

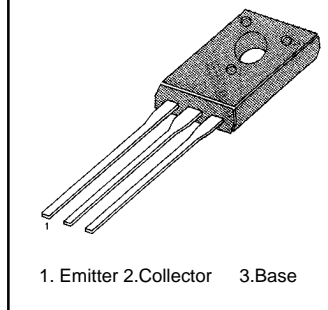
MEDIUM POWER LINEAR AND SWITCHING APPLICATIONS

• Complement to BD135, BD137 and BD139 respectively

ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Collector Base Voltage : BD136	V_{CBO}	- 45	V
: BD138		- 60	V
: BD140		- 80	V
Collector Emitter Voltage : BD136	V_{CEO}	- 45	V
: BD138		- 60	V
: BD140		- 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	$^\circ\text{C}$

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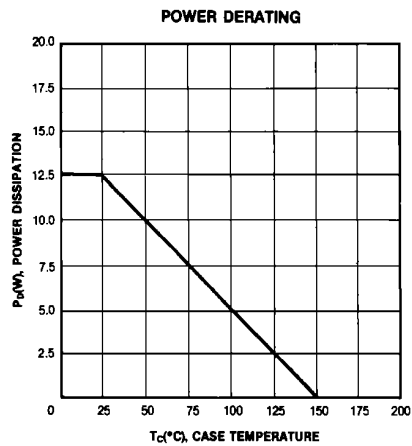
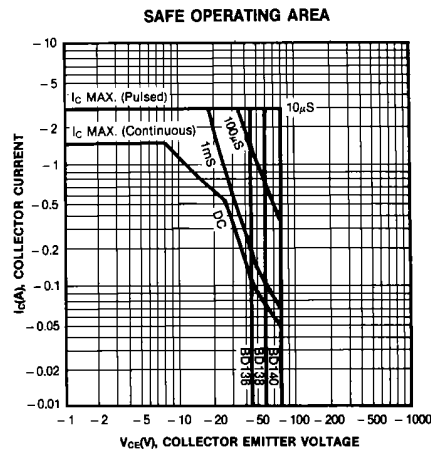
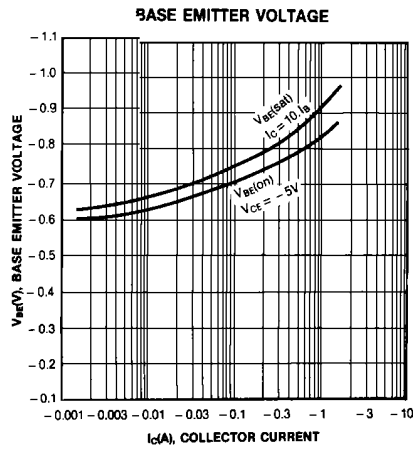
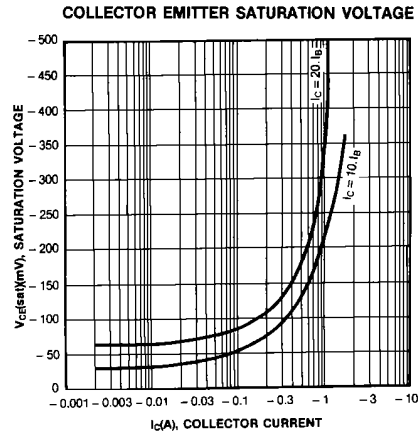
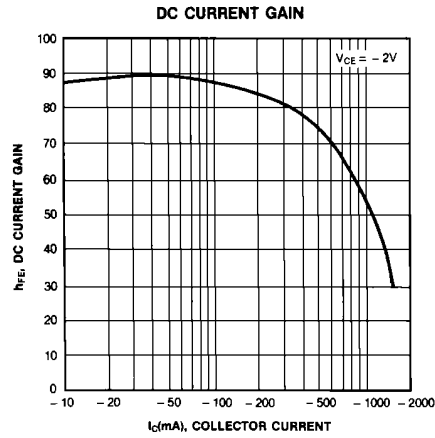
**ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$)**

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
* Collector Emitter Sustaining Voltage : BD136	$V_{CEO(SUS)}$	$I_C = - 30\text{mA}, I_B = 0$	- 45			V
: BD138			- 60			V
: BD140			- 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			
: BD136	h_{FE3}	$V_{CE} = - 2\text{V}, I_C = - 150\text{mA}$	40		250	
: BD138, BD140			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

* Pulse Test: $PW=350\mu\text{s}$, duty Cycle = 2% Pulsed

 $h_{FE}(3)$ CLASSIFICATION

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



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