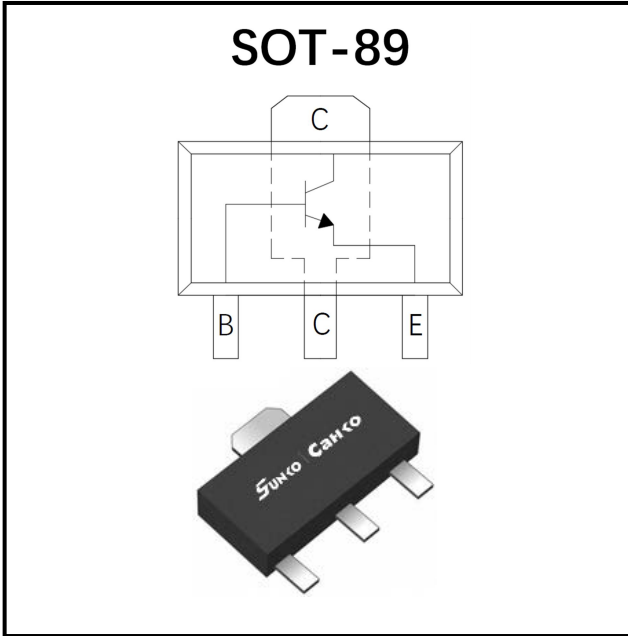


PBSS4540X

NPN General Purpose Amplifier



Features

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

Application

- Signal amplification
- Switching circuit

Mechanical data

- **Package:** SOT-89
- **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				1B
Collector-base voltage	V _{CBO}	V	I _C =100uA, I _E =0	40
Collector-emitter voltage	V _{CEO}	V	I _C =1mA, I _B =0	40
Emitter-base voltage	V _{EB0}	V	I _E =100uA, I _C =0	6
Collector current	I _C	A		4
Power dissipation	P _D	mW		550
Junction temperature	T _J	°C		-55 to +150
Storage temperature	T _{STG}	°C		-55 to +150

PBSS4540X

■ 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	40		
Collector-emitter breakdown voltage	V _{(BR)CEO}	V	I _C =1mA, I _B =0	40		
Emitter-base breakdown voltage	V _{(BR)EBO}	V	I _E =100μA, I _C =0	6		
Collector-base cut-off current	I _{CBO}	nA	V _{CB} =30V, I _E =0A			100
Emitter-base cut-off current	I _{EBO}	nA	V _{EB} =5V, I _B =0A			100
Collector Cutoff Current	I _{CES}	nA	V _{CE} =30V, I _C =0A			100
DC current gain	h _{FE}		V _{CE} =2V I _C =0.5A	300		
			V _{CE} =2V I _C =1A	300		
			V _{CE} =2V I _C =2A	250		
			V _{CE} =2V I _C =5A	100		
Collector-emitter saturation voltage	V _{CE(sat)}	mV	I _C =0.5A I _B =5mA			90
			I _C =1A I _B =10mA			120
			I _C =2A I _B =200mA			150
			I _C =4A I _B =200mA			290
			I _C =5A I _B =500mA			355
Collector-emitter saturation resistance	R _{CE(sat)}	mΩ	I _C =5A I _B =500mA			71
Base-emitter saturation voltage	V _{BE(sat)}	V	I _C =4A I _B =200mA			1.1
			I _C =5A I _B =500mA			1.2
Base-emitter turn-on voltage	V _{BE(ON)}	V	V _{CE} =2V I _C =2A			1.1

