

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, RoHS-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_{CEO}	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°C unless otherwise noted)

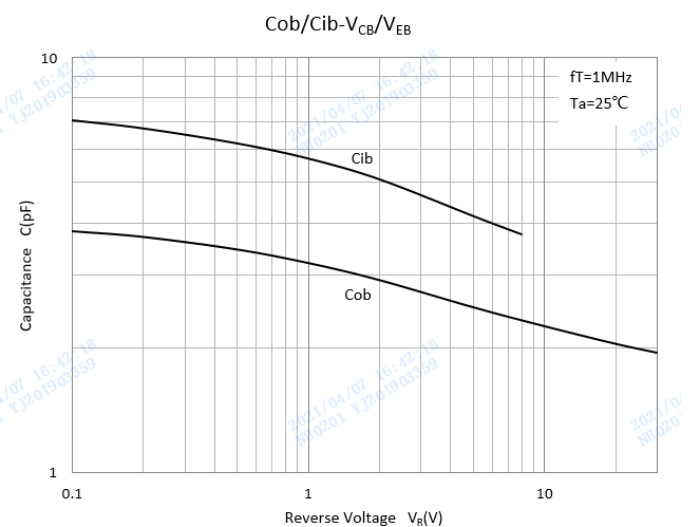
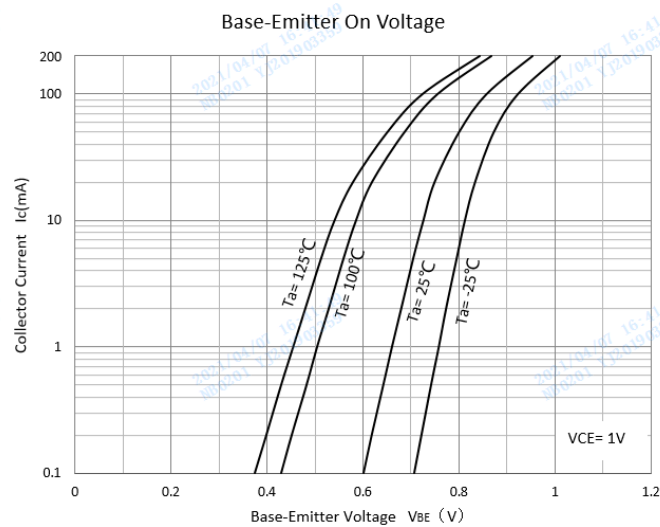
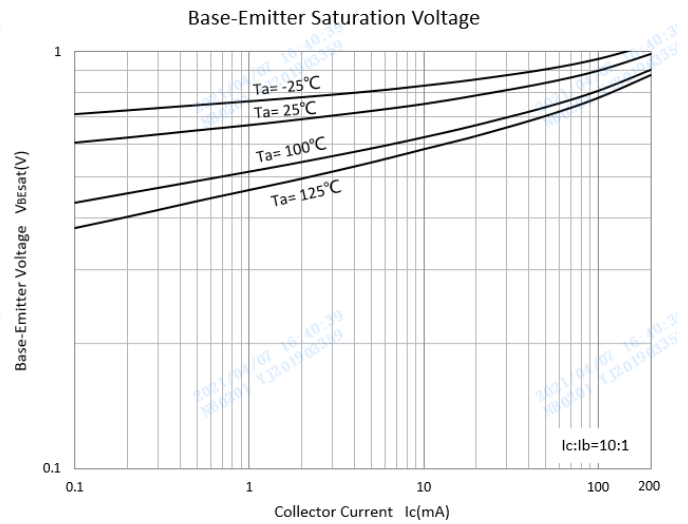
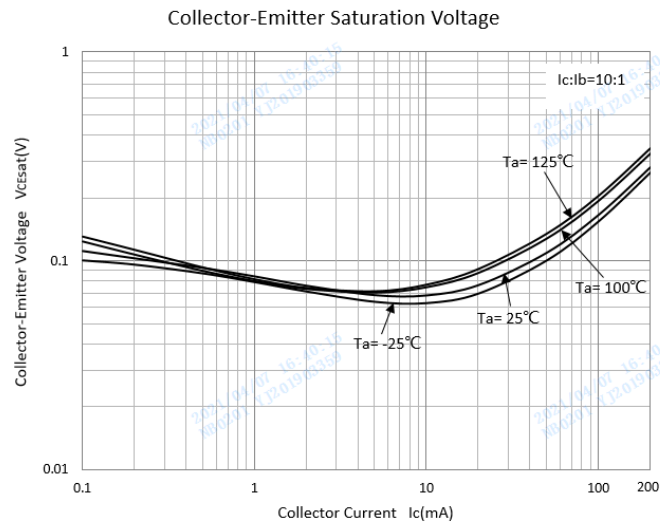
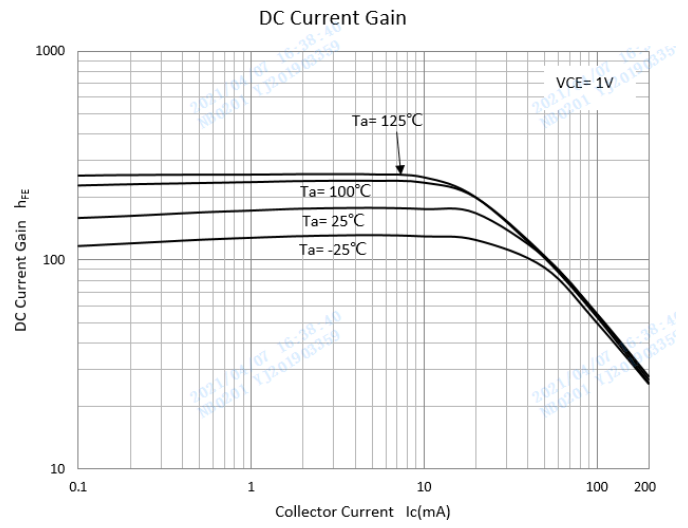
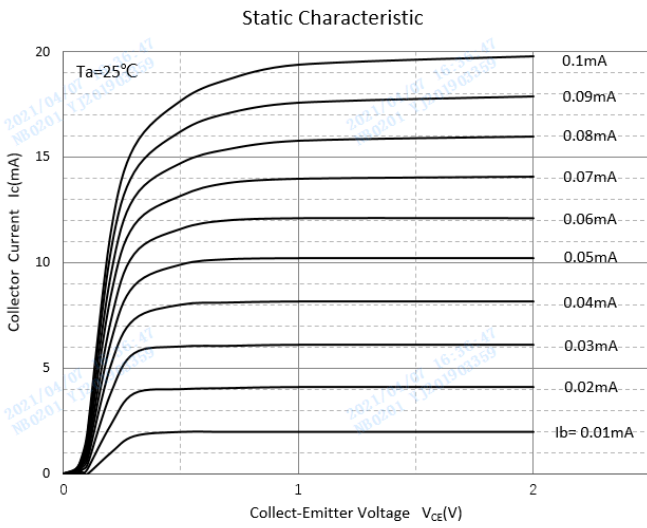
Item	Symbol	Unit	Conditions	Min	TYP	Max
Collector-Emitter Voltage	V_{CEO}	V	$I_C=1mA, I_B=0$	40		
Collector-Base Voltage	V_{CBO}	V	$I_C=10\mu A, I_E=0$	60		
Emitter-Base Voltage	V_{EBO}	V	$I_E=10\mu A, I_C=0$	6		
Collector-Base cut-off current	I_{CBO}	nA	$V_{CB}=30V$			50
Emitter-Base cut-off current	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	C_{obo}	pF	$V_{CB}=5.0V, f=1MHz, I_E=0$			4
Input Capacitance	C_{ibo}	pF	$V_{EB}=0.5V, f=1MHz, I_C=0$			8
Noise Figure	NF	dB	$V_{CE}=5V, I_C=0.1mA, R_s=1K\Omega, f=10Hz$ to 15.7KHz			5
Delay Time	t_d	ns	$I_C=10mA, I_{B1}=-I_{B2}=1mA$			35
Rise Time	t_r	ns				35
Storage Time	t_s	ns				200
Fall Time	t_f	ns				50

