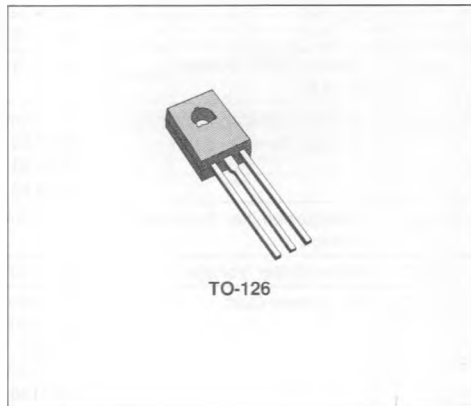


MEDIUM POWER GENERAL PURPOSE TRANSISTORS

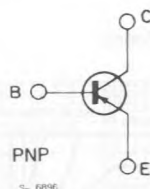
DESCRIPTION

The BD136, BD138, BD140 are silicon epitaxial planar PNP transistors in Jedec TO-126 plastic package, designed for audio amplifiers and drivers utilizing complementary or quasi-complementary circuits.

The complementary NPN types are respectively the BD135, bd137 and BD139.



INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	BD136	BD138	BD140	Unit
V_{CBO}	Collector-base Voltage ($I_E = 0$)	- 45	- 60	- 80	V
V_{CEO}	Collector-emitter Voltage ($I_B = 0$)	- 45	- 60	- 80	V
V_{EBO}	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 $T_{case} \leq 25^\circ C$ $T_{amb} \leq 25^\circ C$		12.5 1.25		W W
T_{sig}	Storage Temperature		- 55 to 150		$^\circ C$
T_j	Junction Temperature		150		$^\circ C$

THERMAL DATA

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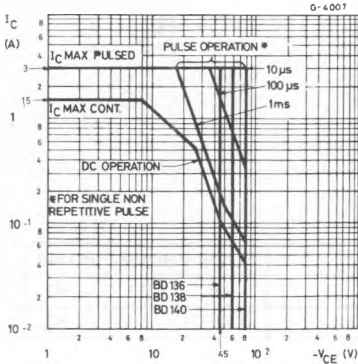
ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

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	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 BD136 for BD138 for BD140	- 45 - 60 - 80			V V V
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = -0.5A$ $I_B = -0.05A$			- 0.5	V
V_{BE}^*	Base-emitter 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 BD136 for BD138, BD140	25 25		40 250 40 160	

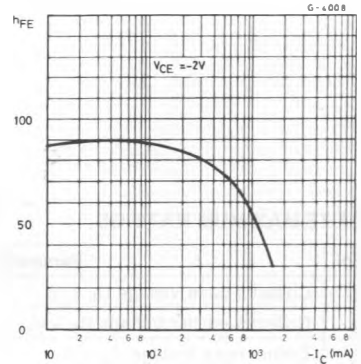
* Pulsed : pulse duration = 300 μs , duty cycle $\leq 2\%$.
Available in h_{FE} groups
($I_C = -0.15A$ $V_{CE} = -2V$)

h_{FE} group	6	Min.	Max.
	10	40	100
	16	63	160
		100	250

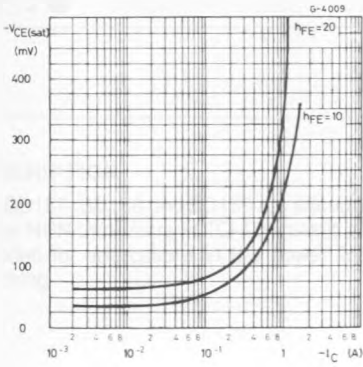
Safe Operating Areas.



DC Current Gain.



Collector-emitter Saturation Voltage.



Base-emitter Voltage.

