

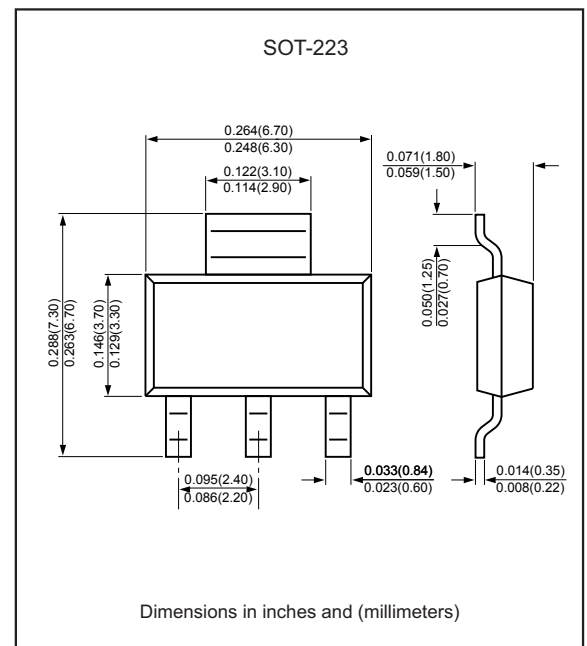
Features

- High collector-emitter breakdown voltage.
($V_{CE0} = 80V @ I_C = 10mA$)
- Capable of 1.5W power dissipation.
- Lead-free parts for green partner, exceeds environmental standards of MIL-STD-19500 / 228
- Compliant to Halogen-free

Mechanical data

- Epoxy: UL94-V0 rated flame retardant
- Case : Molded plastic, SOT-223
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Mounting Position : Any

Package outline



Maximum ratings (AT $T_A = 25^\circ C$ unless otherwise noted)

Item	Symbol	Unit	Value
Collector-Base Voltage	V_{CBO}	V	100
Collector-Emitter Voltage	V_{CEO}	V	80
Emitter-Base Voltage	V_{EBO}	V	5
Collector Current -Continuous	I_C	A	1
Total Device Dissipation (*)	P_D	W	1.5
Thermal Resistance From Junction To Ambient (*)	$R_{\theta JA}$	$^\circ C/W$	83.3
Thermal Resistance From Junction To Solder Point (*)	$R_{\theta JS}$	$^\circ C/W$	16
Junction Temperature	T_j	$^\circ C$	-55 to +150
Storage Temperature	T_{STG}	$^\circ C$	-55 to +150

(*) Device mounted on FR-4 PCB 1.575 x 1.575 x 0.0625 inch; mounting pad for collector = 0.93 sq in

Electrical Characteristics (TA = 25°C unless otherwise noted)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	V_{CBO}	V	$I_C = 100\mu A, I_E = 0$	100		
Collector-emitter breakdown voltage	V_{CEO}	V	$I_C = 10mA, I_B = 0$	80		
Emitter-base breakdown voltage	V_{EBO}	V	$I_E = 10\mu A, I_C = 0$	5		
Collector-base cut-off current	I_{CBO}	μA	$V_{CB} = 30V, I_E = 0$			0.1
DC current gain	h_{FE}		$V_{CE} = 2V, I_C = 5mA$	25		
	h_{FE}		$V_{CE} = 2V, I_C = 150mA$	100		250
	h_{FE}		$V_{CE} = 2V, I_C = 500mA$	25		
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	$I_C = 500mA, I_B = 50mA$			0.5
Base-emitter saturation voltage	V_{BE}	V	$V_{CE} = 2V, I_C = 500mA$			1.0

