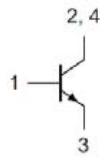


NPN Transistor



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 ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Value
Device marking code			BCP56	BCP56-16
			BCP56-16	BCP56-16
Collector-base voltage	V_{CBO}	V	$I_C=100\mu\text{A}$, $I_E=0$	100
Collector-emitter voltage	V_{CEO}	V	$I_C=10\text{mA}$, $I_B=0$	80
Emitter-base voltage	V_{EBO}	V	$I_E=10\mu\text{A}$, $I_C=0$	5
Collector current	I_C	A		1
Power dissipation	P_D	W		1.5
Operation junction temperature	T_J	$^{\circ}\text{C}$		-55 to +150
Storage temperature	T_{STG}	$^{\circ}\text{C}$		-55 to +150



BCP56

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

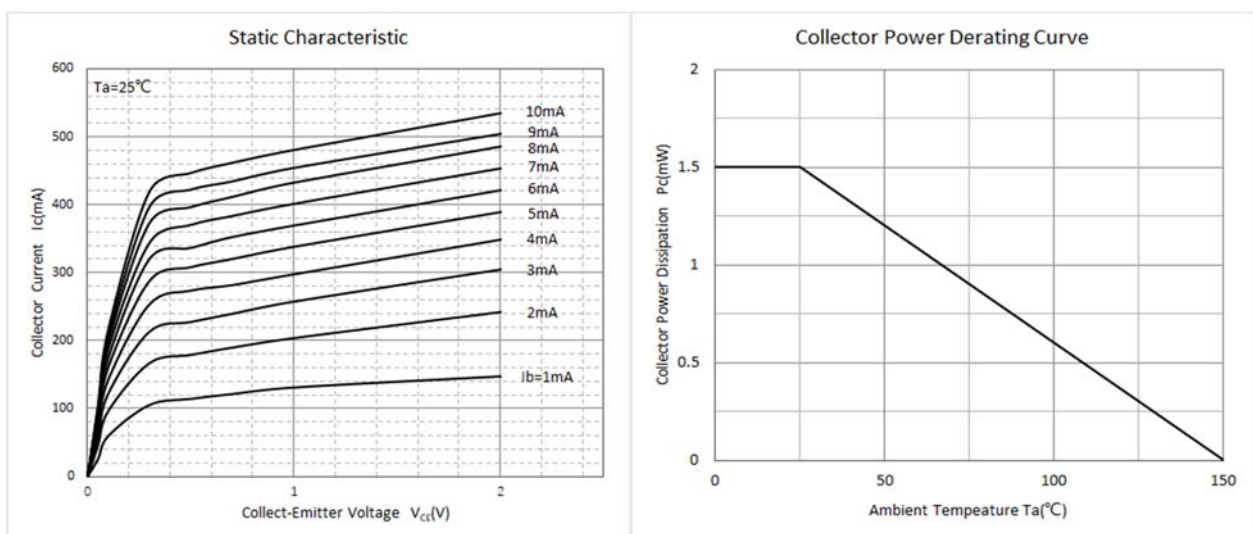
Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	V _{(BR)CBO}	V	I _C =100μA, I _E =0	100		
Collector-emitter breakdown voltage	V _{(BR)CEO}	V	I _C =10mA, I _B =0	80		
Emitter-base breakdown voltage	V _{(BR)EBO}	V	I _E =10μA, I _C =0	5		
Collector-base cut-off current	I _{CBO}	nA	V _{CB} =30V			100
DC current gain	h _{FE1}		V _{CE} =2V, I _C =5mA	25		
	h _{FE2}		BCP56	63		250
			BCP56-16	100		250
	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		

