

## 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:** 1P

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

Item	Symbol	Unit	Conditions	Value
Minimum Collector-Emitter Voltage	$V_{CEO}$	V	$I_C=10mA, I_B=0$	40
Minimum Collector-Base Voltage	$V_{CBO}$	V	$I_C=10uA, I_E=0$	75
Minimum Emitter-Base Voltage	$V_{EBO}$	V	$I_E=10uA, I_C=0$	6
Collector Current	$I_C$	mA		600
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



# PXT2222A

## ■Electrical Characteristics (Ta=25°C unless otherwise noted)

Item	Symbol	Unit	Conditions	Min	TYP	Max
Collector-Emitter Voltage	$V_{CEO}$	V	$I_C=10mA, I_B=0$	40		
Collector-Base Voltage	$V_{CBO}$	V	$I_C=10\mu A, I_E=0$	75		
Emitter-Base Voltage	$V_{EBO}$	V	$I_E=10\mu A, I_C=0$	6		
Base cut-off current	$I_{BL}$	nA	$V_{CE}=60V, V_{EB}=3V$			20
Collector-Emitter cut-off current	$I_{CEX}$	nA	$V_{CE}=60V, V_{EB}=3V$			10
DC Current Gain	$h_{FE1}$		$I_C=0.1mA, V_{CE}=10V$	35		
	$h_{FE2}$		$I_C=1mA, V_{CE}=10V$	50		
	$h_{FE3}$		$I_C=10mA, V_{CE}=10V$	75		
	$h_{FE4}$		$I_C=150mA, V_{CE}=10V$	100		300
	$h_{FE5}$		$I_C=150mA, V_{CE}=1V$	50		
	$h_{FE6}$		$I_C=500mA, V_{CE}=10V$	40		
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	$I_C=150mA, I_B=15mA$			0.3
			$I_C=500mA, I_B=50mA$			1
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	V	$I_C=150mA, I_B=15mA$	0.6		1.2
			$I_C=500mA, I_B=50mA$			2
Transition Frequency	$f_T$	MHz	$I_C=20mA, V_{CE}=20V, f=100MHz$	300		
Output Capacitance	Cobo	pF	$V_{CB}=10V, f=1MHz, I_E=0$			8
Input Capacitance	Cibo	pF	$V_{EB}=0.5V, f=1MHz, I_C=0$			25
Noise Figure	NF	dB	$V_{CE}=10V, I_C=0.1mA, R_s=1K\Omega, f=1KHz$			4
Delay Time	td	ns	$I_C=150mA, I_{B1}=-I_{B2}=15mA$			10
Rise Time	tr	ns				25
Storage Time	ts	ns				225
Fall Time	tf	ns				60

## ■Ordering Information (Example)

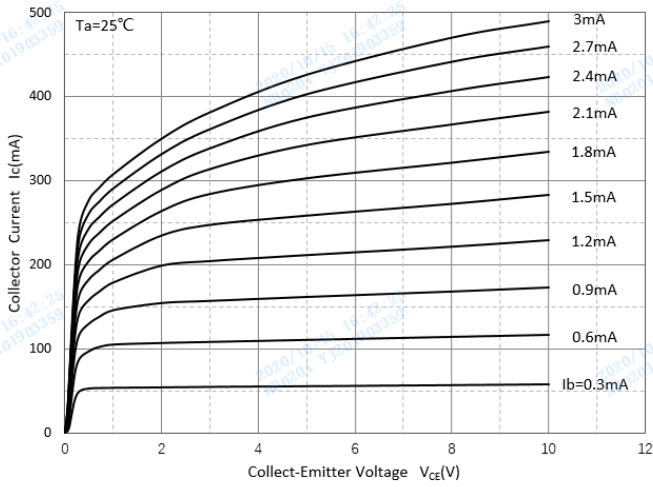
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
PXT2222A	F2	Approximate 0.055	1000	8000	32000	7" reel



