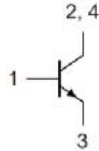


NPN Transistor



1-Base
2-Collector
3-Emitter
4-Collector



Features

- Moisture sensitivity level 1
- Halogen free and RoHS compliant
- Surface mount package ideally suited for automatic insertion

Application

- Signal amplification
- Switching circuit

Mechanical data

- **Package:** SOT-223
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102

■ Maximum Ratings (T_a=25°C Unless otherwise specified)

Item	Symbol	Unit	Conditions	Value
Device marking code			BCP56	BCP56-16
			BCP56-16	BCP56-16
Collector-base voltage	V _{CB0}	V	I _C =100uA, I _E =0	100
Collector-emitter voltage	V _{CE0}	V	I _C =10mA, I _B =0	80
Emitter-base voltage	V _{EB0}	V	I _E =10uA, I _C =0	5
Collector current	I _C	A		1
Power dissipation	P _D	W		1.5
Operation junction temperature	T _J	°C		-55 to +150
Storage temperature	T _{STG}	°C		-55 to +150



■ Electrical Characteristics (Ta=25°C Unless otherwise specified)

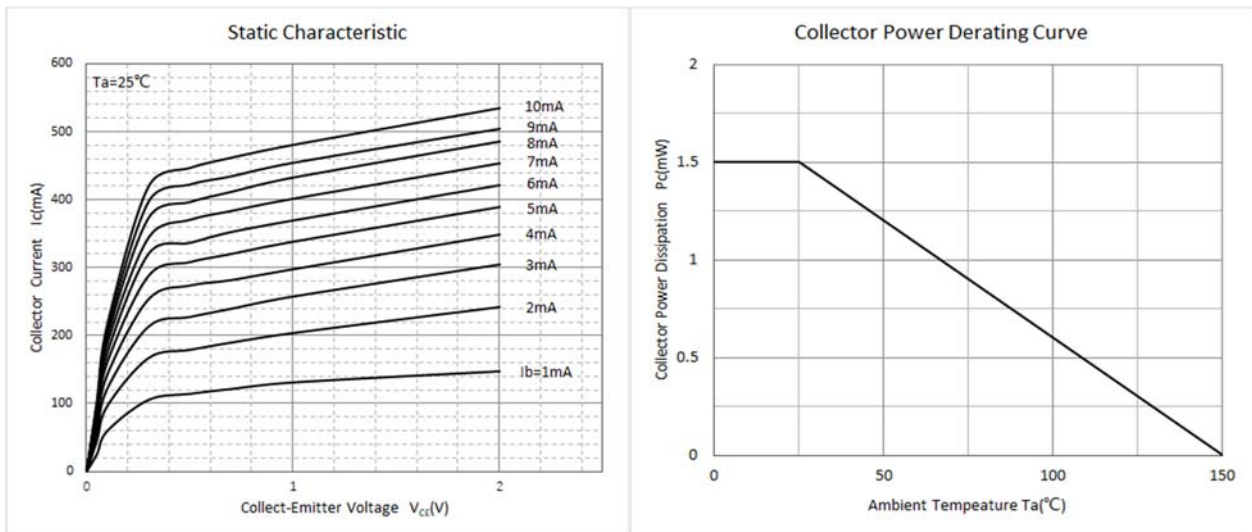
Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	$V_{(BR)CBO}$	V	$I_C=100\mu A, I_E=0$	100		
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	V	$I_C=10mA, I_B=0$	80		
Emitter-base breakdown voltage	$V_{(BR)EBO}$	V	$I_E=10\mu A, I_C=0$	5		
Collector-base cut-off current	I_{CBO}	nA	$V_{CB}=30V$			100
DC current gain	h_{FE1}		$V_{CE}=2V, I_C=5mA$	25		
	h_{FE2}		BCP56	63		250
			BCP56-16			
	h_{FE3}		$V_{CE}=2V, I_C=500mA$	25		
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	$I_C=500mA, I_B=50mA$			0.5
Base-emitter voltage	V_{BE}	V	$I_C=500mA, V_{CE}=2V$			1
Transition frequency	f_T	MHz	$I_C=10mA, V_{CE}=5V, f=30MHz$	100		