■Ordering Information (Example)

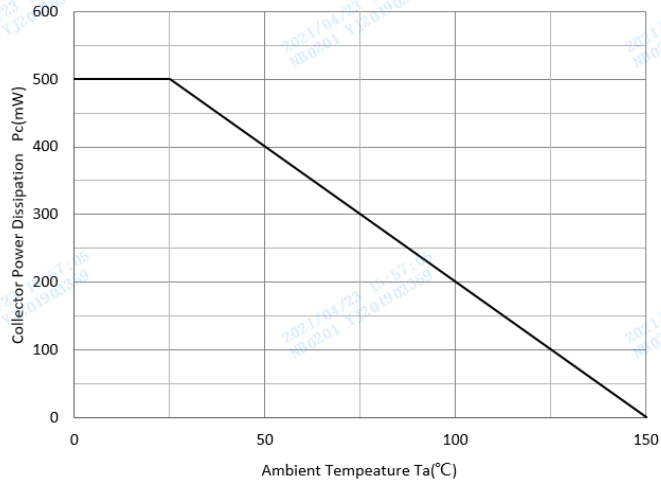
PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
PXT3904	F2	Approximate 0.055	1000	8000	32000	7" reel



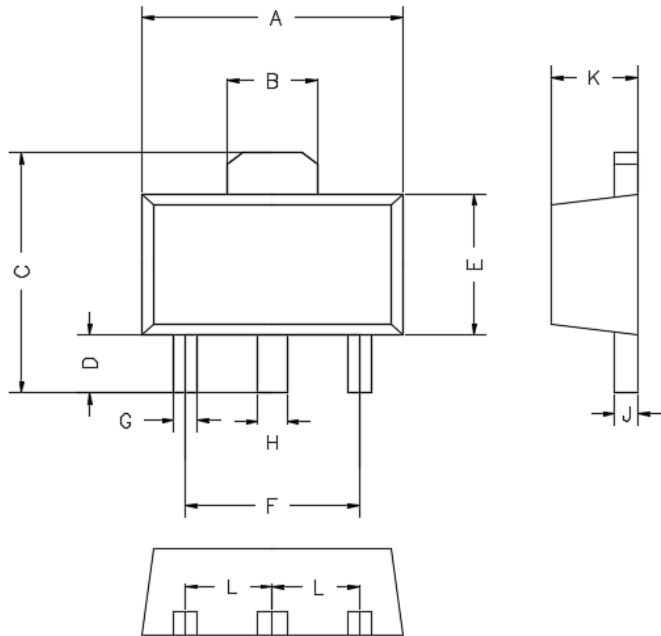
■ Characteristics (Typical)



Collector Power Derating Curve

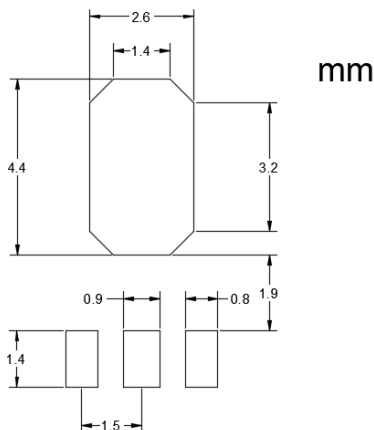


■SOT-89 Package Outline Dimensions



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.169	0.185	4.30	4.70	
B	0.061		1.55		TYP
C	0.154	0.171	3.91	4.35	
D	0.031	0.047	0.80	1.20	
E	0.089	0.104	2.25	2.65	
F	0.118		3.00		TYP
G	0.013	0.020	0.33	0.52	
H	0.016	0.023	0.40	0.58	
J	0.014	0.017	0.35	0.44	
K	0.055	0.063	1.40	1.60	
L	0.059		1.50		TYP

■SOT-89 Suggested Pad Layout





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