BCP55-16

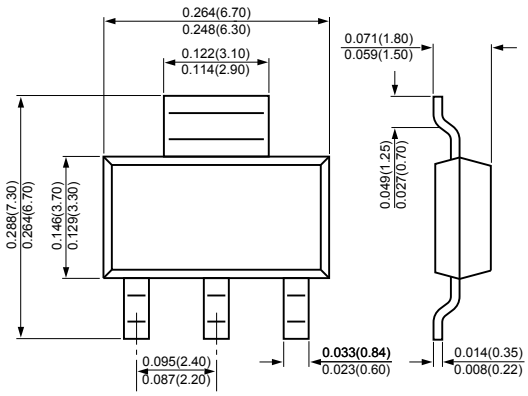
General Purpose Transistor NPN Silicon

Features

- High collector-emitterbreakdien voltage. (BV_{CEO} = 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

Package outline

SOT-223



Dimensions in inches and (millimeters)

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

Maximum ratings (Ta = 25°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	$R_{\theta JA}$	℃/W	125
Junction Temperature	T_j	℃	-55 to +150
Storage Temperature	T_{STG}	℃	-55 to +150

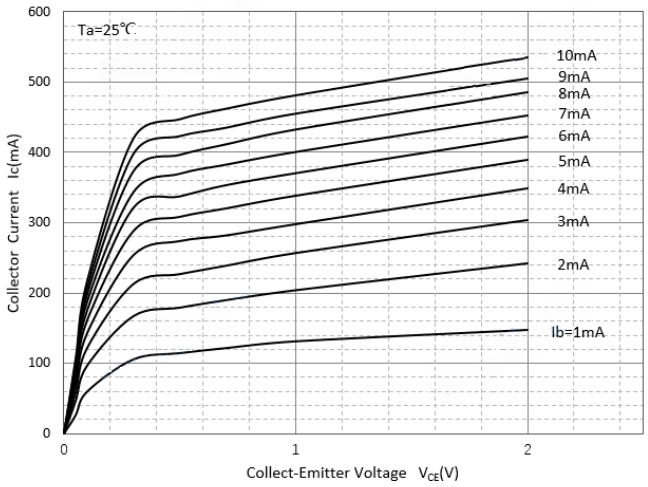
(*) Device mounted on an FR4 PCB, mounting pad for collector 1 cm^2

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

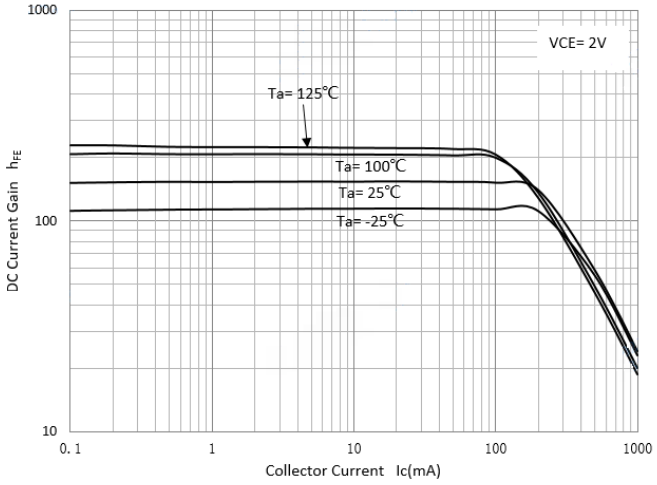
Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	V_{CBO}	V	I_C = 100uA, I_E= 0	60		
Collector-emitter breakdown voltage	V_{CEO}	V	I_C = 10mA, I_B= 0	60		
Emitter-base breakdown voltage	V_{EBO}	V	I_E = 100uA, I_C =0	5		
Collector-base cut-off current	I_{CBO}	uA	V_{CB}= 30V, I_E = 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

