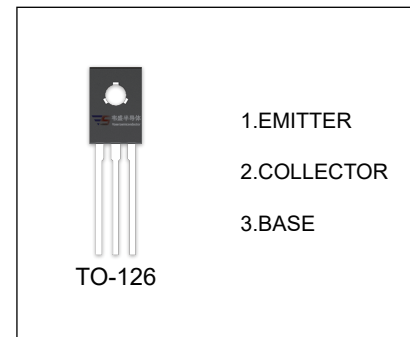


BD135 / BD137 / BD139 TRANSISTOR (NPN)

FEATURES

- High Current
- Complement To BD136, BD138 And BD140


ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
BD135	TO-126	Bulk	200pcs/Bag
BD137	TO-126	Bulk	200pcs/Bag
BD139	TO-126	Bulk	200pcs/Bag
BD135-TU	TO-126	Tube	60pcs/Tube
BD137-TU	TO-126	Tube	60pcs/Tube
BD139-TU	TO-126	Tube	60pcs/Tube

MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Symbol	Parameter		Value	Unit
V_{CBO}	Collector-Base Voltage	BD135	45	V
		BD137	60	
		BD139	80	
V_{CEO}	Collector-Emitter Voltage	BD135	45	V
		BD137	60	
		BD139	80	
V_{EBO}	Emitter-Base Voltage		5	V
I_C	Collector Current		1.5	A
P_C	Collector Power Dissipation		1.25	W
R_{θJA}	Thermal Resistance From Junction To Ambient		100	°C/W
T_J, T_{stg}	Operation Junction and Storage Temperature Range		-55~+150	°C

