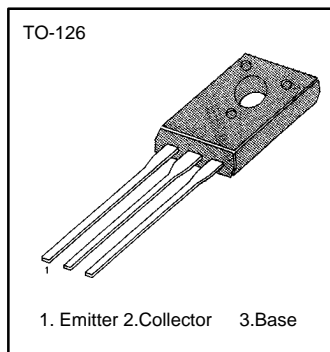


BD135/137/139**NPN EPITAXIAL SILICON TRANSISTOR****MEDIUM POWER LINEAR AND SWITCHING APPLICATIONS**

• Complement to BD136, BD138 and BD140 respectively

ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Collector Base Voltage : BD135	V_{CBO}	45	V
: BD137		60	V
: BD139		80	V
Collector Emitter Voltage : BD135	V_{CEO}	45	V
: BD137		60	V
: BD139		80	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current (DC)	I_C	1.5	A
Collector Current (Pulse)	I_C	3.0	A
Base Current	I_B	0.5	A
Collector Dissipation ($T_C=25^\circ\text{C}$)	P_C	12.5	W
Collector Dissipation ($T_A=25^\circ\text{C}$)	P_C	1.25	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	- 55 ~ 150	$^\circ\text{C}$

**ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$)**

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Emitter Sustaining Voltage : BD135	$V_{CEO(sus)}$	$I_C = 30\text{mA}, I_B = 0$	45			V
: BD137			60			V
: BD139			80			V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 30\text{V}, I_E = 0$			0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$			10	μA
DC Current Gain : ALL DEVICE	h_{FE1}	$V_{CE} = 2\text{V}, I_C = 5\text{mA}$	25			
: ALL DEVICE	h_{FE2}	$V_{CE} = 2\text{V}, I_C = 0.5\text{A}$	25			
: BD135	h_{FE3}	$V_{CE} = 2\text{V}, I_C = 150\text{mA}$	40		250	
: BD137, BD139			40		160	
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 500\text{mA}, I_B = 50\text{mA}$			0.5	V
Base Emitter On Voltage	$V_{BE(on)}$	$V_{CE} = 2\text{V}, I_C = 0.5\text{A}$			1	V

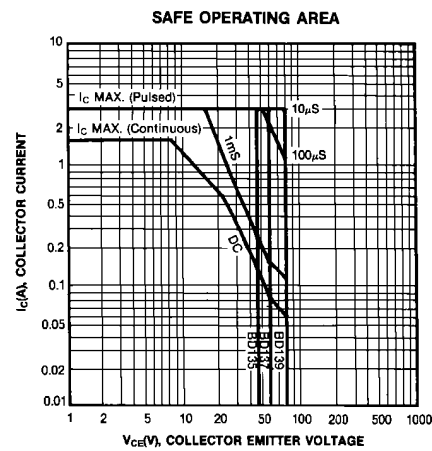
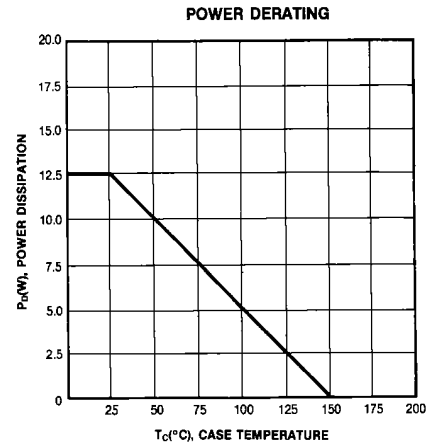
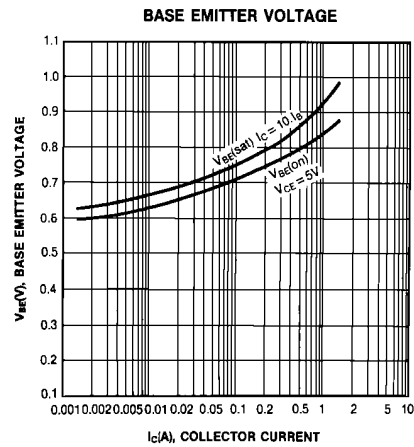
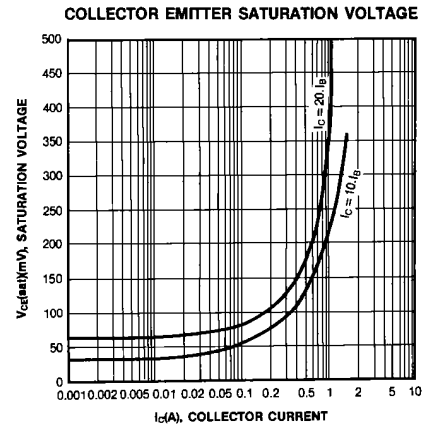
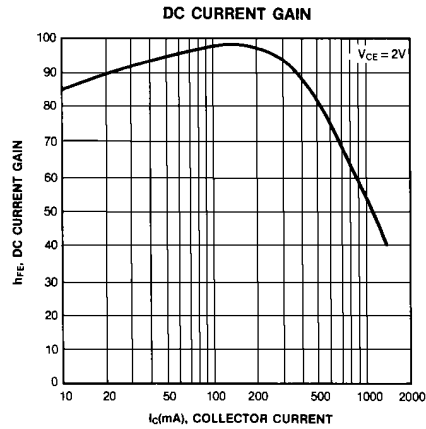
 $h_{FE}(3)$ CLASSIFICATION

Classification	6	10	16
$h_{FE} 3$	40 - 100	63 - 160	100 - 250

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Rev. B



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