

# TYPE 2N185 P-N-P ALLOY JUNCTION GERMANIUM TRANSISTOR

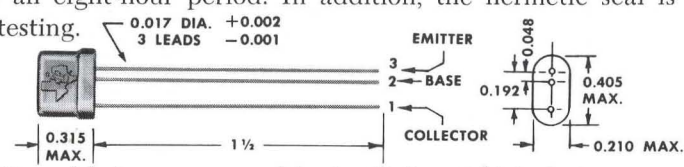


Texas Instruments Type 2N185 germanium P-N-P alloy junction transistor is especially designed for Class B audio applications. Rated at 150 milliwatt maximum dissipation, the 2N185 is equally well adapted to high gain Class A output and driver application. Typical gains are: Class B, output, 29 db at 250 mw; Class A driver, 40 db at 2 mw. Units will be supplied in matched pairs or singly per customer requirements.

Both Class B power gain and beta measurements at high level insure maximum output power at low distortion levels. The transistor exhibits a highly linear beta with respect to collector current plus a low collector cutoff current.

To guarantee maximum reliability, stability, and long life, all units are cycled from -55°C and room humidity to +75°C and 95% relative humidity for four complete cycles over an eight-hour period. In addition, the hermetic seal is checked by vacuum testing.

ALL DIMENSIONS IN INCHES



**mechanical data**

Metal case with glass-to-metal hermetic seal between case and leads. Unit weight is 1 gram.

**absolute maximum ratings at 25°C ambient**

Collector Voltage	-20 Volts
DC Supply Voltage (for Inductive Load)	-10 Volts
Collector Current	-150 ma
Device Dissipation (Free Air)	150 mw
Operating Temperature	+50° C
Storage Temperature	-55° C to +75° C

**design characteristics**

	min.	design center	max.	units
$I_{c0}$ Collector Cutoff Current	-	8	.15	$\mu a$
$\beta$ Beta at 60 cps	35	55	-	-

**class B operation** (production test condition, figure 1)

Collector Supply	-9 Volts
Power Output	250 mw
Frequency	1000 cps
$R_L$ , Load Collector to Collector	500 ohms
Driving Impedance	2000 ohms
Power Gain	26db (min.) 29db (design center)

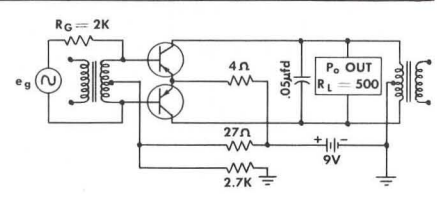


FIGURE 1

**class A operation** (typical audio driver design characteristics, figure 2)

Collector Supply	-9 Volts
Power Output	2 mw
Frequency	1000 cps
Emitter Current	2 ma
$R_L$ , Collector Load	10,000 ohms
Driving Impedance	680 ohms
Power Gain	39db (min.) 40.5db (design center)

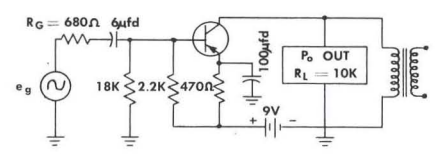


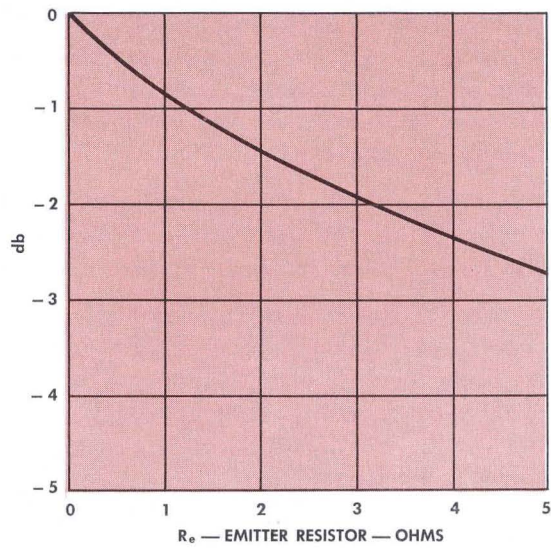
FIGURE 2

LICENSED UNDER BELL SYSTEM PATENTS

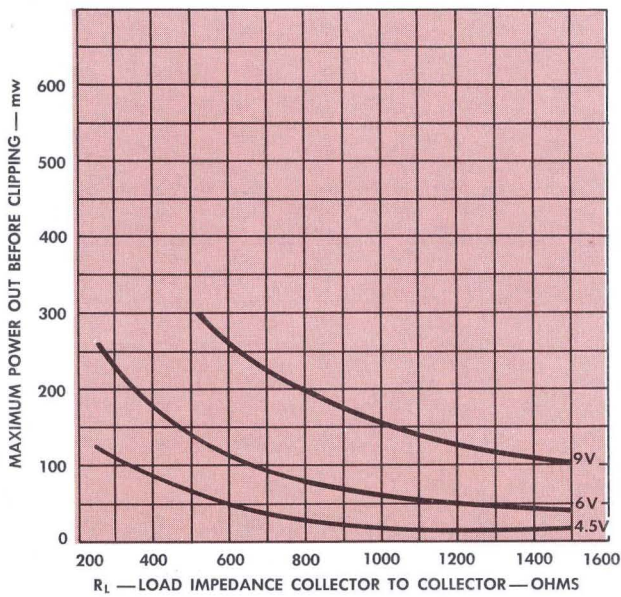
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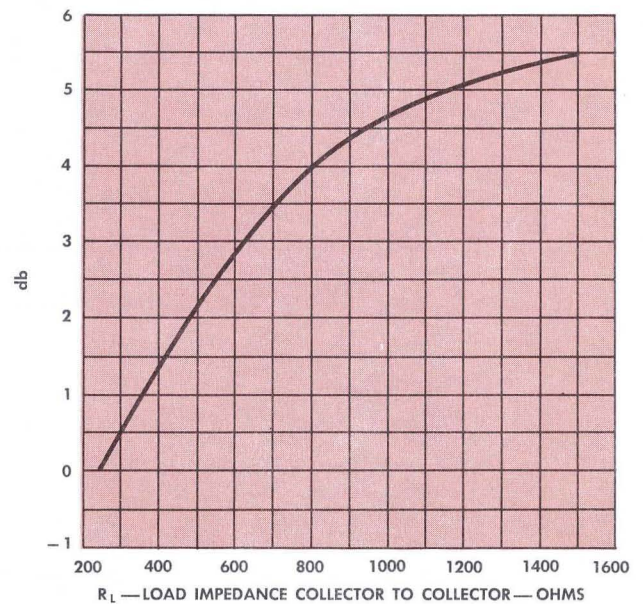
# TYPICAL CHARACTERISTICS



CHANGE IN GAIN VS. EMITTER RESISTANCE



MAXIMUM POWER OUTPUT BEFORE CLIPPING VS. LOAD IMPEDANCE



CHANGE IN GAIN VS. LOAD IMPEDANCE

TEXAS INSTRUMENTS RESERVES THE RIGHT TO MAKE CHANGES AT ANY TIME IN ORDER TO IMPROVE DESIGN.

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