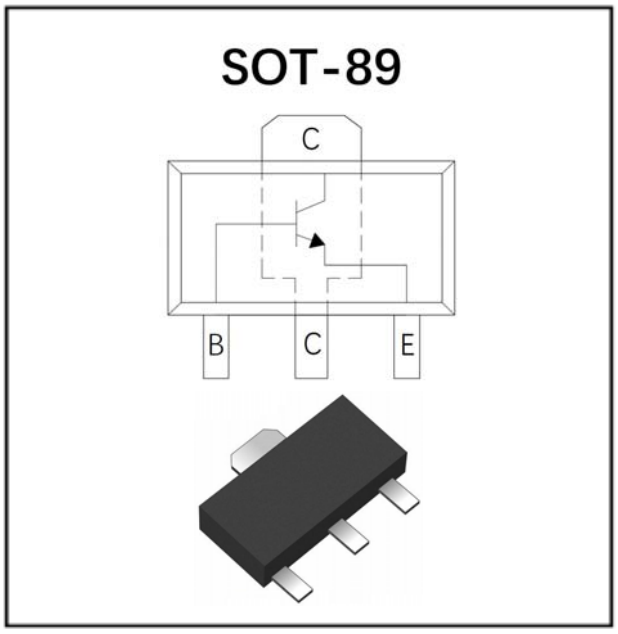
NPN General Purpose Amplifier



Features

- Epoxy meets UL-94 V-0 flammability rating
- Halogen free available upon request by adding suffix ”HF”
- Moitsure Sensitivity Level 1
- Low collector-emitter saturation voltage

Mechanical Data

- **Package**: SOT-89

Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free

- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Marking: S43

■Maximum Ratings (Ta=25℃ unless otherwise noted)

Item	Symbol	Unit	Conditions	Value
Minimum Collector-Emitter Voltage	V_{CEO}	V	I_C=10mA, I_B=0	50
Minimum Collector-Base Voltage	V_{CBO}	V	I_C=100uA, I_E=0	50
Minimum Emitter-Base Voltage	V_{EBO}	V	I_E=100uA, I_C=0	5
Collector Current	I_C	A		3
Peak Collector Current	I_{CM}	A	single pulse ,t_P=1ms	5
Collector Power Dissipation	P_C	mW		500
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	℃/W		250
Operation Junction Temperature	T_j	℃		-55 to +150
Storage Temperature	T_{stg}	℃		-55 to +150

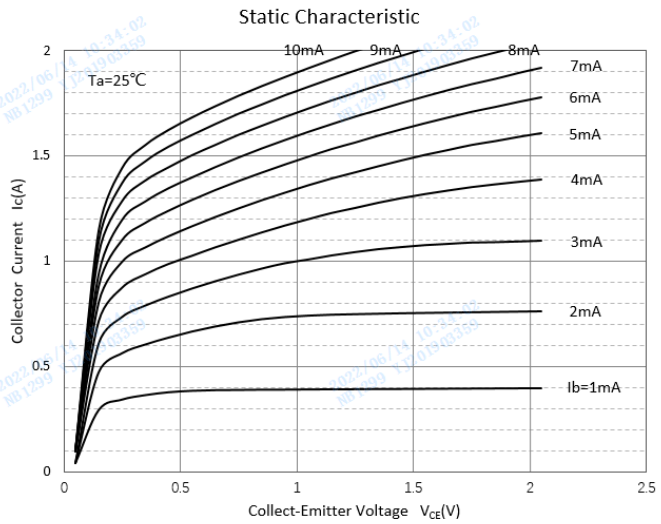
■Electrical Characteristics (Ta=25℃ unless otherwise noted)