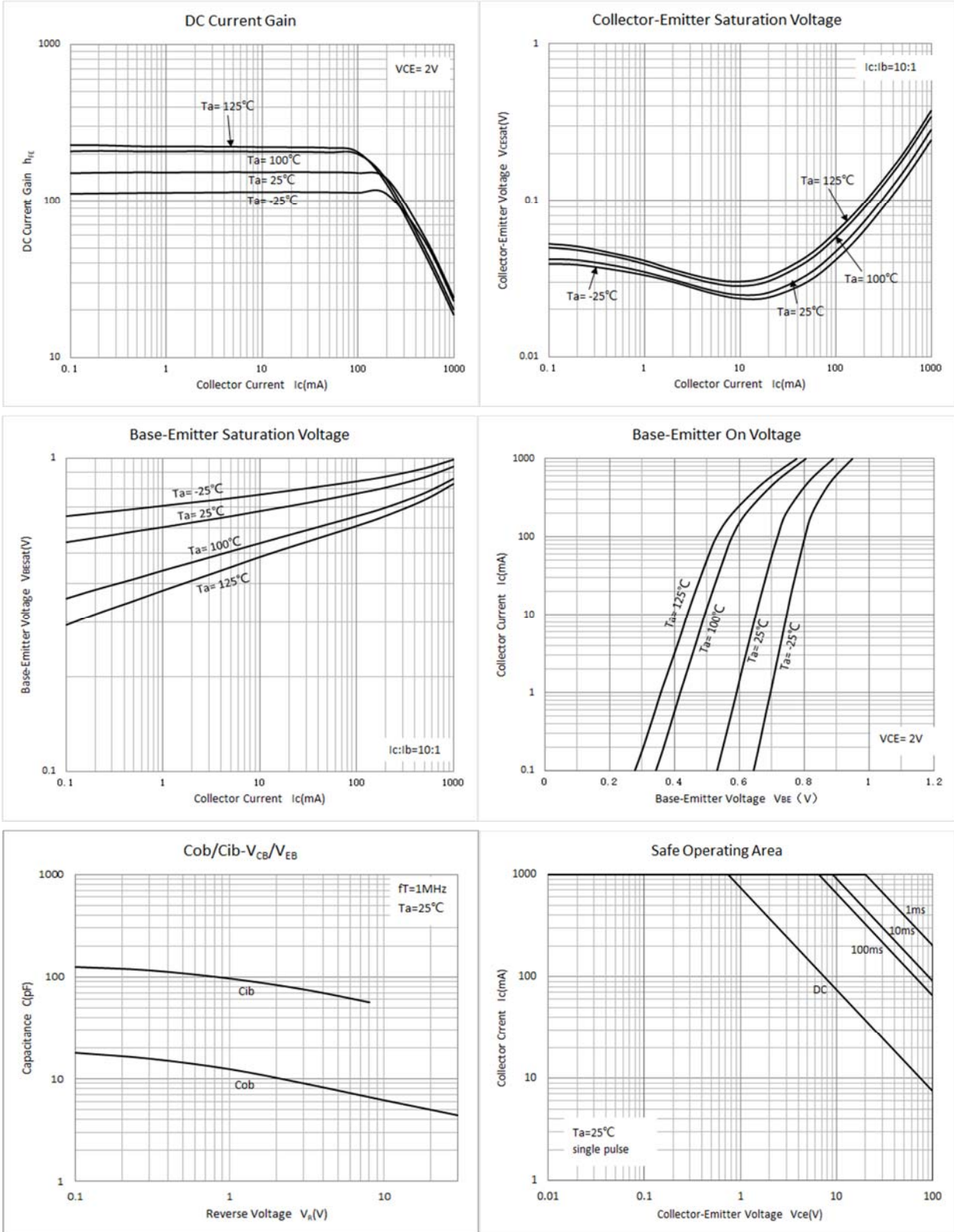
■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	R _{θJA} ⁽¹⁾	°C/W	83.3
Thermal resistance, junction-to-case	R _{θJC} ⁽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)





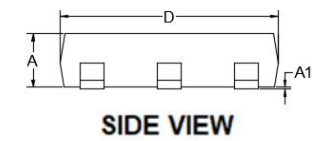


BCP56

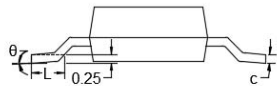
■ Ordering Information

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

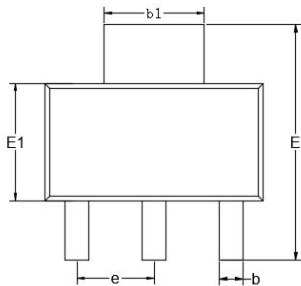
■ Outline Dimensions



SIDE VIEW



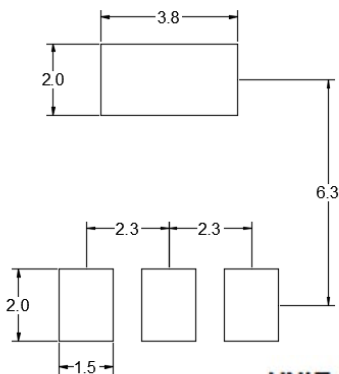
SIDE VIEW



TOP VIEW

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



UNIT: mm



BCP56

Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function, or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.21yangjie.com](http://www.21yangjie.com) , or consult your nearest Yangjie's sales office for further assistance.