

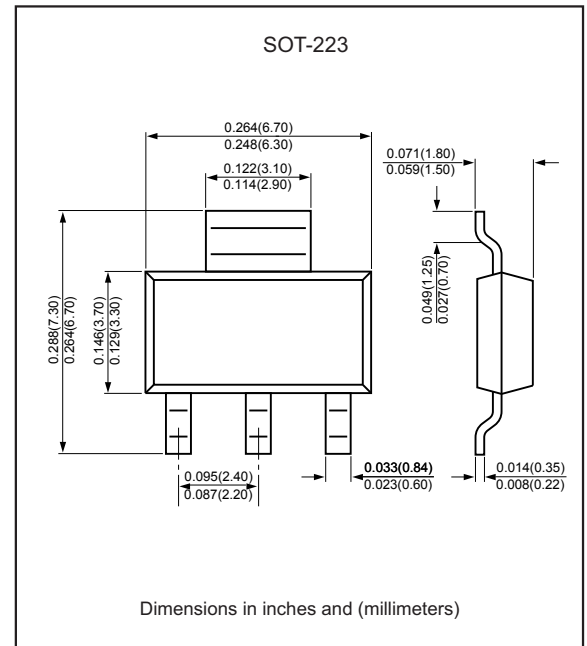
Features

- High collector-emitter breakdown voltage.
($V_{CE0} = 60V @ I_C = 10mA$)
- Capable of 1W power dissipation.
- Lead-free parts for green partner, exceeds environmental standards of MIL-STD-19500 / 228
- Low collector-emitter saturation voltage
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101

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 ($T_a = 25^\circ\text{C}$ unless otherwise noted)

Item	Symbol	Unit	Value
Collector-Base Voltage	V_{CBO}	V	60
Collector-Emitter Voltage	V_{CEO}	V	60
Emitter-Base Voltage	V_{EBO}	V	5
Collector Current -Continuous	I_C	A	1
Total Device Dissipation (*)	P_D	W	1
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	$^\circ\text{C/W}$	125
Junction Temperature	T_j	$^\circ\text{C}$	-55 to +150
Storage Temperature	T_{STG}	$^\circ\text{C}$	-55 to +150

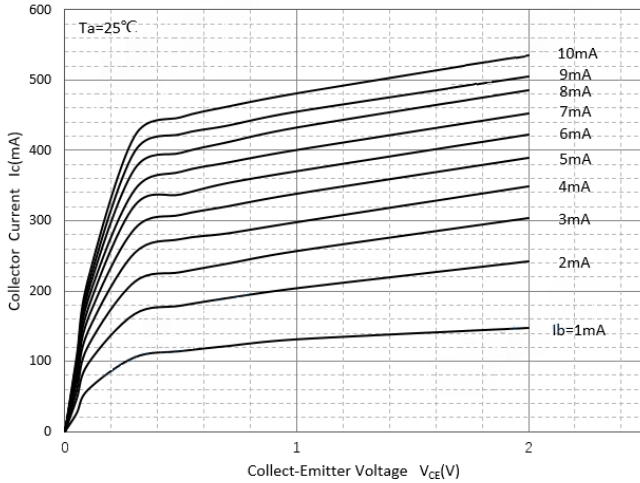
(*) Device mounted on an FR4 PCB, mounting pad for collector 1 cm²

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

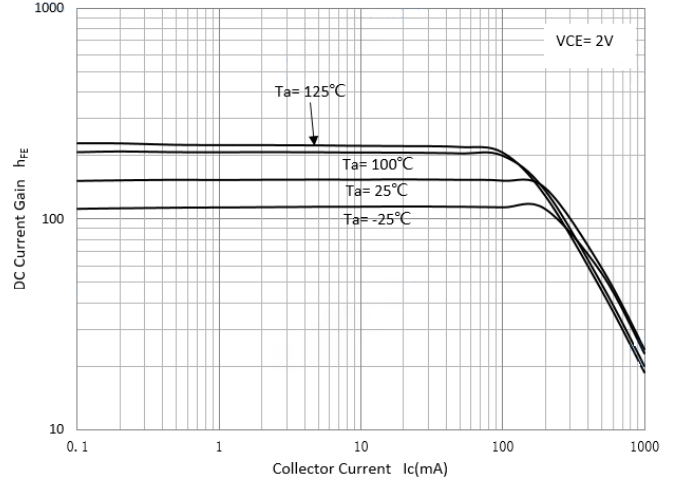
Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	V_{CBO}	V	$I_C = 100\mu A, I_E = 0$	60		
Collector-emitter breakdown voltage	V_{CEO}	V	$I_C = 10mA, I_B = 0$	60		
Emitter-base breakdown voltage	V_{EBO}	V	$I_E = 100\mu A, I_C = 0$	5		
Collector-base cut-off current	I_{CBO}	μA	$V_{CB} = 30V, I_E = 0$			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
Transition Frequency	f_T	MHZ	$I_C = 10mA, V_{CE} = 6V, f = 30MHz$	80		

