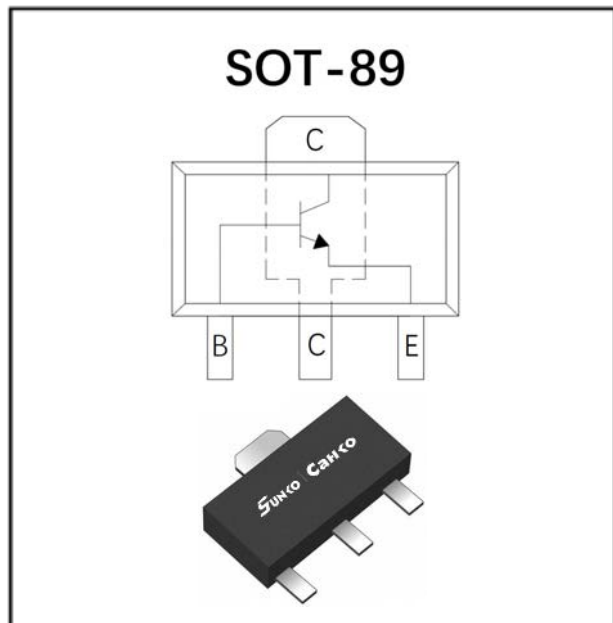


NPN General Purpose Amplifier



Features

- Epoxy meets UL-94 V-0 flammability rating
- Halogen free available upon request by adding suffix "HF"
- Moisture Sensitivity Level 1
- High-speed switching

Mechanical Data

- **Package:** SOT-89
- Molding compound meets UL 94 V-0 flammability rating, -compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** 1A

■Maximum Ratings (Ta=25°C unless otherwise noted)

Item	Symbol	Unit	Conditions	Value
Minimum Collector-Emitter Voltage	V_{CE0}	V	$I_C=1mA, I_B=0$	40
Minimum Collector-Base Voltage	V_{CBO}	V	$I_C=10uA, I_E=0$	60
Minimum Emitter-Base Voltage	V_{EBO}	V	$I_E=10uA, I_C=0$	6
Collector Current	I_C	mA		200
Collector Power Dissipation	P_C	mW		500
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	°C/W		250
Operation Junction Temperature	T_j	°C		-55 to +150
Storage Temperature	T_{stg}	°C		-55 to +150

PXT3904

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

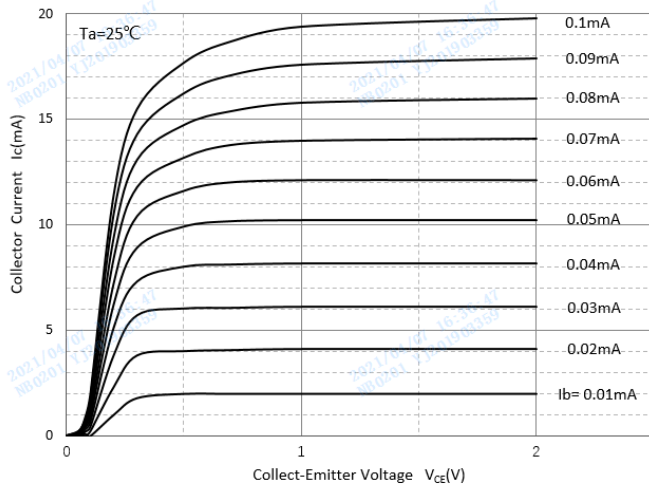
Item	Symbol	Unit	Conditions	Min	TYP	Max
Collector-Emitter Voltage	V_{CEO}	V	$I_C=1mA, I_B=0$	40		
Collector-Base Voltage	V_{CBO}	V	$I_C=10\mu A, I_E=0$	60		
Emitter-Base Voltage	V_{EBO}	V	$I_E=10\mu A, I_C=0$	6		
Collector-Base cut-off current	I_{CBO}	nA	$V_{CB}=30V$			50
Emitter-Base cut-off current	I_{EBO}	nA	$V_{EB}=6V$			50
DC Current Gain	h_{FE1}		$I_C=0.1mA, V_{CE}=1V$	60		
	h_{FE2}		$I_C=1mA, V_{CE}=1V$	80		
	h_{FE3}		$I_C=10mA, V_{CE}=1V$	100		300
	h_{FE4}		$I_C=50mA, V_{CE}=1V$	60		
	h_{FE5}		$I_C=100mA, V_{CE}=1V$	30		
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	$I_C=10mA, I_B=1mA$			0.2
			$I_C=50mA, I_B=5mA$			0.3
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	V	$I_C=10mA, I_B=1mA$	0.65		0.85
			$I_C=50mA, I_B=5mA$			0.95
Transition Frequency	f_T	MHz	$I_C=10mA, V_{CE}=20V, f=100MHz$	300		
Output Capacitance	Cobo	pF	$V_{CB}=5.0V, f=1MHz, I_E=0$			4
Input Capacitance	Cibo	pF	$V_{EB}=0.5V, f=1MHz, I_C=0$			8
Noise Figure	NF	dB	$V_{CE}=5V, I_C=0.1mA, R_s=1K\Omega, f=10Hz \text{ to } 15.7KHz$			5
Delay Time	td	ns	$I_C=10mA, I_{B1}=-I_{B2}=1mA$			35
Rise Time	tr	ns				35
Storage Time	ts	ns				200
Fall Time	tf	ns				50

