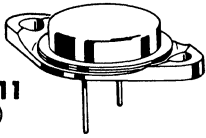


2N242 (GERMANIUM)

2N307, A



CASE 11
(TO-3)

PNP germanium power transistors for general purpose power amplifier and switching applications.

MAXIMUM RATINGS

Rating	Symbol	2N242	2N307, 307A	Unit
Collector-Base Voltage	V_{CB}	45	35	Volts
Collector-Emitter Voltage ($R_{BE} = 30 \Omega$)	V_{CER}	45	—	Volts
Collector-Emitter Voltage	V_{CEO}	—	35	Volts
Emitter-Base Voltage	V_{EB}	—	10	Volts
Collector Current	I_C	5.0	5.0	Amp
Junction Temperature Range	T_J	-65 to +110	-65 to +110	$^{\circ}C$
Collector Dissipation (at $T_C = 25^{\circ}C$)	P_D	106	106	Watts

ELECTRICAL CHARACTERISTICS ($T_C = 25^{\circ}C$ unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
Collector-Base Cutoff Current ($V_{CB} = 2$ Vdc) ($V_{CB} = 25$ Vdc) ($V_{CB} = 1$ Vdc, $I_E = 0$, $T_C = 85^{\circ}C$)	I_{CBO}	—	0.5 5.0 2.0 5.0	mAdc
Emitter-Base Cutoff Current ($V_{EB} = 10$ Vdc)	I_{EBO}	—	2.0	mAdc
Collector-Emitter Cutoff Current ($V_{CE} = 45$ Vdc, $R_{BE} = 30 \Omega$) ($V_{CE} = 25$ Vdc, $R_{BE} = 30 \Omega$) ($V_{CE} = 35$ Vdc, $R_{BE} = 30 \Omega$)	I_{CER}	—	5.0 1.0 15 7.0	mAdc
Base-Emitter Voltage ($V_{CE} = 1.5$ Vdc, $I_C = 1.0$ Adc)	V_{BE}	0.3	0.8	Vdc
Collector-Emitter Saturation Voltage ($I_C = 2.0$ Adc, $I_B = 200$ mAdc) ($I_C = 0.2$ Adc, $I_B = 20$ mAdc) ($I_C = 1.0$ Adc, $I_B = 100$ mAdc)	$V_{CE(sat)}$	—	0.8 1.0 0.8	Vdc
DC Current Gain ($V_{CE} = 12$ Vdc, $I_C = 500$ mAdc) ($V_{CE} = 1$ Vdc, $I_C = 200$ mAdc)	h_{FE}	30 20 30	120 — —	—
Common Emitter Cutoff Frequency ($V_{CE} = 12$ V, $I_C = 0.5$ A) ($V_{CE} = 6$ V, $I_C = 1$ A)	$f_{\alpha e}$	5.0 3.5 3.0	— — —	kHz
Power Gain ($I_C = 0.5$ A, $V_{CE} = -14$ V, $R_L = 30 \Omega$, $R_g = 10 \Omega$)	G_e	30	—	dB