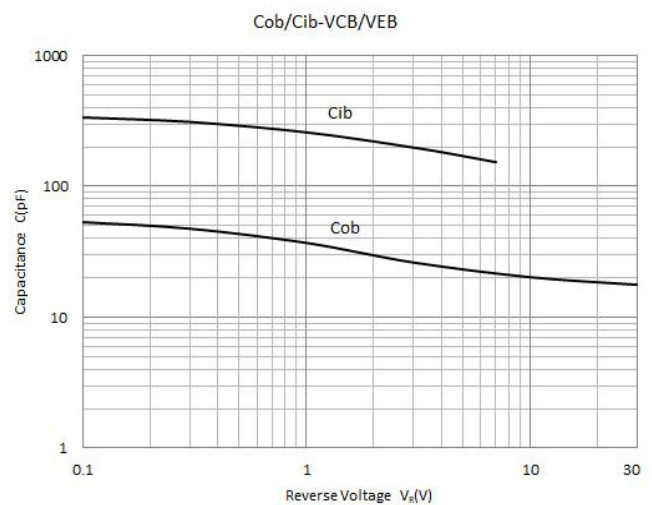
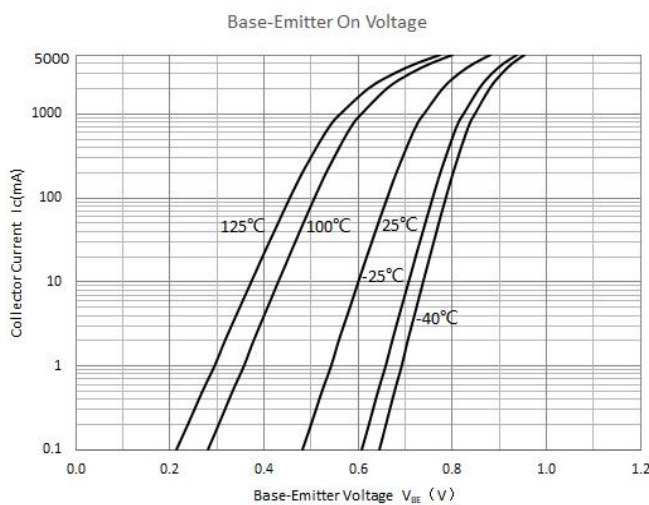
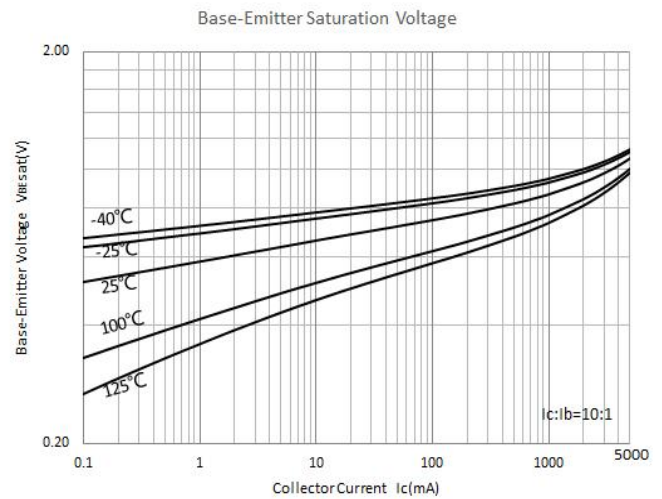
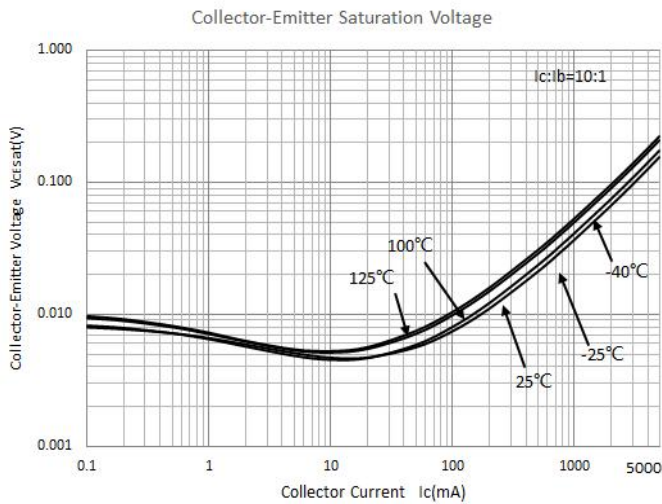
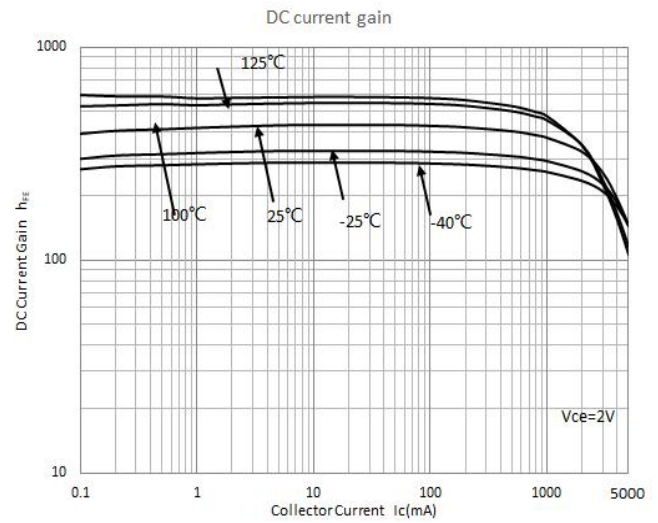
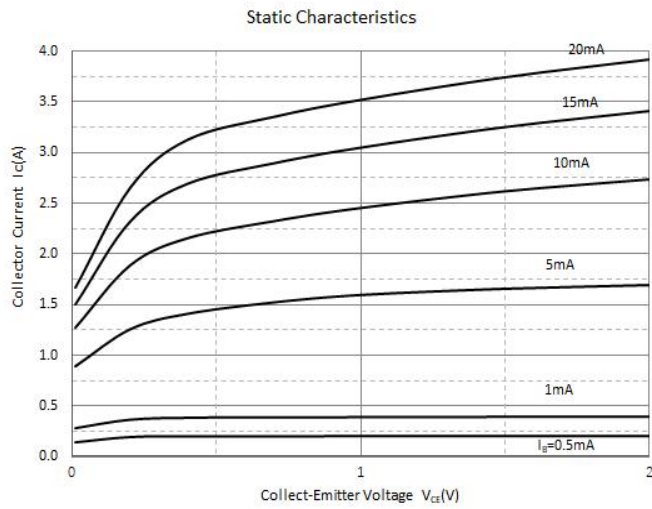
■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	R _{θJ-A} (1)	°C/W	227
Thermal resistance, junction-to-case	R _{θJ-C} (1)	°C/W	38