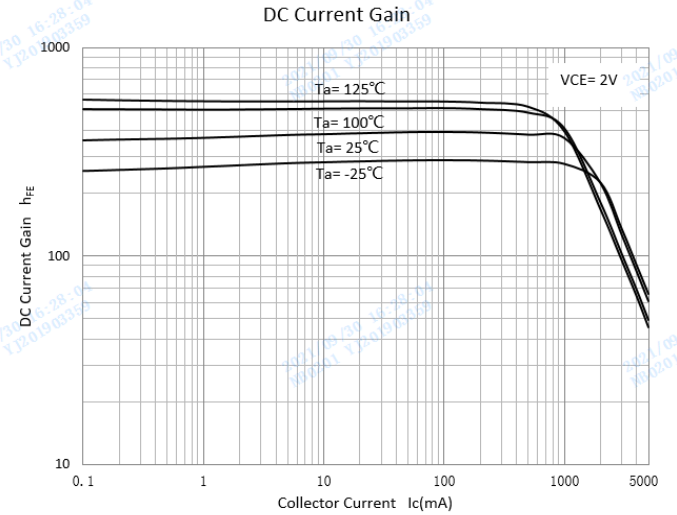
Item	Symbol	Unit	Conditions	Min	TYP	Max
Collector-Emitter Voltage	V_{CEO}	V	I_C=10mA, I_B=0	50		
Collector-Base Voltage	V_{CBO}	V	I_C=100uA, I_E=0	50		
Emitter-Base Voltage	V_{EBO}	V	I_E=100uA, I_C=0	5		
Collector-Base cut-off current	I_{CBO}	nA	V_{CB}=50V			100
Collector-Emitter cut-off current	I_{CES}	nA	V_{CE}=50V,V_{BE}=0V			100
Emitter-Base cut-off current	I_{EBO}	nA	V_{EB}=5V			100
DC Current Gain	$h_{FE}1$		V_{CE}=2V I_C=0.1A	300		
	$h_{FE}2$		V_{CE}=2V I_C=0.5A	300		
	$h_{FE}3$		V_{CE}=2V I_C=1A	300		700
	$h_{FE}4$		V_{CE}=2V I_C=2A	200		
	$h_{FE}5$		V_{CE}=2V I_C=3A	100		
Collector-Emitter Saturation Voltage	$V_{CE(sat)}1$	mV	I_C=0.5A I_B=50mA			80
	$V_{CE(sat)}2$	mV	I_C=1A I_B=50mA			160
	$V_{CE(sat)}3$	mV	I_C=2A I_B=100mA			280
	$V_{CE(sat)}4$	mV	I_C=2A I_B=200mA			260
	$V_{CE(sat)}5$	mV	I_C=3A I_B=300mA			370
Equivalent On-resistance	R_{CEsat}	mΩ	I_C=2A I_B=200mA			130
Base-Emitter Saturation Voltage	$V_{BE(sat)}1$	V	I_C=2A I_B=100mA			1.1
	$V_{BE(sat)}2$	V	I_C=3A I_B=300mA			1.2
Base-Emitter Turn-on Voltage	$V_{BE(on)}$	V	V_{CE}=2V I_C=1A			1.1
Delay time	t_d	ns	V_{CC}=10V， I_C=1.5A； I_{Bon}=0.15A I_{Boff}=0.15A		57	
Rise time	t_r	ns			21	
Turn-on time	t_{on}	ns			78	
Storage time	t_s	ns			315	
Fall time	t_f	ns			82	
Turn-off time	t_{off}	ns			397	
Transition Frequency	f_T	MHz	I_C=100mA, V_{CE}=5V,f=100MHz	100		
Collector Capacitance	Cob	pF	V_{CB}=10V, I_E = 0A, f=1MHz			25

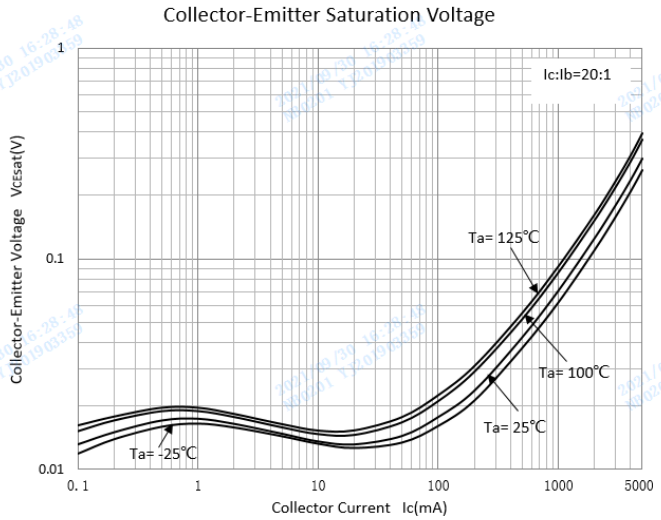
■Ordering Information (Example)

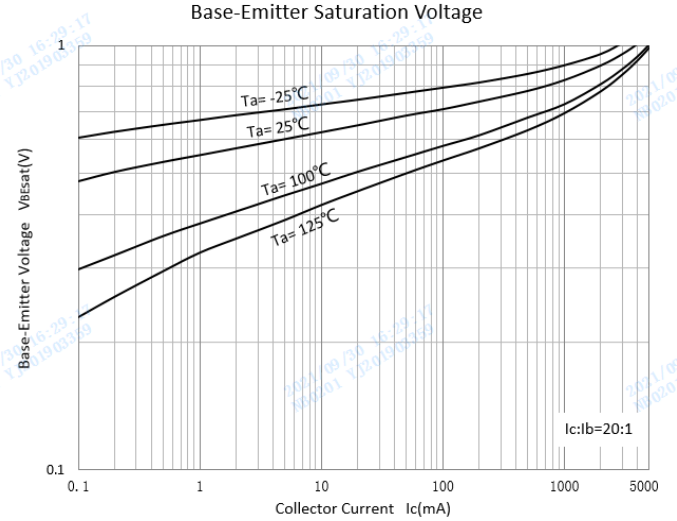
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
PBSS4350X	F2	Approximate 0.055	1000	8000	32000	7” reel