Rating and characteristic curves

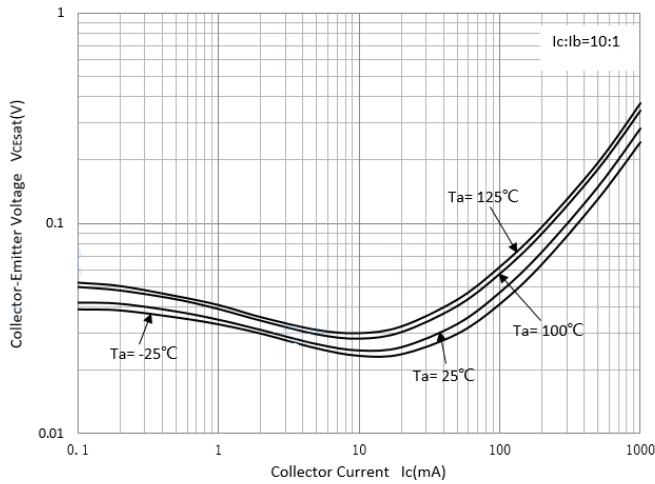
Static Characteristic



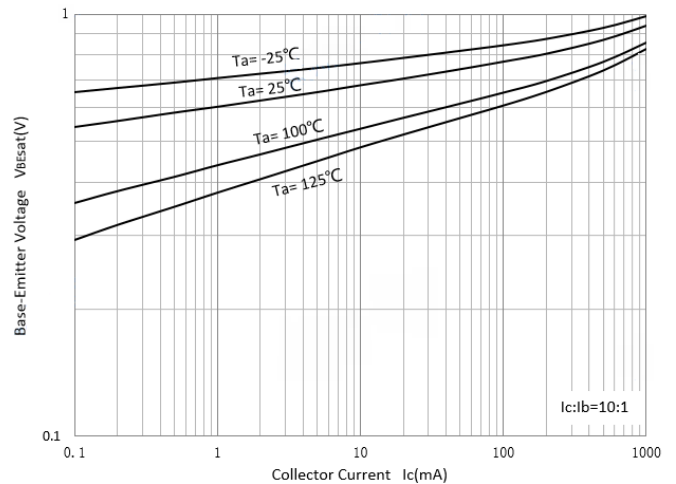
DC Current Gain



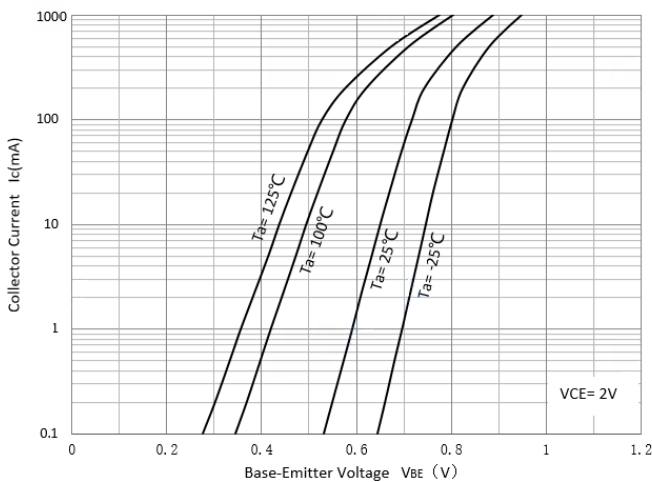
Collector-Emitter Saturation Voltage



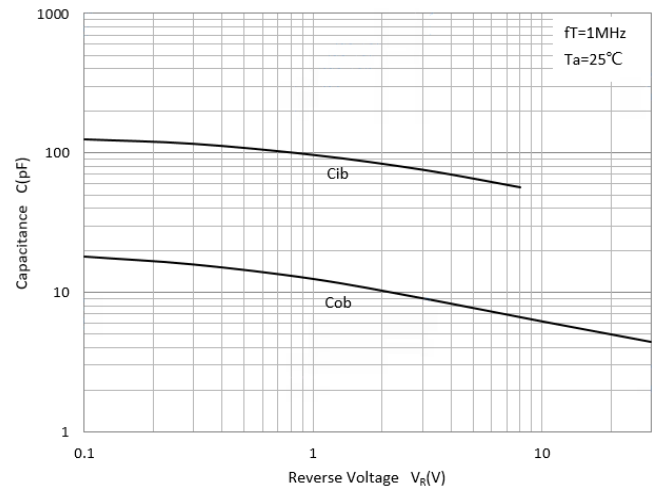
Base-Emitter Saturation Voltage



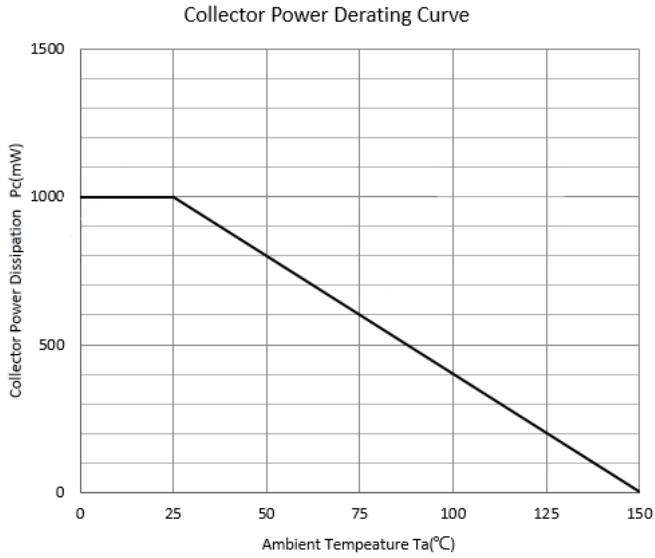
Base-Emitter On Voltage



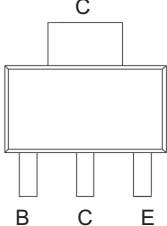
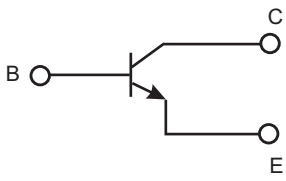
Cob/Cib-V_{CB}/V_{EB}



Rating and characteristic curves



Pinning information

Pin	Simplified outline	Symbol
PinB Base PinC Collector PinE Emitter		

Marking

Type number	Marking code
BCP55-16-Q1	BCP55-16

Suggested solder pad layout