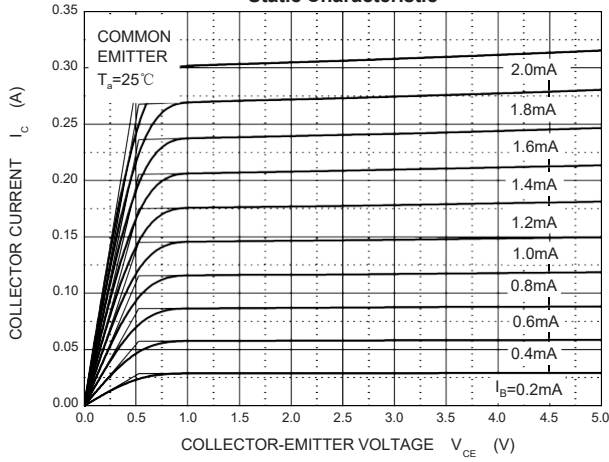
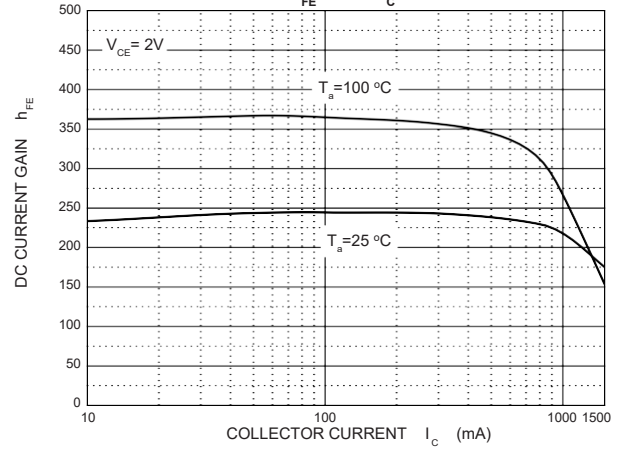
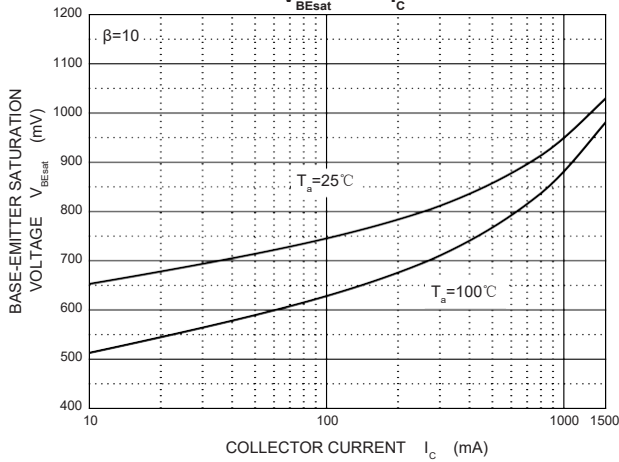
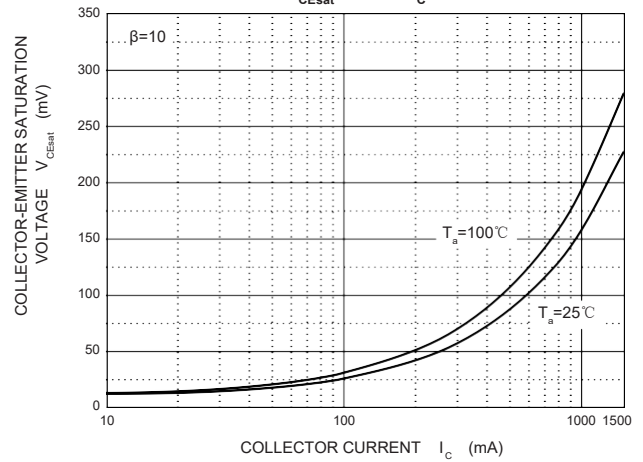
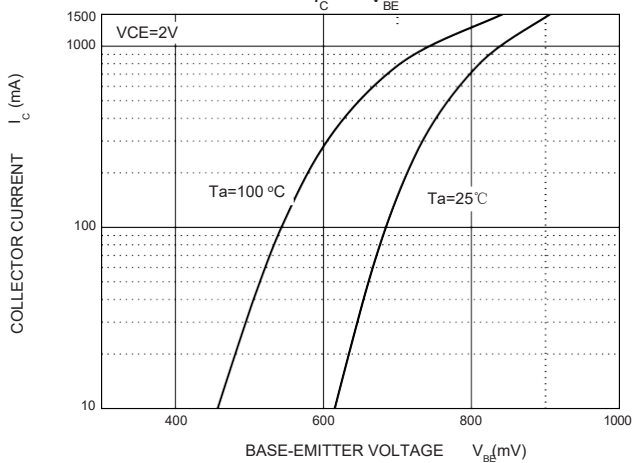
$T_a=25\text{ }^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage BD135 BD137 BD139	$V_{(BR)CBO}$	$I_C=0.1\text{mA}, I_E=0$	45 60 80			V
Collector-emitter sustaining voltage BD135 BD137 BD139	$V_{CEO(SU_S)}$	$I_C=0.03\text{A}, I_B=0$	45 60 80			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=0.1\text{mA}, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=30\text{V}, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			10	μA
DC current gain	$h_{FE(1)}$ *	$V_{CE}=2\text{V}, I_C=150\text{mA}$	40		250	
	$h_{FE(2)}$ *	$V_{CE}=2\text{V}, I_C=5\text{mA}$	25			
	$h_{FE(3)}$ *	$V_{CE}=2\text{V}, I_C=500\text{mA}$	25			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$			0.5	V
Base-emitter voltage	V_{BE} *	$V_{CE}=2\text{V}, I_C=500\text{mA}$			1	V

*Pulse test: pulse width $\leq 350\mu\text{s}$, duty cycle $\leq 2.0\%$.

CLASSIFICATION OF $h_{FE(1)}$

RANK	6	10	16
RANGE	40-100	63-160	100-250

Static Characteristic

 $h_{FE} - I_c$

 $V_{BEsat} - I_c$

 $V_{CEsat} - I_c$

 $I_c - V_{BE}$

 $P_c - T_a$
