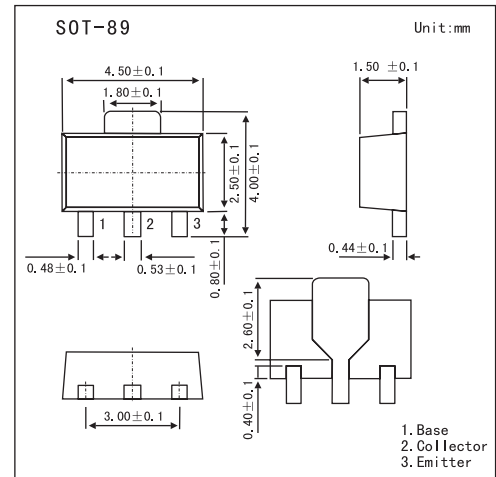


NPN Switching Transistor

PXT4401

■ Features

- High current (max. 600 mA)
- Low voltage (max. 40 V).

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	60	V
Collector-emitter voltage	V_{CE0}	40	V
Emitter-base voltage	V_{EB0}	5	V
Collector current	I_c	600	mA
Peak collector current	I_{CM}	800	mA
Peak base current	I_{BM}	200	mA
Total power dissipation	P_{tot}		
	* 1	0.5	W
	* 2	0.8	
	* 3	1.1	
Storage temperature	T_{stg}	-65 to +150	$^\circ\text{C}$
Junction temperature	T_j	150	$^\circ\text{C}$
Operating ambient temperature	R_{amb}	-65 to +150	$^\circ\text{C}$
Thermal resistance from junction to ambient	$R_{th(j-a)}$		
	* 1	250	K/W
	* 2	156	
	* 3	113	
Thermal resistance from junction to soldering point	$R_{th(j-s)}$	30	K/W

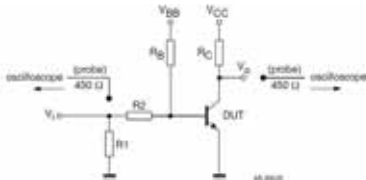
*1 Device mounted on a printed-circuit board, single-sided copper, tin-plated and standard footprint.

*2 Device mounted on a printed-circuit board, single-sided copper, tin-plated and mounting pad for collector 1 cm^2 .

*3 Device mounted on a printed-circuit board, single-sided copper, tin-plated and mounting pad for collector 6 cm^2 .

PXT4401

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit	
Collector cutoff current	ICBO	IE = 0; VCB = 60 V			50	nA	
Emitter cutoff current	IEBO	IC = 0; VEB = 6 V			50	nA	
DC current gain *	hFE	VCE = 1 V; IC = 150 mA	100		300		
collector-emitter saturation voltage *	VCEsat	IC = 150 mA; IB = 15 mA			400	mV	
		IC = 500 mA; IB = 50 mA			750	mV	
base-emitter saturation voltage *	VBEsat	IC = 150 mA; IB = 15 mA			950	mV	
		IC = 500 mA; IB = 50 mA			1.2	V	
Collector capacitance	Cc	IE = iE = 0; VCB = 5 V; f = 1 MHz			8	pF	
Emitter capacitance	Ce	IC = iC = 0; VEB = 500 mV; f = 1 MHz			30	pF	
Transition frequency	fT	IC = 20 mA; VCE = 10 V; f = 100 MHz	250			MHz	
Turn-on time	ton	ICon = 150 mA; IBon = 15 mA; IBoff = -15 mA			35	ns	
Delay time	td	 <p> $V_1 = 9.5 \text{ V}$; $T = 500 \mu\text{s}$; $t_p = 10 \mu\text{s}$; $t_r = t_f \leq 3 \text{ ns}$. $R_1 = 68 \Omega$; $R_2 = 325 \Omega$; $R_B = 325 \Omega$; $R_C = 160 \Omega$. $V_{BB} = -3.5 \text{ V}$; $V_{CC} = 29.5 \text{ V}$. Oscilloscope: input impedance $Z_i = 50 \Omega$. </p>			15	ns	
Rise time	tr					20	ns
Turn-off time	toff					250	ns
Storage time	ts					200	ns
Fall time	tf					60	ns

* Pulse test: $t_p \leq 300 \text{ ms}$; $\delta \leq 0.02$.

■ Marking

Marking	2X
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