

Features

- Compliment to PXT3906
- Halogen Free. "Green" Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

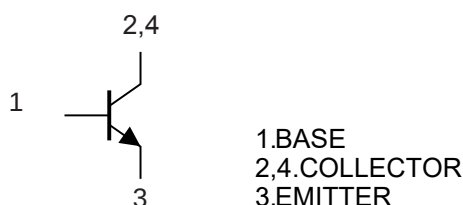
Maximum Ratings @ 25°C Unless Otherwise Specified

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 250°C/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	200	mA
Collector Power Dissipation	P_C	500	mW

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

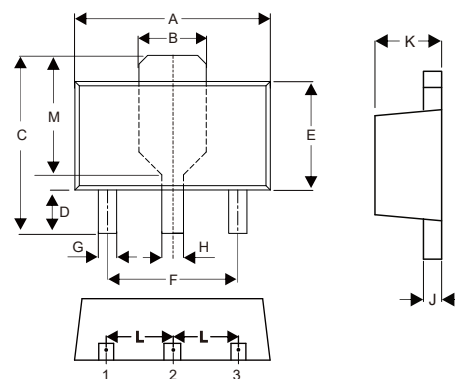
Internal Structure



Marking: 1A

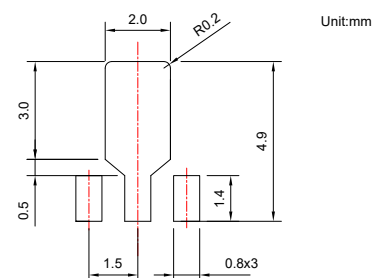
NPN General Purpose Amplifier

SOT-89



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	0.015	0.021	0.38	0.53	
J	0.014	0.017	0.35	0.44	
K	0.055	0.063	1.40	1.60	
L	0.059		1.50		TYP.
M	0.108		2.75		TYP.

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	60			V	$I_C=10\mu A, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	40			V	$I_C=1mA, I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	6			V	$I_E=10\mu A, I_C=0$
Collector-Base Cutoff Current	I_{CBO}			50	nA	$V_{CB}=30V, I_E=0$
Emitter-Base Cutoff Current	I_{EBO}			50	nA	$V_{EB}=6V, I_C=0$
DC Current Gain (Note2)	$h_{FE(1)}$	60				$V_{CE}=1V, I_C=0.1mA$
	$h_{FE(2)}$	80				$V_{CE}=1V, I_C=1mA$
	$h_{FE(3)}$	100		300		$V_{CE}=1V, I_C=-10mA$
	$h_{FE(4)}$	60				$V_{CE}=1V, I_C=50mA$
	$h_{FE(5)}$	30				$V_{CE}=1V, I_C=100mA$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.2	V	$I_C=10mA, I_B=1mA$
				0.3	V	$I_C=50mA, I_B=5mA$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	0.65		0.85	V	$I_C=10mA, I_B=1mA$
				0.95	V	$I_C=50mA, I_B=5mA$
Transition Frequency	f_T	300			MHz	$V_{CE}=20V, I_C=10mA, f=100MHz$
Output Capacitance	C_{cbo}			4.0	pF	$V_{CB}=5V, I_E=0, f=1MHz$
Input Capacitance	C_{ibo}			8.0	pF	$V_{BE}=0.5V, I_C=0, f=1MHz$
Noise Figure	NF			5	dB	$V_{CE}=5V, I_C=0.1mA$ $R_S=1K\Omega, f=10Hz$ to $15.7KHz$
Delay Time	t_d			35	ns	$V_{CC}=3V, I_C=10mA$
Rise Time	t_r			35	ns	$V_{BE}=0.5V, I_{B1}=1mA$
Storage Time	t_s			200	ns	$V_{CC}=3V, I_C=10mA$
Fall Time	t_f			50	ns	$I_{B1}=I_{B2}=1mA$

