

## NPN Switching Transistor

## PXT3904

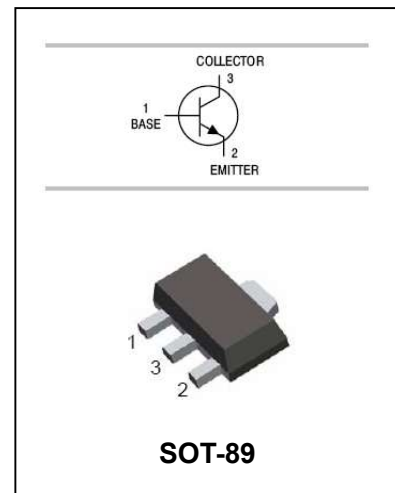
### FEATURES

- High current.
- Low voltage.



### APPLICATIONS

- High-speed switching.



### ORDERING INFORMATION

Type No.	Marking	Package Code
PXT3904□	1A	SOT-89

□: none is for Lead Free package;  
“G” is for Halogen Free package.

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{CEO}$	Collector-Emitter Voltage	40	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current -Continuous	100	mA
$I_{CM}$	Peak Collector Current	200	mA
$I_{BM}$	Peak Base Current	100	mA
$P_{tot}$	Total Power Dissipation	0.45	W
$T_j$	Junction Temperature	150	°C
$T_{stg}$	Storage Temperature	-65 to +150	°C

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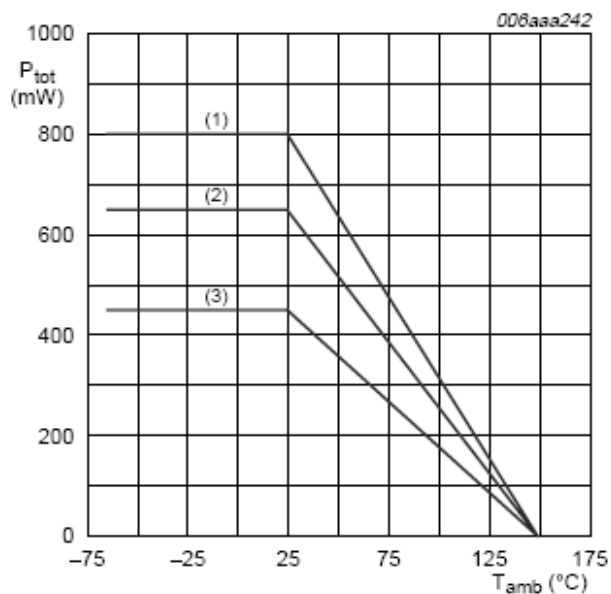
### ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	60		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	6		V
Collector cut-off current	$I_{CBO}$	$V_{CB}=30V, I_E=0$		50	nA
Emitter cut-off current	$I_{EBO}$	$V_{EB}=6V, I_C=0$		50	nA
DC current gain	$h_{FE}$	$V_{CE}=1V, I_C=0.1mA$ $V_{CE}=1V, I_C=1mA$ $V_{CE}=1V, I_C=10mA$ $V_{CE}=1V, I_C=50mA$ $V_{CE}=1V, I_C=100mA$	60 80 100 60 30	300	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=10mA, I_B=1mA$ $I_C=50mA, I_B=5mA$		0.2 0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=10mA, I_B=1mA$ $I_C=50mA, I_B=5mA$	0.65	0.85 0.95	V
Transition frequency	$f_T$	$V_{CE}=20V, I_C=10mA,$ $f=100MHz$	300		MHz
Collector Capacitance	$C_c$	$V_{CB}=5V, f=1MHz, I_E=0$		4	pF
Emitter Capacitance	$C_e$	$V_{EB}=0.5V, f=1MHz, I_C=0$		8	pF
Noise Figure	F	$I_C=100\mu A, V_{CE}=5V, R_S=1k\Omega$ $F=10Hz$ to 7.5kHz		5	dB

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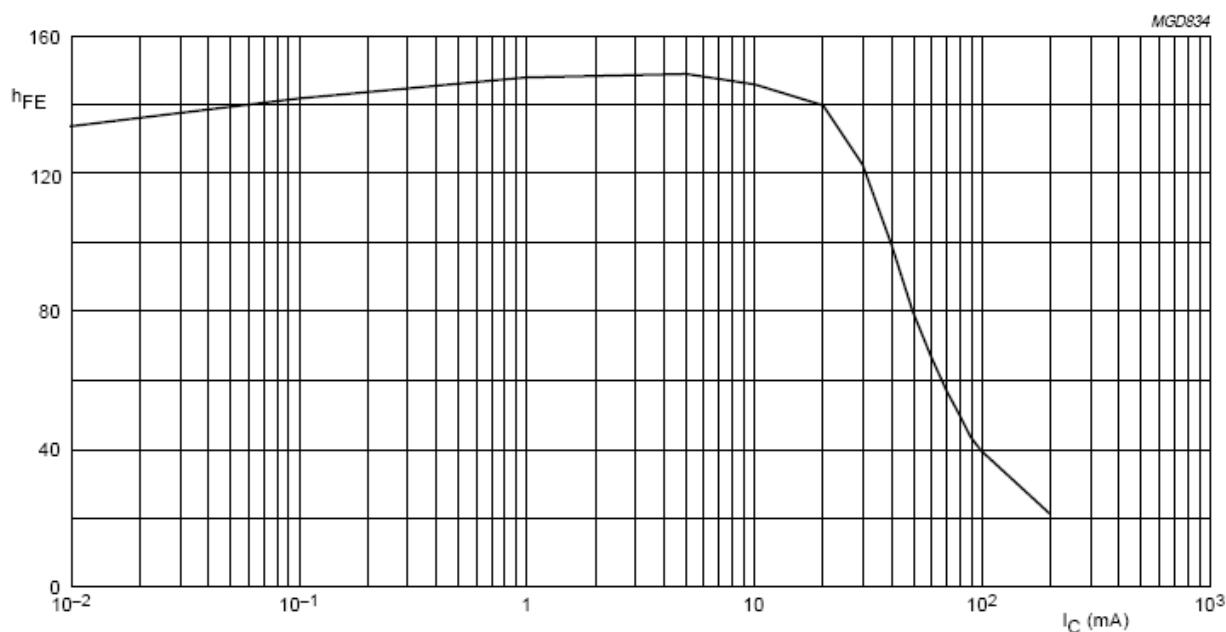
## PXT3904

TYPICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified



- (1) FR4 PCB; 6 cm<sup>2</sup> mounting pad for collector.
- (2) FR4 PCB; 1 cm<sup>2</sup> mounting pad for collector.
- (3) FR4 PCB; standard footprint.

Power derating curves.



$V_{CE} = 1\text{ V}$ .

DC current gain; typical values.

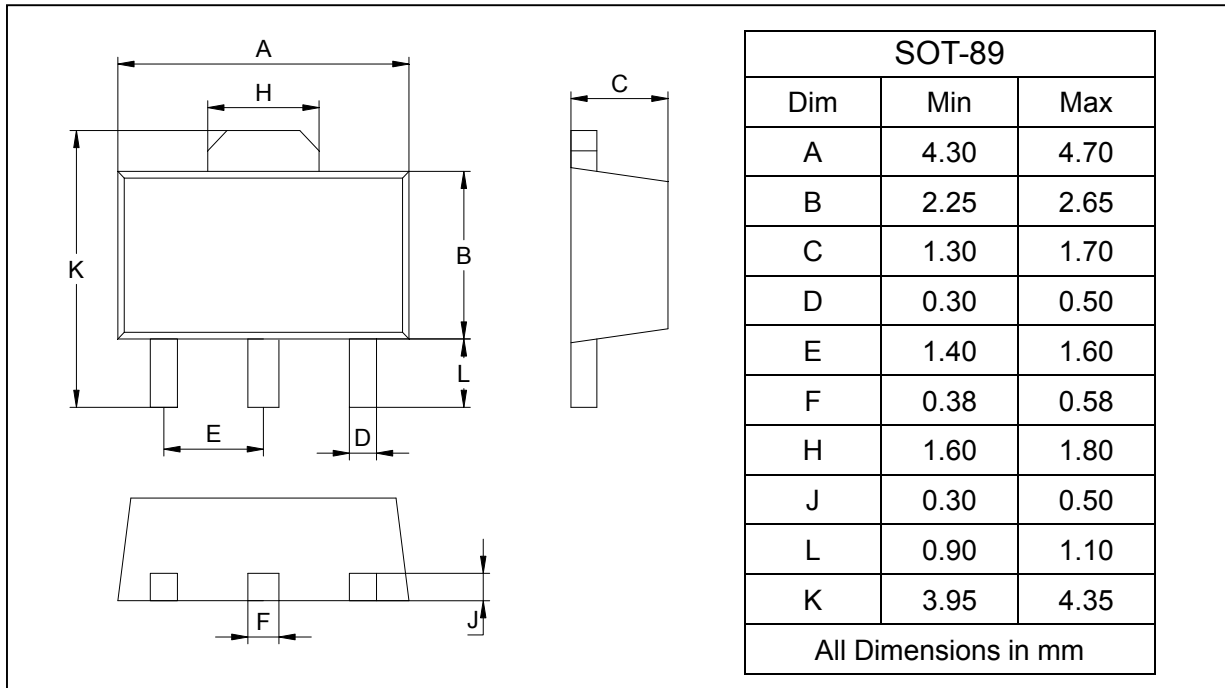
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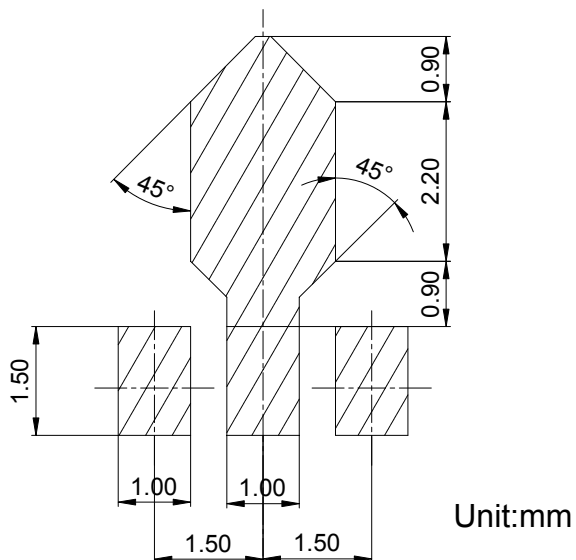
### PACKAGE OUTLINE

Plastic surface mounted package

SOT-89



### SOLDERING FOOTPRINT



### PACKAGE INFORMATION

Device	Package	Shipping
PXT3904	SOT-89	1000/Tape&Reel