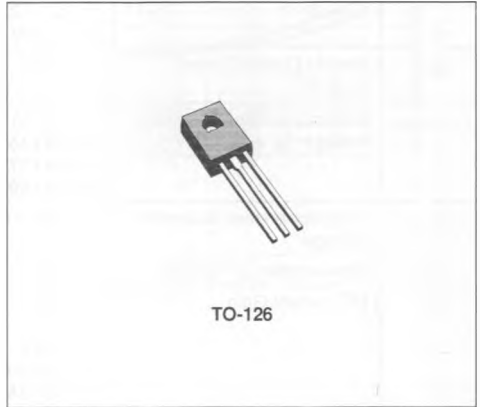


MEDIUM POWER LINEAR AND SWITCHING APPLICATIONS

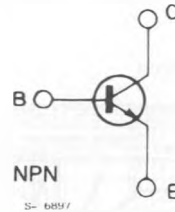
DESCRIPTION

The BD135, BD137, BD139 are silicon epitaxial planar NPN transistors in Jedec TO-126 plastic package, designed for audio amplifiers and drivers driving complementary or quasi complementary circuits.

The complementary PNP types are the BD136, BD138 and BD140 respectively.



INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	BD135	BD137	BD139	Unit
V_{CB0}	Collector-base Voltage ($I_E = 0$)	45	60	80	V
V_{CE0}	Collector-emitter Voltage ($I_B = 0$)	45	60	80	V
V_{EB0}	Emitter-base Voltage ($I_C = 0$)	5			V
I_C	Collector Current	1.5			A
I_{CM}	Collector Peak Current	3			A
I_B	Base Current	0.5			A
P_{Tot}	Total Power Dissipation at $T_{case} \leq 25^\circ\text{C}$ $T_{amb} \leq 25^\circ\text{C}$	12.5			W
		1.25			W
T_{stg}	Storage Temperature	- 55 to 150			$^\circ\text{C}$
T_j	Junction Temperature	150			$^\circ\text{C}$

THERMAL DATA

$R_{th j-case}$	Thermal Resistance Junction-case	Max	10	$^{\circ}C/W$
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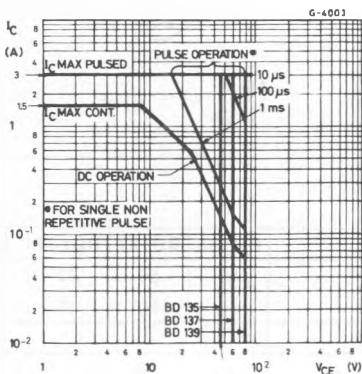
ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cutoff Current ($I_E = 0$)	$V_{CB} = 30V$ $T_{case} = 125^{\circ}C$ $V_{CB} = 30V$			0.1 10	μA μA
I_{EBO}	Emitter Cutoff Current ($I_C = 0$)	$V_{EB} = 5V$			10	μA
$V_{CE(sus)}^*$	Collector-emitter Sustaining Voltage ($I_B = 0$)	$I_C = 30mA$ for BD135 for BD137 for BD139	45 60 80			V V V
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = 500mA$ $I_B = 50mA$			0.5	V
V_{BE}^*	Base-emitter on Voltage	$I_C = 0.5A$ $V_{CE} = 2V$			1	V
h_{FE}^*	DC current Gain	$I_C = 5mA$ $V_{CE} = 2V$ $I_C = 0.5A$ $V_{CE} = 2V$ All Types $I_C = 150mA$ $V_{CE} = 2V$ for BD135 for BD137, BD139	25 25 40 40		250 160	

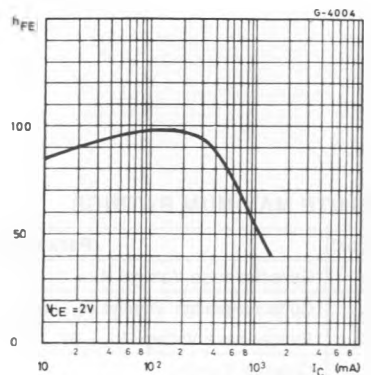
* Pulsed : pulse duration = 300 μs , duty cycle $\leq 2\%$.

Available in h_{FE} groups		Min.	Max.
($I_C = 150mA$; $V_{CE} = 2V$)	h_{FE} group	6	100
		10	160
		16	250

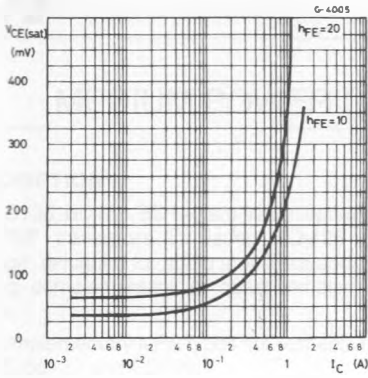
Safe Operating Area



DC Current Gain



Collector-emitter Saturation Voltage.



Base-emitter Voltage.