Note: 2.Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2.0\%$

Curve Characteristics

Fig. 1 - Static Characteristics

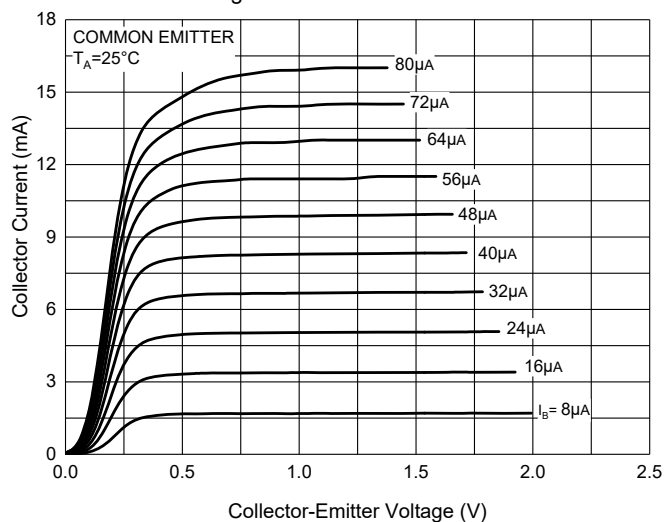


Fig. 2 - DC Current Gain Characteristics

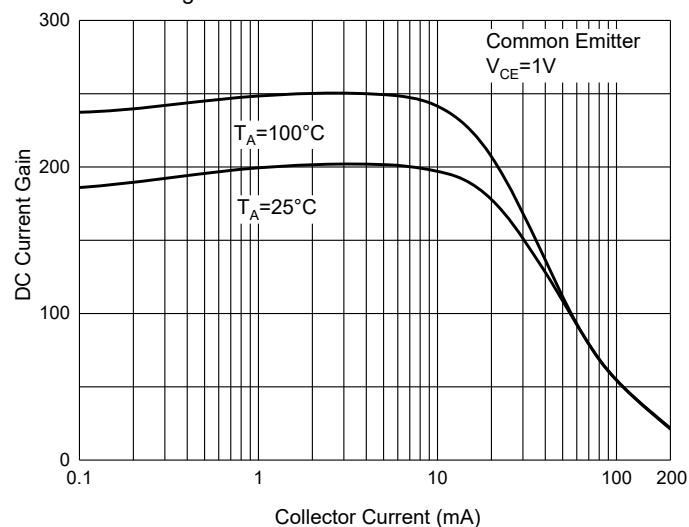


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

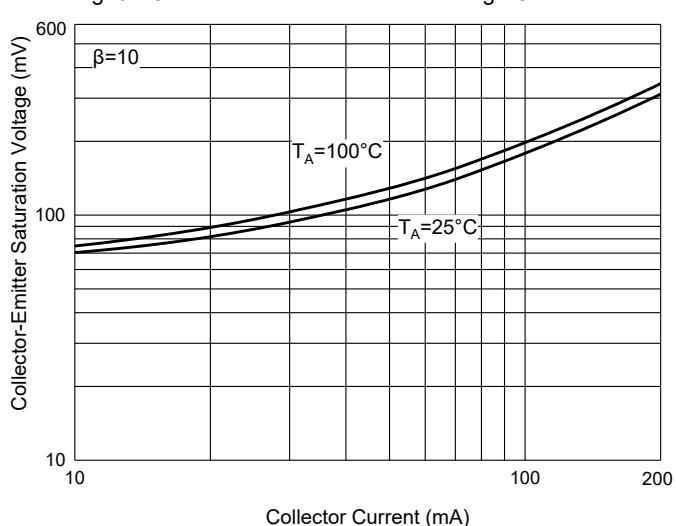


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

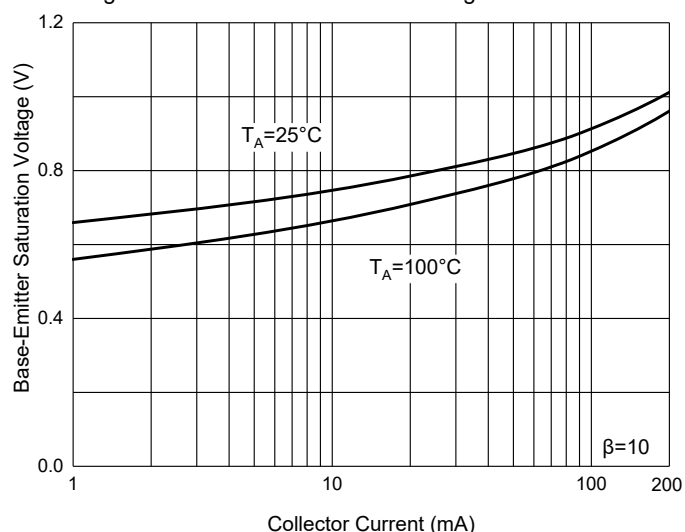


Fig. 5 - Base-Emitter Voltage Characteristics

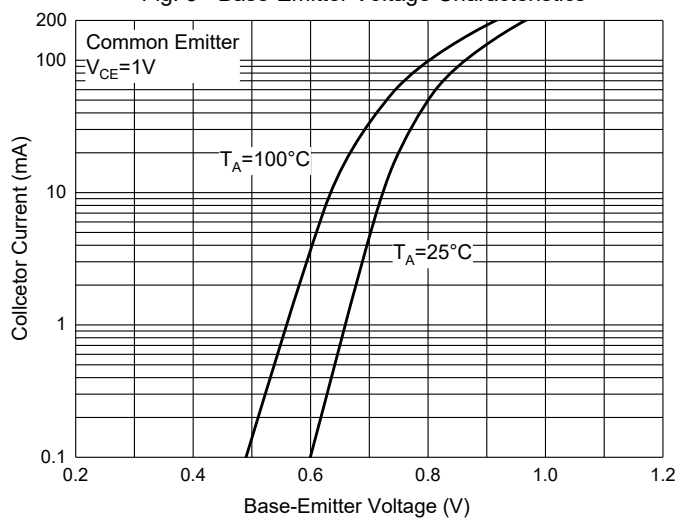
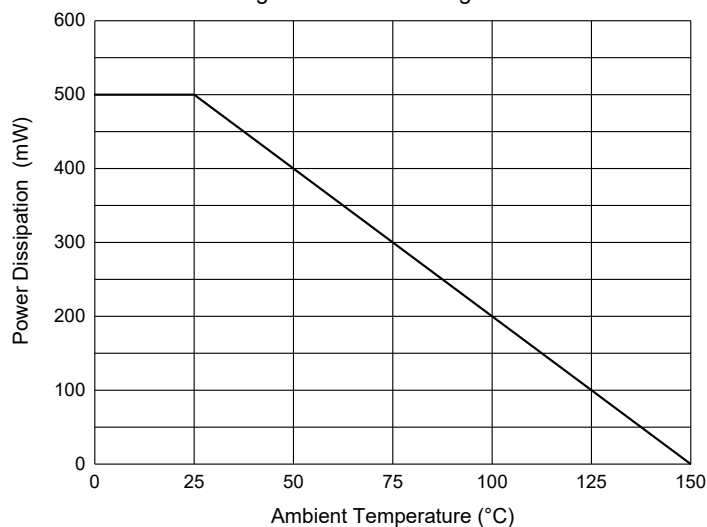


Fig. 6 - Power Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 1Kpcs/Reel

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