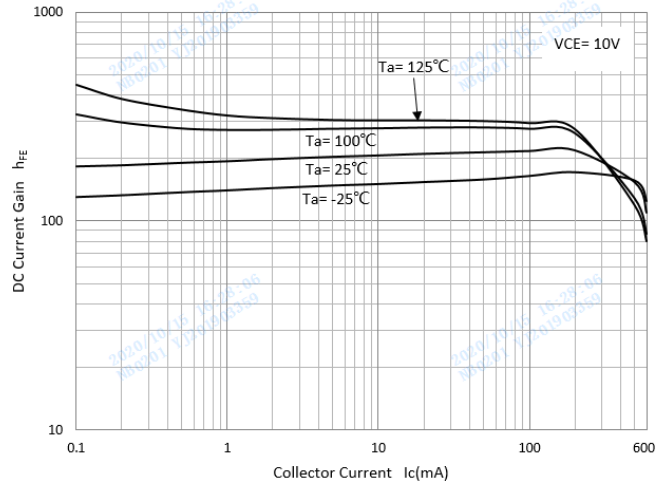
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## Characteristics (Typical)

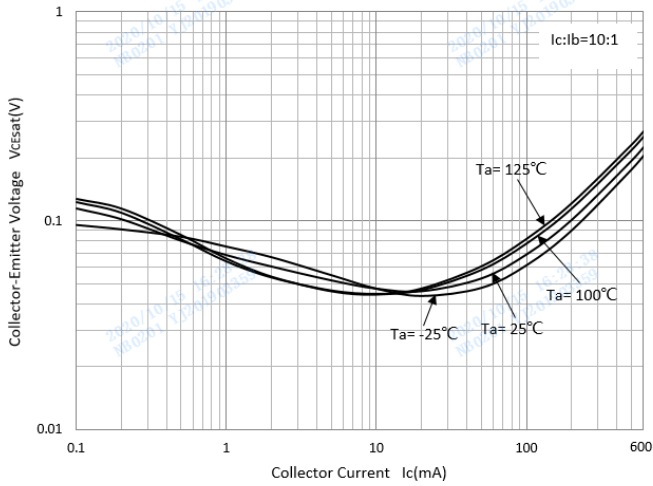
Static Characteristic



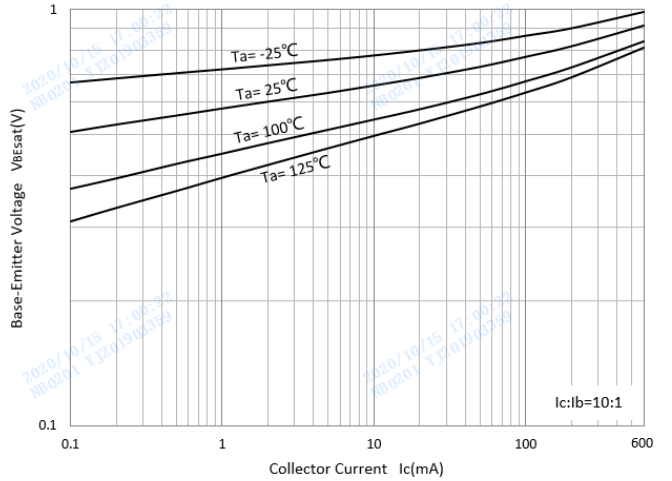
DC Current Gain



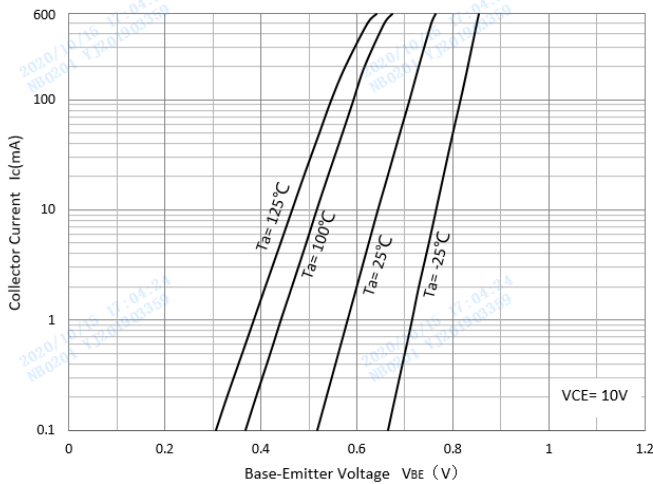
Collector-Emmitter Saturation Voltage



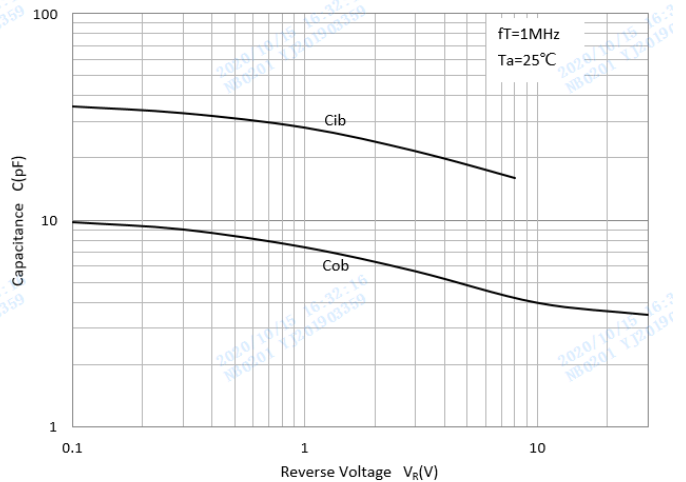
Base-Emmitter Saturation Voltage



