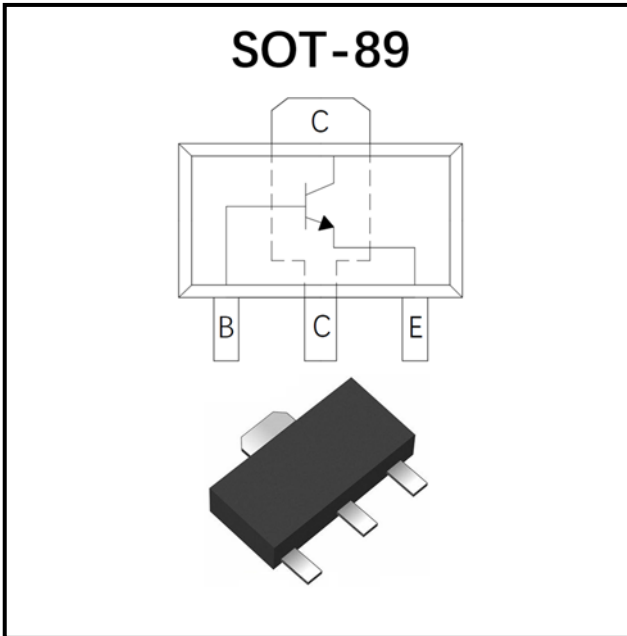


NPN General Purpose Amplifier



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-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				NC
Collector-base voltage	V _{CB0}	V	I _C =100uA, I _E =0	50
Collector-emitter voltage	V _{CE0}	V	I _C =1mA, I _B =0	50
Emitter-base voltage	V _{EB0}	V	I _E =100uA, I _C =0	6
Collector current	I _C	A		1
Peak Collector current	I _{CM}	A	single pulse, t _p ≤1ms	
Base current	I _B	A	single pulse, t _p ≤1ms	
Power dissipation	P _D	mW		500
Junction temperature	T _J	°C		-55 to +150
Storage temperature	T _{STG}	°C		-55 to +150



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

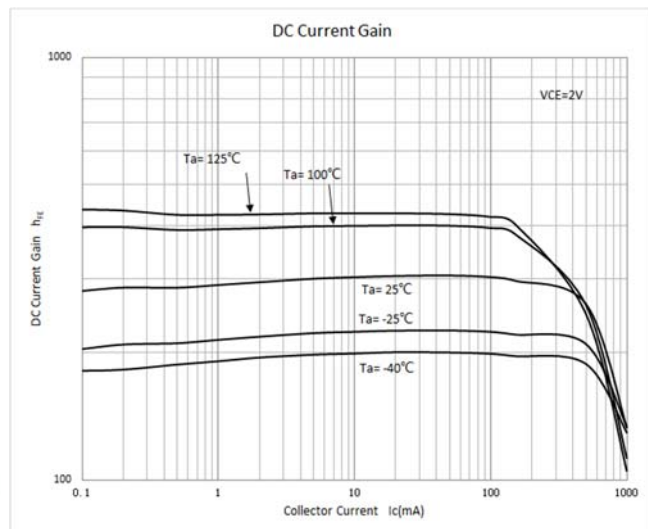
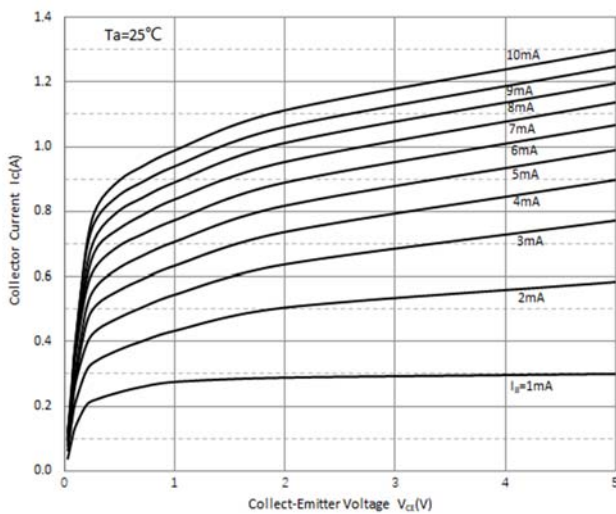
Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	V _{(BR)CBO}	V	I _C =100μA, I _E =0	50		
Collector-emitter breakdown voltage	V _{(BR)CEO}	V	I _C =1mA, I _B =0	50		
Emitter-base breakdown voltage	V _{(BR)EBO}	V	I _E =100μA, I _C =0	6		
Collector-base cut-off current	I _{CBO}	μA	V _{CB} =40V, I _E =0A			1
Emitter-base cut-off current	I _{EBO}	μA	V _{EB} =5V, I _B =0A			1
DC current gain	h _{FE}		V _{CE} =2V I _C =50mA	180		450
Collector-emitter saturation voltage	V _{CE(sat)}	mV	I _C =0.5A I _B =25mA			350
Base-emitter saturation voltage	V _{BE(sat)}	V	I _C =0.5A I _B =50mA			1.1

