

BD136-6/10/16
BD138-6/10/16
BD140-6/10/16

Power Transistors
PNP Silicon
45,60,80 Volts

Features

- Halogen free available upon request by adding suffix "-HF"
- Complement with BD135, BD137, BD139
- Lead Free Finish/RoHS Compliant (Note1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

Maximum Ratings

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	BD136 BD138 BD140	-45 -60 -80	Vdc
Collector-Base Voltage	BD136 BD138 BD140	-45 -60 -80	Vdc
Emitter-Base Voltage	V_{EBO}	-5.0	Vdc
Collector Current	I_C	-1.5	Adc
Base Current	I_B	-0.5	Adc
Total Device Dissipation @ $T_A=25^\circ C$ Derate above $25^\circ C$	P_D	1.25 10	Watt mW/ $^\circ C$
Total Device Dissipation @ $T_C=25^\circ C$ Derate above $25^\circ C$	P_D	1.25 100	Watt mW/ $^\circ C$
Operating & Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ C$
Maximum Thermal Resistance Junction to Case	R_{thJC}	10	$^\circ C/W$
Maximum Thermal Resistance Junction to Ambient Air	R_{thJA}	100	$^\circ C/W$

Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
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OFF CHARACTERISTICS

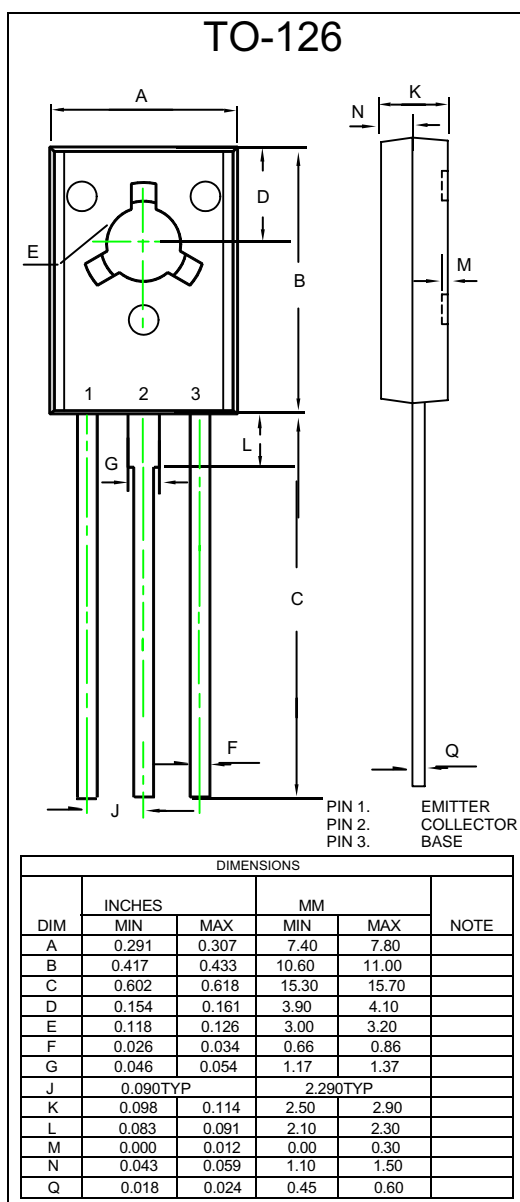
BV_{CEO}	Collector-Emitter Sustaining Voltage ($I_C=-30mA, I_B=0$)	BD136 BD138 BD140	-45 -60 -80	Vdc
I_{CBO}	Collector Cutoff Current ($V_{CB}=-30Vdc, I_E=0$) ($V_{CB}=-30Vdc, I_E=0, T_C=125^\circ C$)		-0.1 -10	μAdc
I_{EBO}	Emitter Cutoff Current ($V_{BE}=-5.0Vdc, I_C=0$)		-10	μAdc
h_{FE}	DC Current Gain* ($I_C=-5mAdc, V_{CE}=-2Vdc$) ($I_C=-0.5Adc, V_{CE}=-2Vdc$) ($I_C=-150mAdc, V_{CE}=-2Vdc$)		25 25 40	250
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ($I_B=-500mAdc, I_C=-50mAdc$)		-0.5	Vdc
$V_{BE(ON)}$	Base-Emitter ON Voltage ($V_{CE}=-2Vdc, I_C=-0.5Adc$)		-1	Vdc

*Pulse test: Pulse width 300 usec, Duty cycle 2%

Classification of $h_{FE(3)}$

Rank	6	10	16
Range	40-100	63-160	100-250

Notes: 1. High Temperature Solder Exemption Applied, see EU Directive Annex Notes 7.



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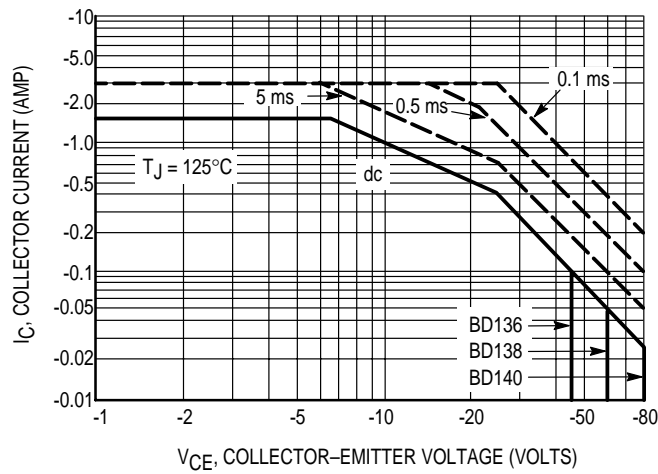


Figure 1. Active-Region Safe Operating Area

Ordering Information :

Device	Packing
Part Number-BP	Bulk; 1Kpcs/Box

Note : Adding "-HF" suffix for halogen free, eg. Part Number-BP-HF

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