Base-Emmitter On Voltage



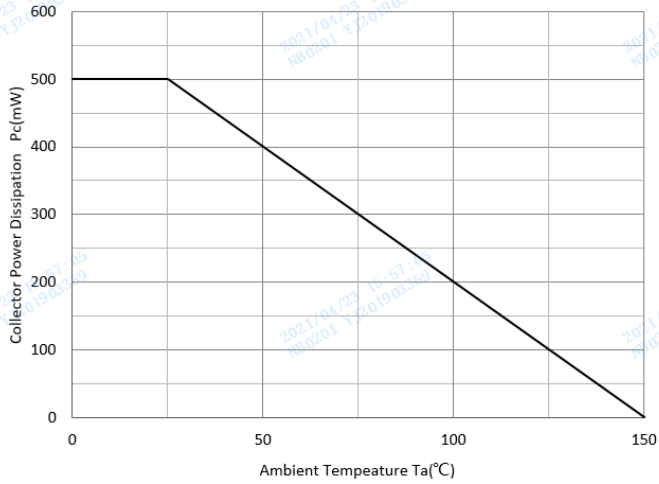
$C_{ob}/C_{ib}-V_{CB}/V_{EB}$



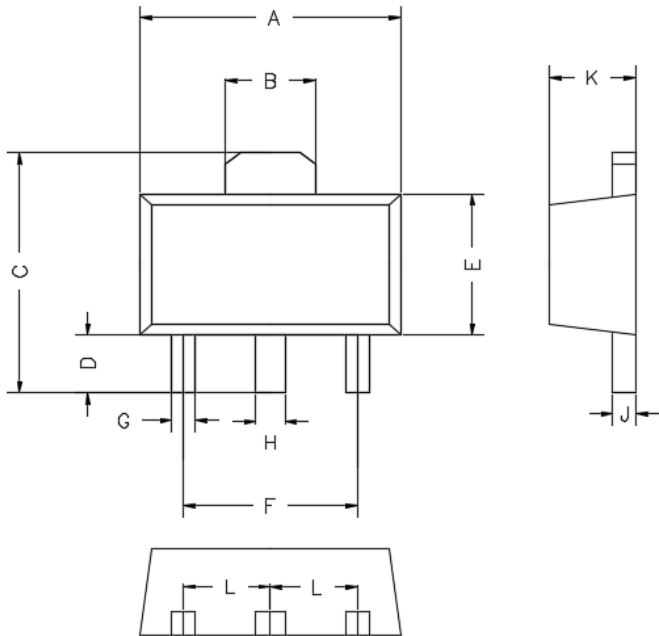


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Collector Power Derating Curve

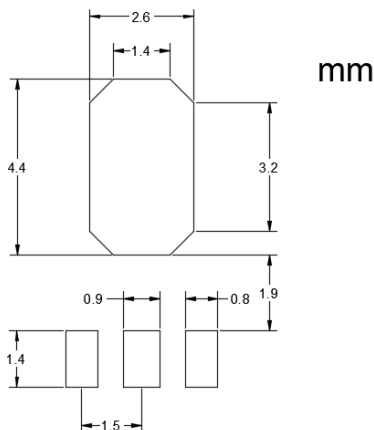


## ■ SOT-89 Package Outline Dimensions



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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