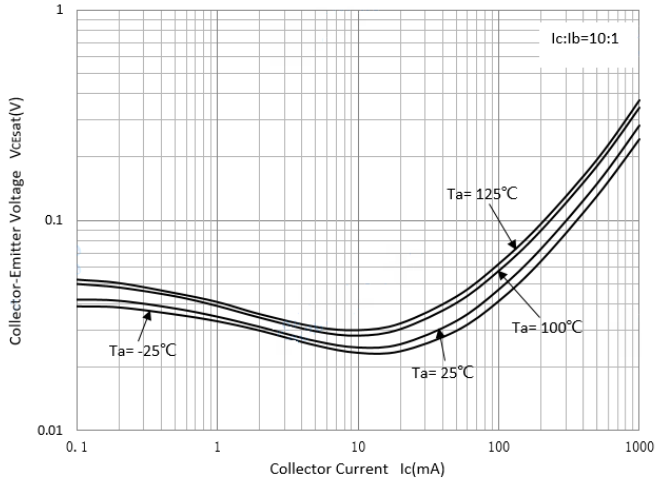
Static Characteristic



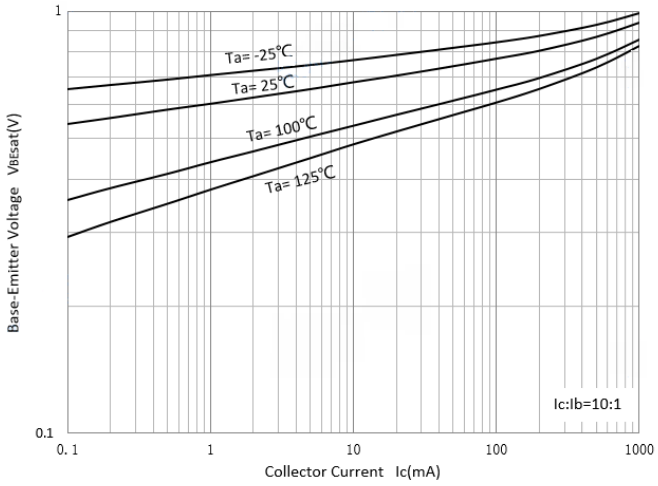
DC Current Gain



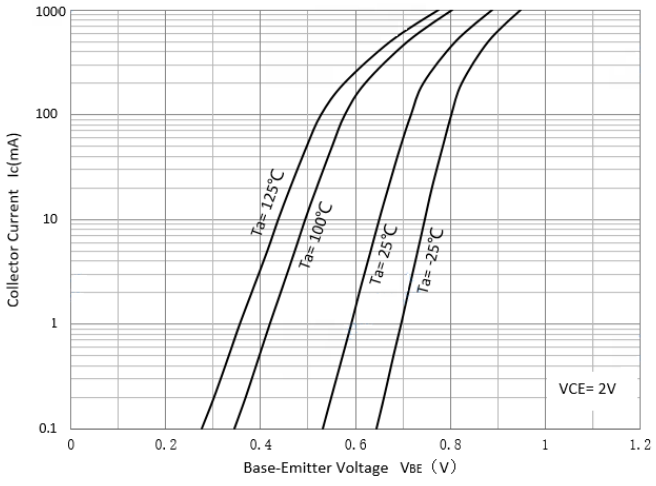
Collector-Emitter Saturation Voltage



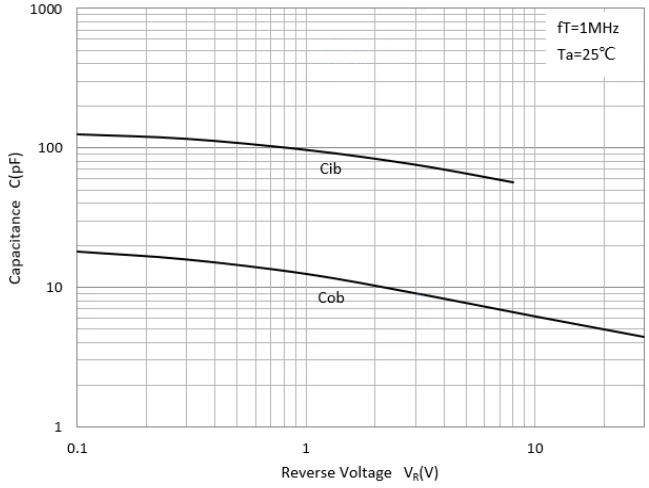
Base-Emitter Saturation Voltage



Base-Emitter On Voltage

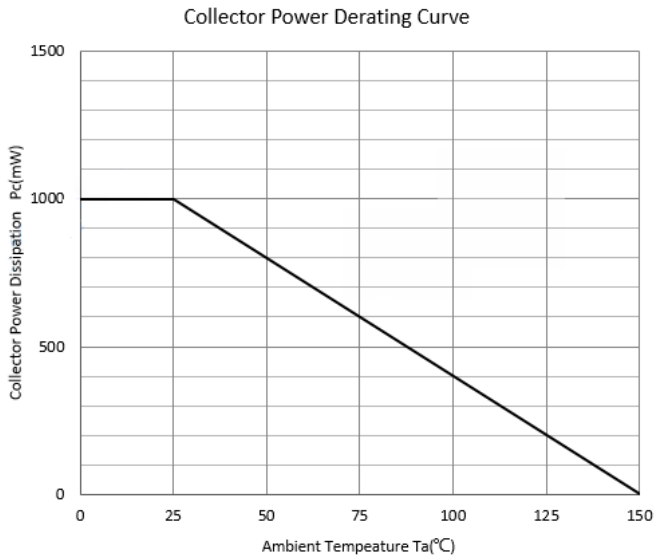


Cob/Cib-V_{CB}/V_{EB}



Document ID	Issued Date	Revised Date	Revision	Page.
AS-3140106	2013/03/08	2024/05/23	B	5

Rating and characteristic curves



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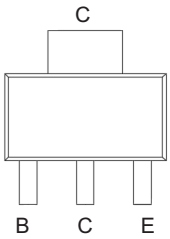
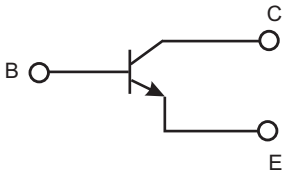
Pinning information

Pin	Simplified outline	Symbol
PinB Base PinC Collector PinE Emitter		

Marking

Type number	Marking code
BCP55-16	BCP55-16

Suggested solder pad layout

SOT-223