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	$R_{\theta J-A}^{(1)}$	°C/W	83.3
Thermal resistance, junction-to-case	$R_{\theta J-C}^{(1)}$	°C/W	66.6

Note1: Thermal resistance from junction to ambient and from junction to case mounted on P.C.B. with 25.4mm*25.4mm copper pad areas

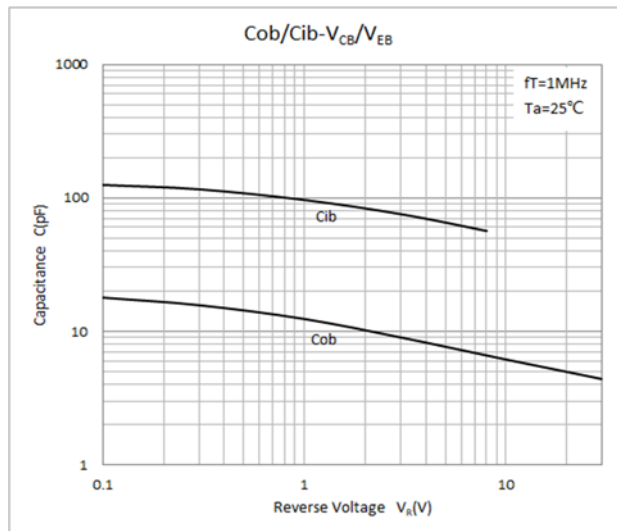
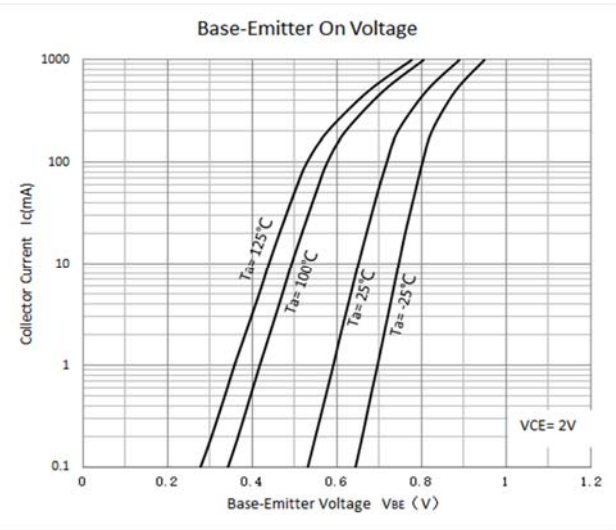
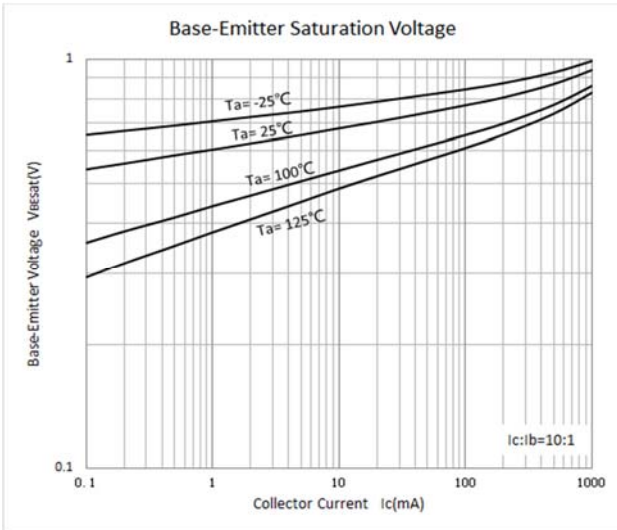
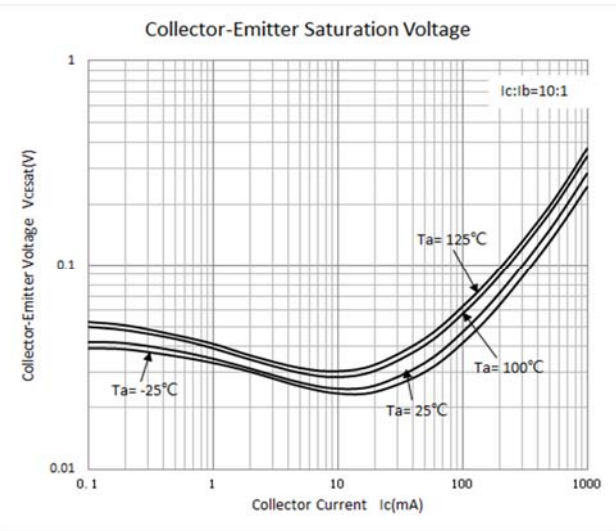
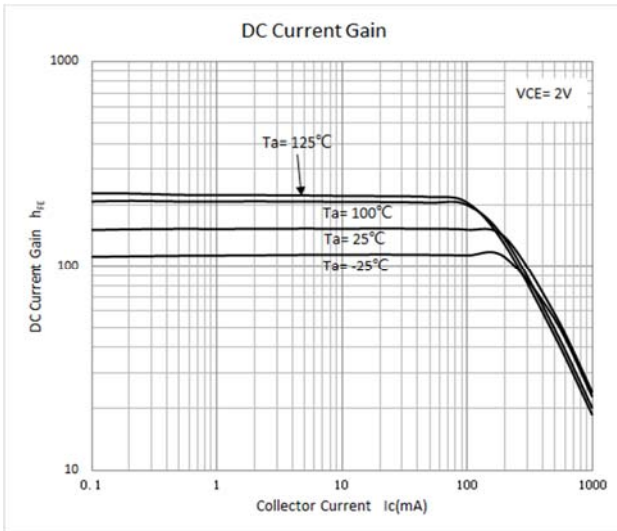
■ Characteristics(Typical)