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	R _{θJ-A} ⁽¹⁾	°C/W	250
Thermal resistance, junction-to-case	R _{θJ-C} ⁽¹⁾	°C/W	50

Note: (1) The device is installed and tested on FR-4 P.C.B.

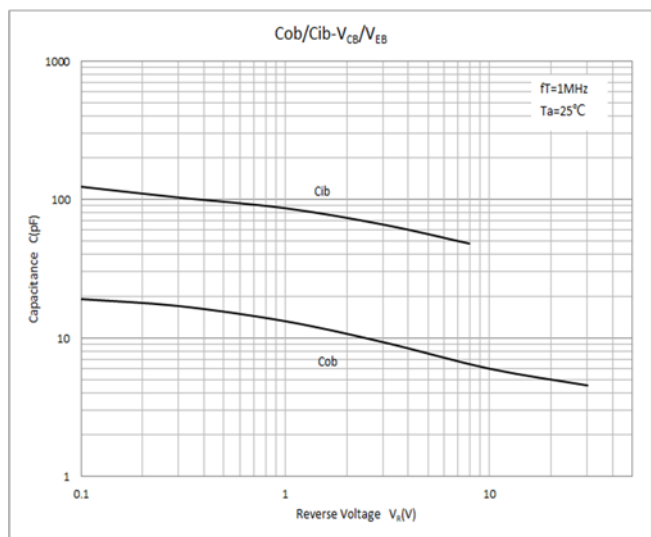
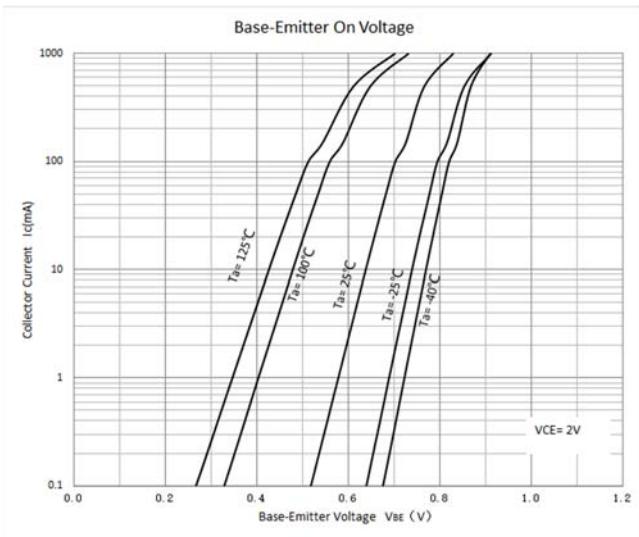
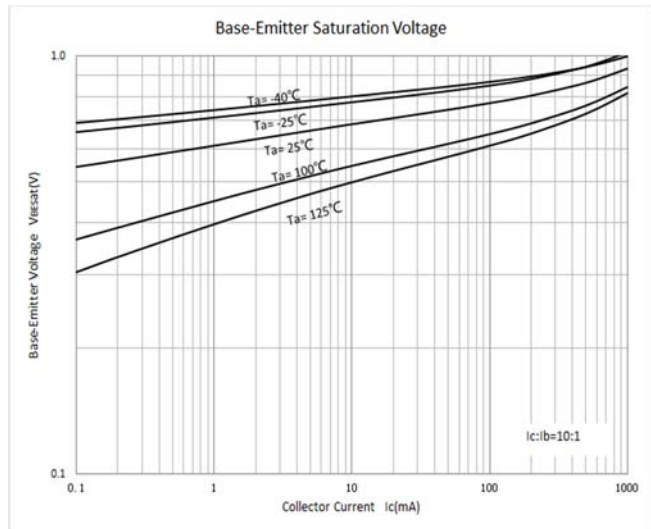
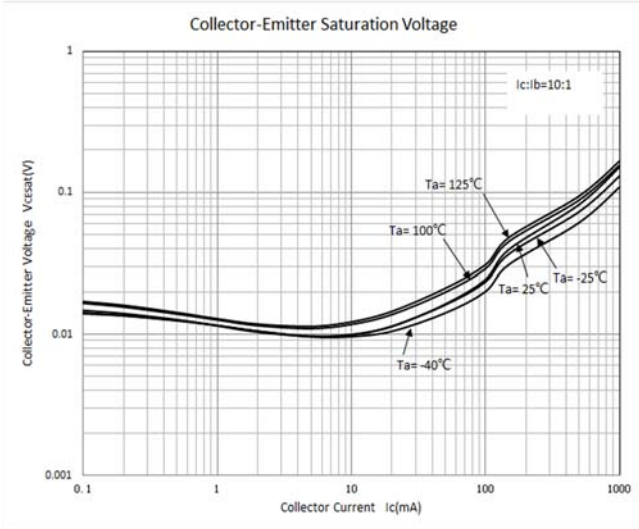
■ Characteristics(Typical)