■Ordering Information (Example)

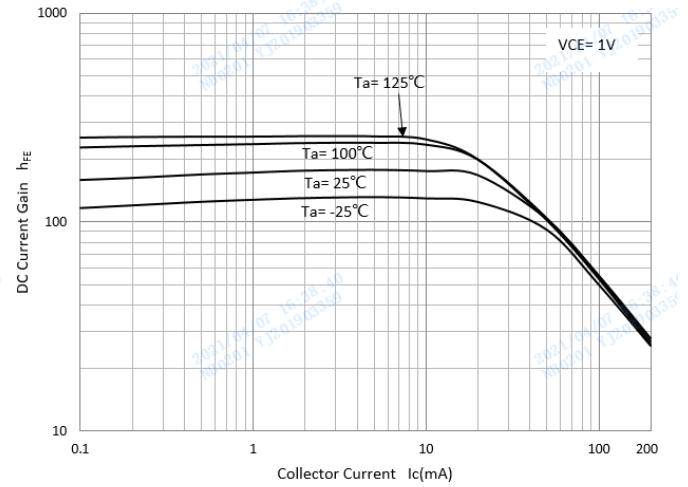
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
PXT3904	F2	Approximate 0.055	1000	8000	32000	7" reel

■ Characteristics (Typical)

