

GERMANIUM ALLOY PNP

AUDIO POWER AMPLIFIER

The AD 142 is a germanium alloy junction PNP transistor in a Jedec TO-3 metal case. It is designed specifically for use in class A power amplifier and in push-pull class B amplifiers.

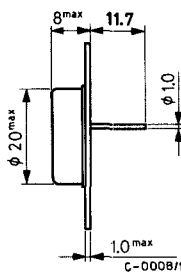
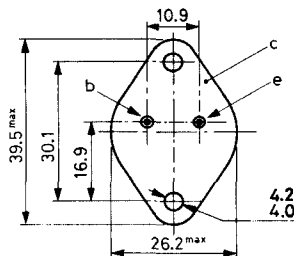
ABSOLUTE MAXIMUM RATINGS

V_{CBO}	Collector-base voltage ($I_E = 0$)	-80	V
V_{CES}	Collector-emitter voltage ($V_{BE} = 0$)	-80	V
V_{EBO}	Emitter-base voltage ($I_C = 0$)	-10	V
I_C	Collector current	-10	A
I_B	Base current	-3	A
P_{tot}	Total power dissipation at $T_c \leq 55^\circ\text{C}$	30	W
T_s	Storage temperature	-65 to 100	$^\circ\text{C}$
T_j	Junction temperature	100	$^\circ\text{C}$

MECHANICAL DATA

Dimensions in mm

Collector connected to case



(sim. to TO-3)

AD 142

THERMAL DATA

$R_{th\ j-c}$	Thermal resistance junction-case	max	1.5	$^{\circ}C/W$
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ELECTRICAL CHARACTERISTICS ($T_c = 25^{\circ}C$ unless otherwise specified)

Parameter	Test conditions	Min.	Typ.	Max.	Unit
I_{CBO} Collector cutoff current ($I_E = 0$)	$V_{CB} = -0.5\ V$			-0.1	mA
I_{EBO} Emitter cutoff current ($I_C = 0$)	$V_{EB} = -10\ V$			-2	mA
V_{CBO} Collector-base voltage ($I_E = 0$)	$I_C = -5\ mA$	-80			V
V_{CEO} Collector-emitter voltage ($I_B = 0$)	$I_C = -600\ mA$	-50			V
$V_{CE(sat)}$ Collector-emitter saturation voltage	$I_C = -5\ A$ $I_B = -250\ mA$		-0.3		V
h_{FE} DC current gain	Gr. 4 $I_C = -1\ A$ $V_{CE} = -2\ V$	30		60	—
	Gr. 5 $I_C = -1\ A$ $V_{CE} = -2\ V$	50		110	—
	Gr. 6 $I_C = -1\ A$ $V_{CE} = -2\ V$	100		200	—
	$I_C = -5\ A$ $V_{CE} = -2\ V$		45		—
h_{FE1}/h_{FE2} Matched pair	$I_C = -1\ A$ $V_{CE} = -2\ V$			1.4	—
f_T Transition frequency	$I_C = -0.5\ A$ $V_{CE} = -2\ V$	450			kHz