2SCR513

RoHS
COMPLIANT





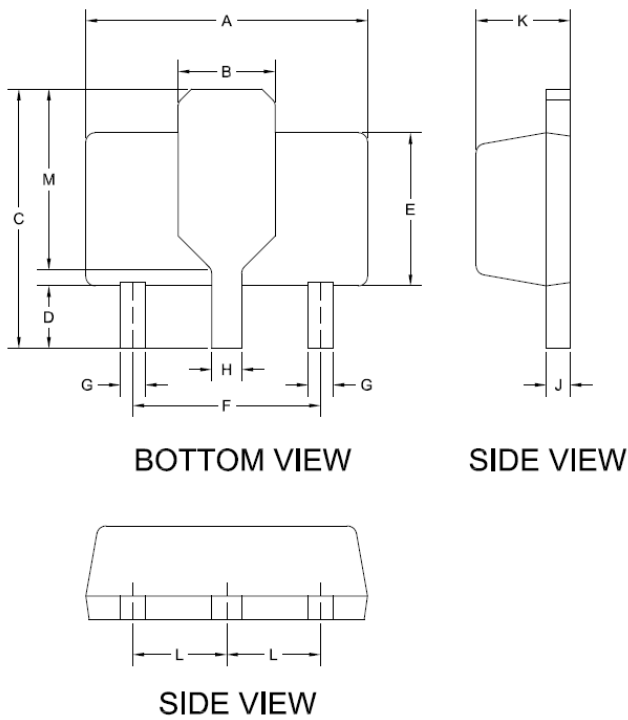
2SCR513

RoHS
COMPLIANT

■ Ordering Information

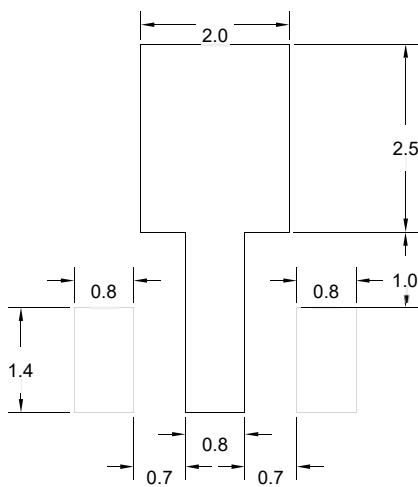
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
2SCR513	F2	Approximate 0.055	1000	8000	32000	7" reel

■ Outline Dimensions



DIM	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



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