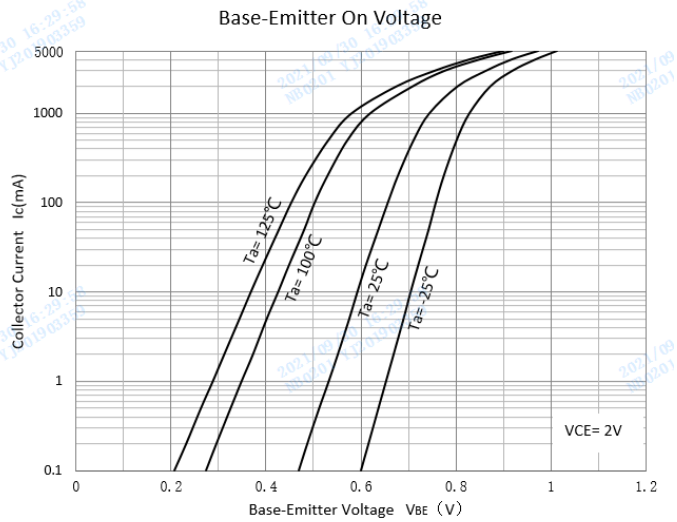
■Characteristics (Typical)

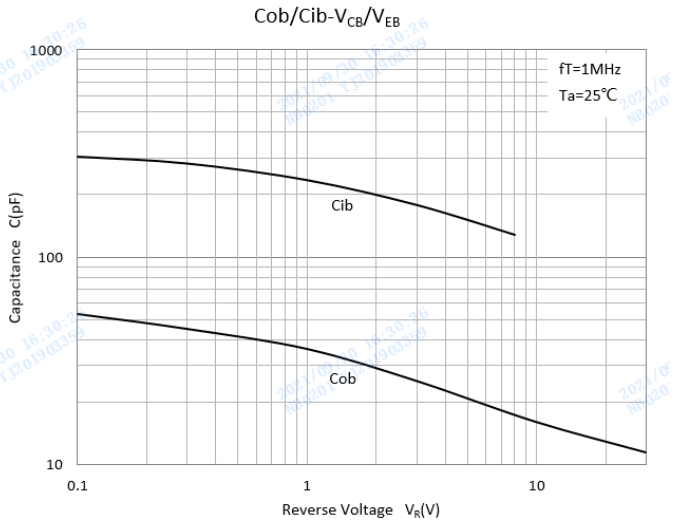


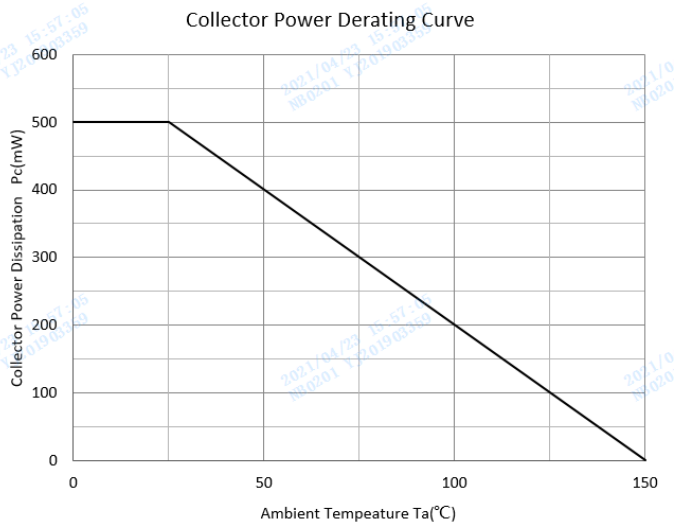




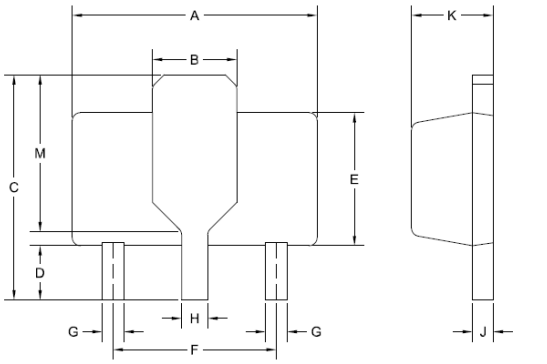


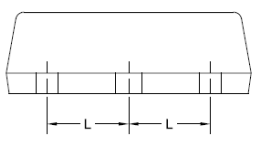






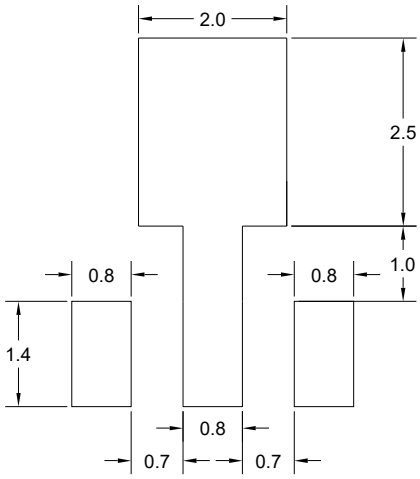
■SOT-89 Package Outline Dimensions





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.	

■SOT-89 Suggested Pad Layout



UNIT:MM

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