Note: (1) The device is installed and tested on 25.4 * 25.4 * 1.5mm P.C.B.

PBSS4540X

■ Characteristics(Typical)

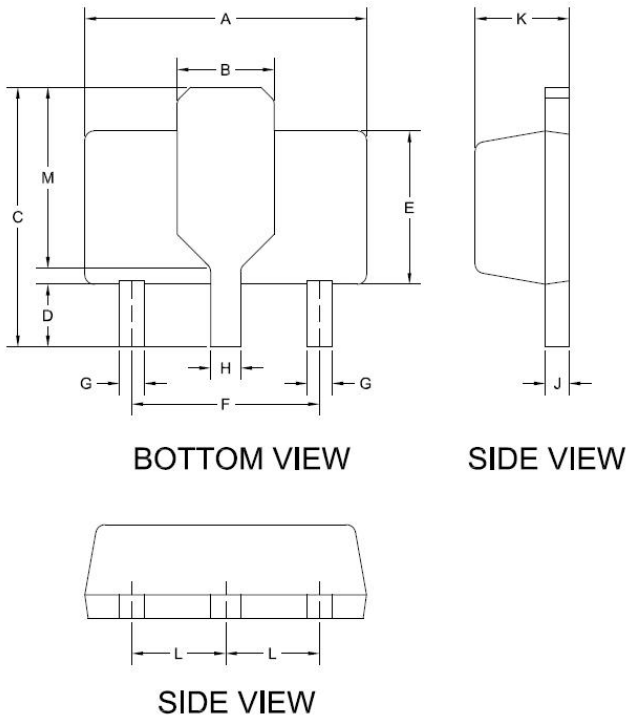


PBSS4540X

Ordering Information

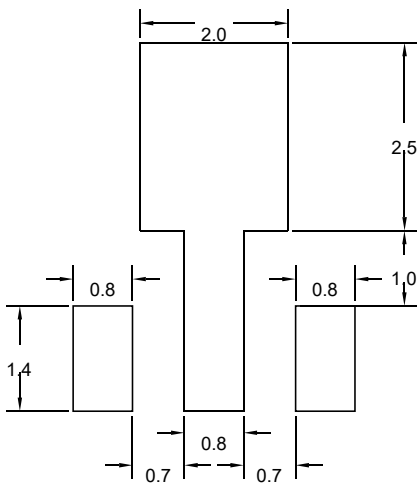
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
PBSS4540X	F2	Approximate 0.055	1000	8000	32000	7" reel

Outline Dimensions



DIM	DIMENSIONS			
	INCHES		MM	
	MIN.	MAX.	MIN.	MAX.
A	0.173	0.181	4.400	4.600
B	0.061 TYP.		1.550 TYP.	
C	0.155	0.167	3.940	4.250
D	0.031	0.047	0.800	1.200
E	0.094	0.102	2.400	2.600
F	0.118 TYP.		3.00 TYP.	
G	0.014	0.019	0.360	0.480
H	0.017	0.022	0.440	0.560
J	0.014	0.017	0.350	0.440
K	0.055	0.063	1.400	1.600
L	0.059 TYP.		1.500 TYP.	
M	0.108 TYP.		2.750 TYP.	

Suggested Pad Layout



UNIT:MM

PBSS4540X

Disclaimer

The information presented in this document is for reference only. Shanghai Sunco Electronics 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), Russiansunco 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.russiansunco.co](http://www.russiansunco.com) , or consult your nearest Russiansunco's sales office for further assistance.