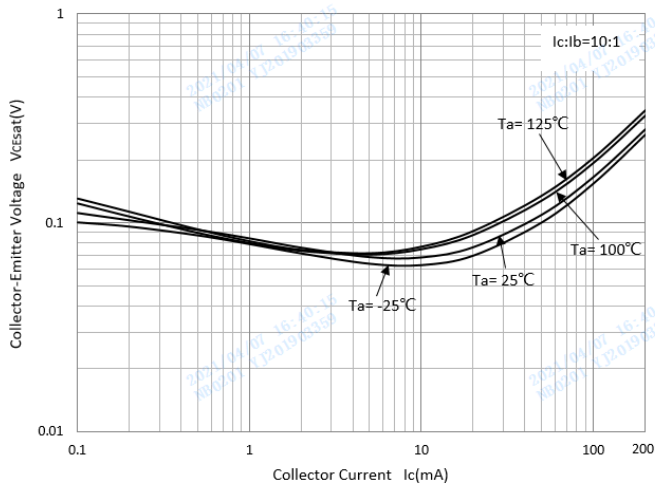
Static Characteristic



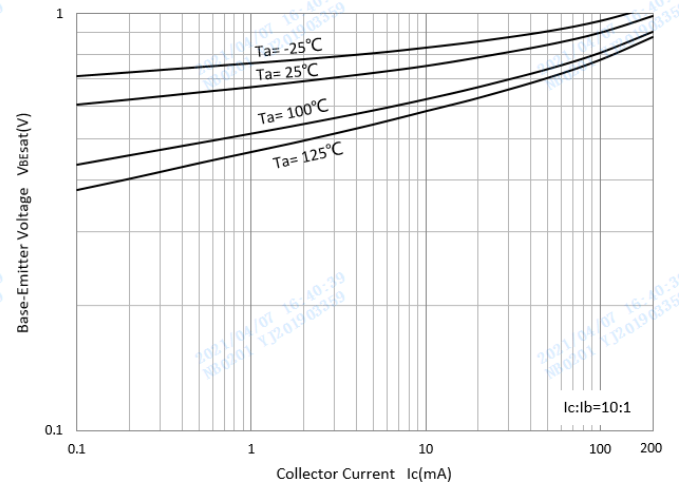
DC Current Gain



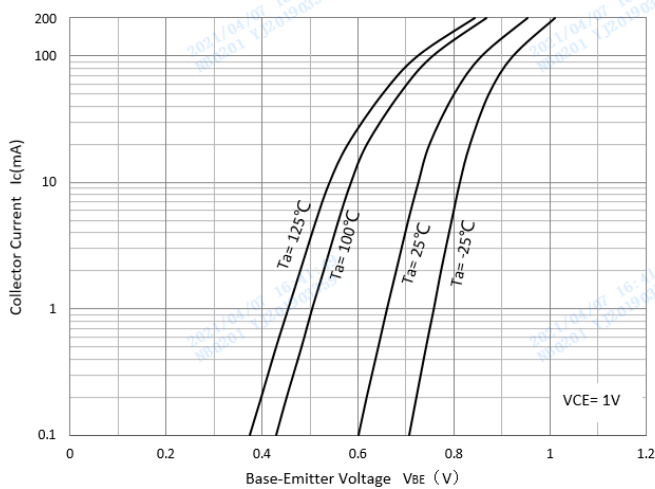
Collector-Emitter Saturation Voltage



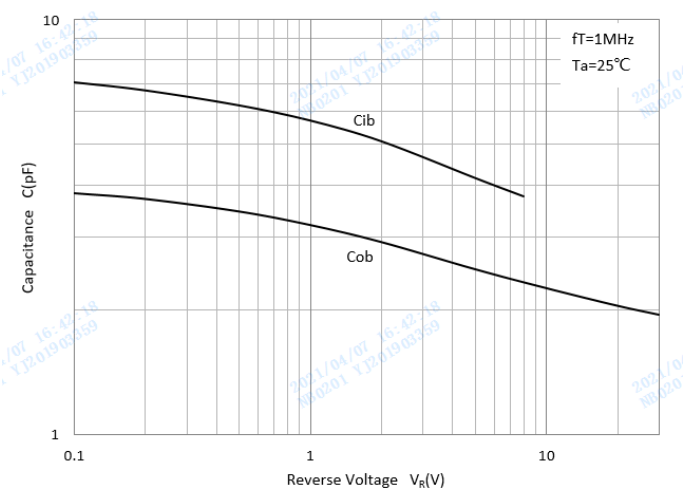
Base-Emitter Saturation Voltage



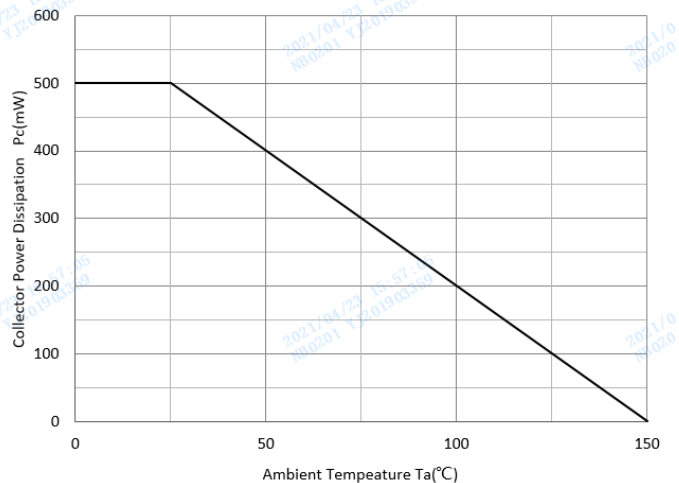
Base-Emitter On Voltage



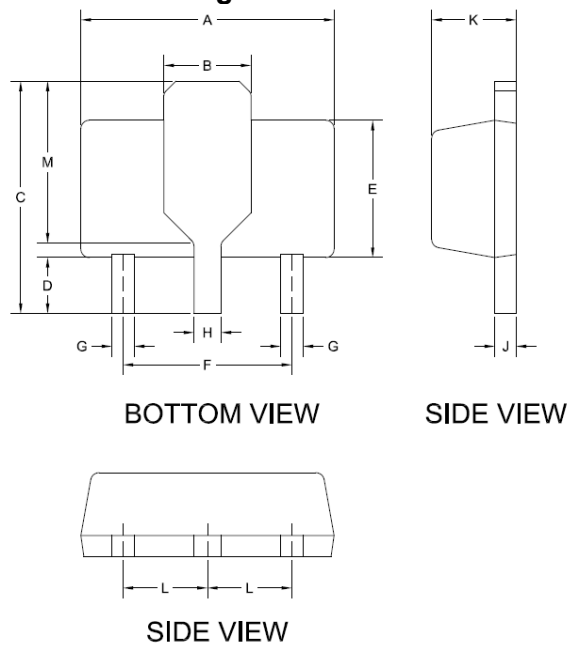
$C_{ob}/C_{ib}-V_{CB}/V_{EB}$



Collector Power Derating Curve

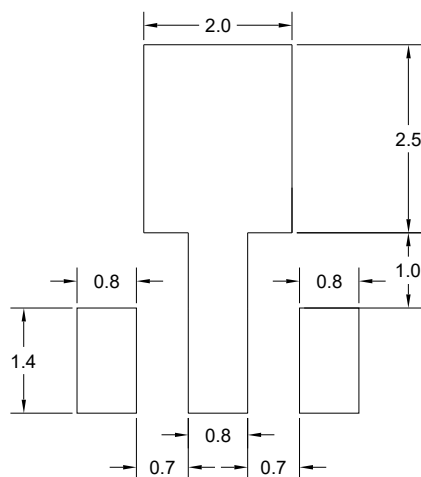


■SOT-89 Package Outline Dimensions



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.	

■SOT-89 Suggested Pad Layout



UNIT:MM

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