Rating and characteristic curves

Fig.1 - Collector Saturation Region

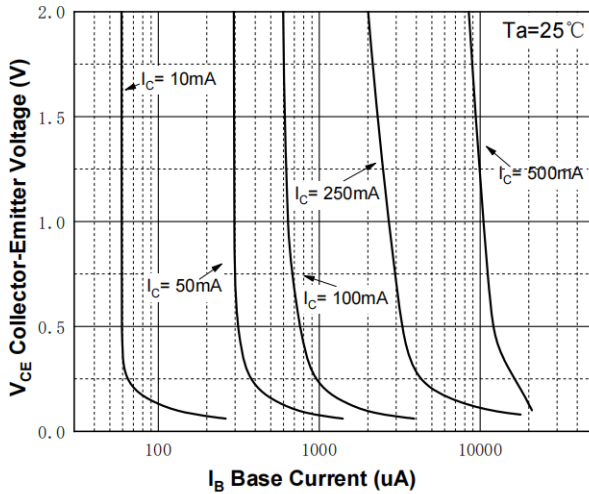


Fig.2 - DC Current Gain

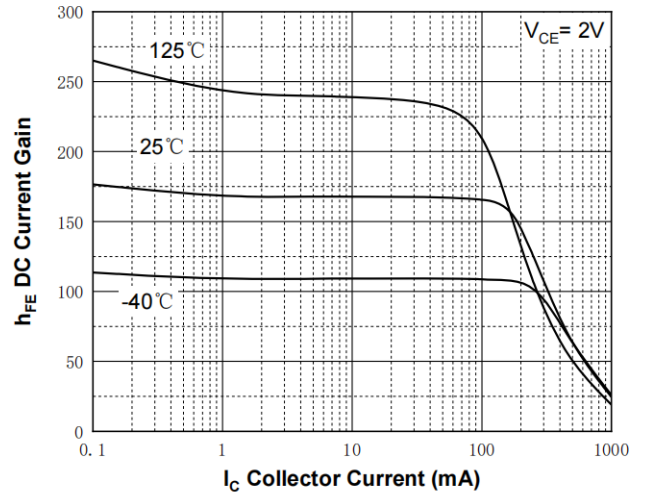


Fig.3 - Collector-Emitter Saturation Voltage vs. Collector Current

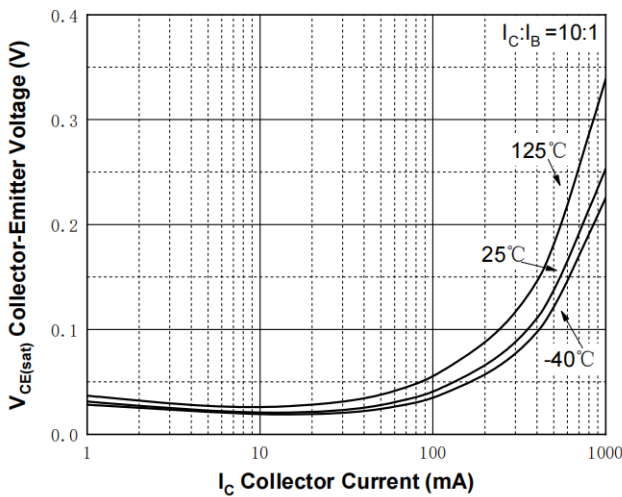


Fig.4 - Base-Emitter Saturation Voltage vs. Collector Current

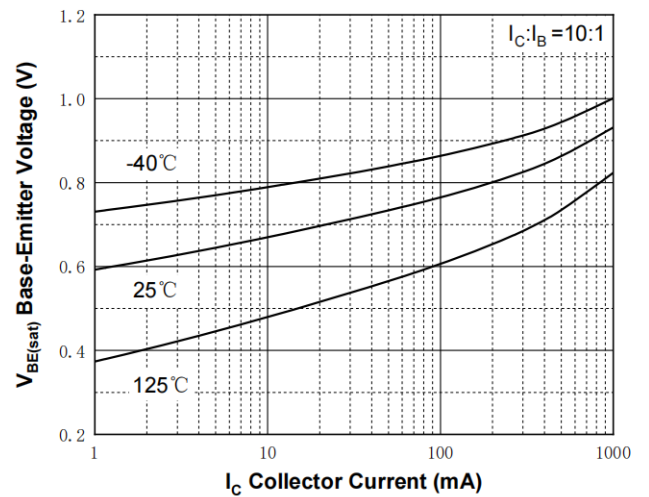


Fig.5 - Capacitance

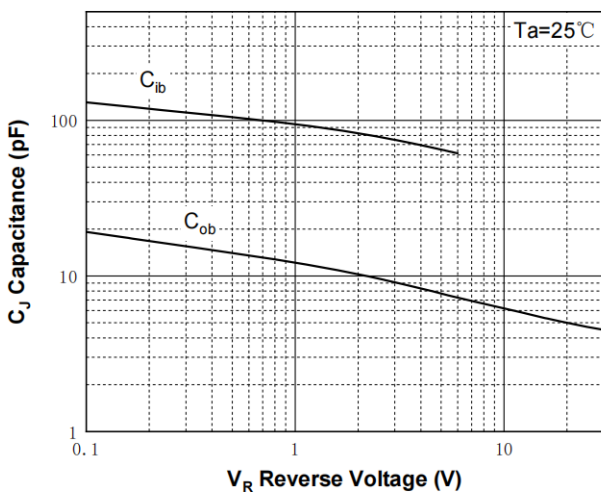
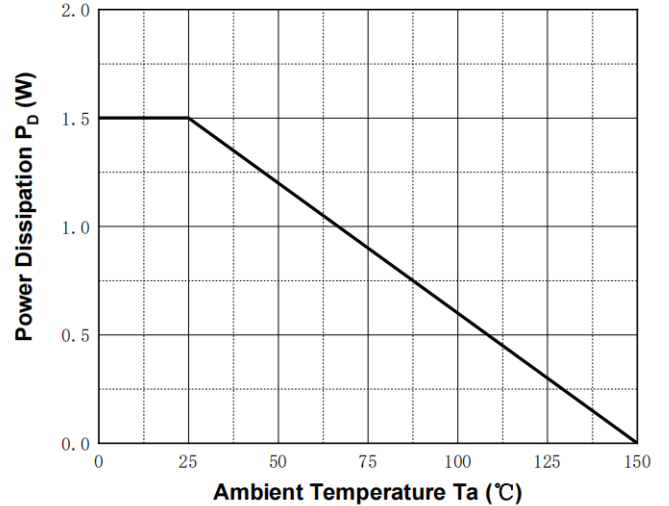
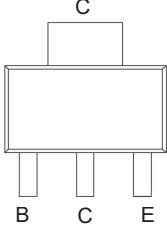
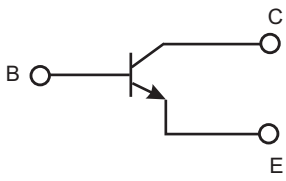


Fig.6 - Power Derating Curve



Pinning information

Pin	Simplified outline	Symbol
PinB Base PinC Collector PinE Emitter		

Marking

Type number	Marking code
BCP56-16	BCP56-16

Suggested solder pad layout