BCP56

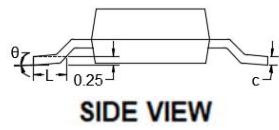
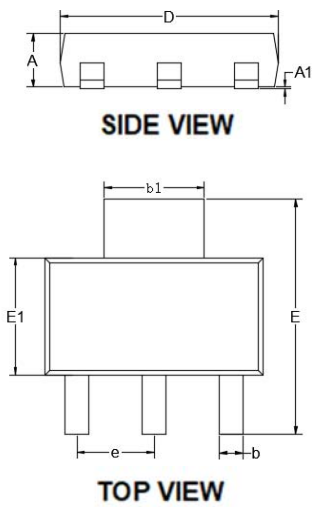
RoHS
COMPLIANT



■ Ordering Information

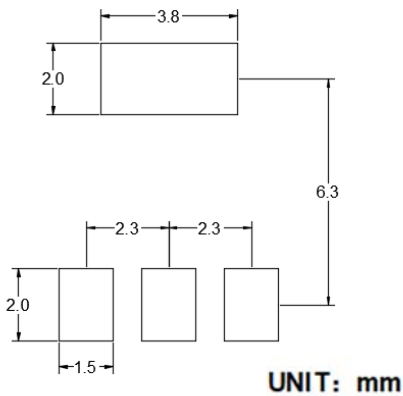
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
BCP56	F2	Approximate 0.11	2500	5000	25000	13" reel

■ Outline Dimensions



DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.0591	0.0670	1.5000	1.7000
A1	0.0008	0.0039	0.0200	0.1000
b	0.0259	0.0330	0.6600	0.8400
b1	0.1140	0.1220	2.9000	3.1000
c	0.0090	0.0138	0.2300	0.3500
D	0.2480	0.2640	6.3000	6.7000
E	0.2637	0.2874	6.7000	7.3000
E1	0.1290	0.1460	3.3000	3.7000
e	0.0866	0.0945	2.2000	2.4000
L	0.0295	0.0492	0.7500	1.2500
θ	0°	10°	0°	10°

■ Suggested Pad Layout





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