMBER | INDUCTANCE MH \pm 10% | TEST VOLTAGE | DCR OHMS MAX | RESONANT FREQUENCY MIN | DC CURRENT mA MAX | Q MIN | TEST FREQUENCY |
|-----------------|-------------------------|--------------|--------------|------------------------|-------------------|-------|----------------|
| EP4852 | .010 | .0005 | .34 | 15 MHz | 500 | 22 | 3.5 MHz |
| EP4853 | .015 | .0005 | .48 | 12.5 MHz | 500 | 21 | 2.5 MHz |
| EP2890 | .022 | .0005 | .67 | 10 MHz | 500 | 20 | 2.5 MHz |
| EP4854 | .033 | .0005 | .97 | 8.2 MHz | 500 | 19 | 2.5 MHz |
| EP4855 | .047 | .0005 | 1.3 | 6.8 MHz | 500 | 18 | 2.5 MHz |
| EP4856 | .068 | .001 | 1.8 | 5.6 MHz | 500 | 17 | 2.5 MHz |
| EP4857 | .100 | .001 | 2.55 | 4.6 MHz | 420 | 17 | 2.5 MHz |
| EP4820 | .150 | .001 | 3.7 | 3.7 MHz | 330 | 39 | 790 KHz |
| EP3001 | .220 | .001 | 5 | 3.0 MHz | 260 | 38 | 790 KHz |
| EP4858 | .330 | .005 | 7.3 | 2.4 MHz | 200 | 38 | 790 KHz |
| EP4859 | .470 | .005 | 9.9 | 2.0 MHz | 160 | 37 | 790 KHz |
| EP4860 | .680 | .005 | 14 | 1.7 MHz | 130 | 37 | 790 KHz |
| EP2629A | 1.0 | .01 | 20 | 1.4 MHz | 100 | 36 | 790 KHz |
| EP4861 | 1.50 | .01 | 28 | 1.12 MHz | 78 | 39 | 250 KHz |
| EP4797 | 2.20 | .01 | 39 | 920 KHz | 62 | 37 | 250 KHz |
| EP4862 | 3.30 | .05 | 55 | 750 KHz | 49 | 35 | 250 KHz |
| EP4863 | 4.70 | .05 | 76 | 620 KHz | 39 | 34 | 250 KHz |
| EP4864 | 6.8 | .05 | 100 | 520 KHz | 31 | 32 | 250 KHz |
| EP4865 | 10 | .05 | 140 | 420 KHz | 24 | 31 | 250 KHz |
| EP2930 | 15 | .05 | 200 | 340 KHz | 19 | 32 | 79 KHz |
| EP4866 | 22 | .05 | 280 | 280 KHz | 15 | 27 | 79 KHz |
| EP3006 | 33 | .05 | 400 | 230 KHz | 12 | 21 | 79 KHz |
| EP4867 | 47 | .1 | 550 | 190 KHz | 9.4 | 18 | 79 KHz |
| EP4868 | 68 | .1 | 760 | 155 KHz | 7.6 | 15 | 79 KHz |
| EP4869 | 100 | .1 | 1100 | 130 KHz | 6 | 12 | 79 KHz |

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ELECTRONICS INC.

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Delay Lines and Transformers

