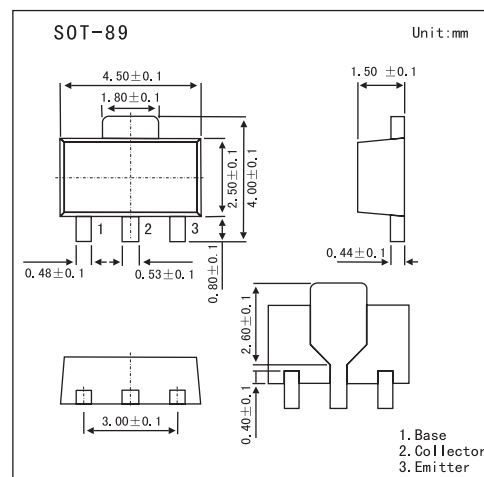


NPN Switching Transistor

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

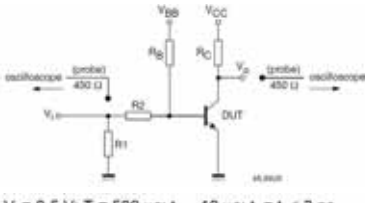
*1 Device mounted on a printed-circuit board, single-sided copper, tin-plated and standard - footprint.

*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 $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$I_E = 0; V_{CB} = 60\text{ V}$			50	nA
Emitter cutoff current	I_{EBO}	$I_C = 0; V_{EB} = 6\text{ V}$			50	nA
DC current gain *	h_{FE}	$V_{CE} = 1\text{ V}; I_C = 150\text{ mA}$	100		300	
collector-emitter saturation voltage *	V_{CEsat}	$I_C = 150\text{ mA}; I_B = 15\text{ mA}$			400	mV
		$I_C = 500\text{ mA}; I_B = 50\text{ mA}$			750	mV
base-emitter saturation voltage *	V_{BEsat}	$I_C = 150\text{ mA}; I_B = 15\text{ mA}$			950	mV
		$I_C = 500\text{ mA}; I_B = 50\text{ mA}$			1.2	V
Collector capacitance	C_c	$I_E = i_E = 0; V_{CB} = 5\text{ V}; f = 1\text{ MHz}$			8	pF
Emitter capacitance	C_e	$I_C = i_C = 0; V_{EB} = 500\text{ mV}; f = 1\text{ MHz}$			30	pF
Transition frequency	f_T	$I_C = 20\text{ mA}; V_{CE} = 10\text{ V}; f = 100\text{ MHz}$	250			MHz
Turn-on time	t_{on}	 $V_{BE} = 9.5\text{ V}; T = 500\text{ }\mu\text{s}; t_p = 10\text{ }\mu\text{s}; t_r = t_f \leq 3\text{ ns.}$ $R_1 = 68\text{ }\Omega; R_2 = 325\text{ }\Omega; R_B = 325\text{ }\Omega; R_C = 160\text{ }\Omega.$ $V_{BE} = -3.5\text{ V}; V_{CE} = 29.5\text{ V.}$ Oscilloscope: input impedance $Z_i = 50\text{ }\Omega.$			35	ns
Delay time	t_d				15	ns
Rise time	t_r				20	ns
Turn-off time	t_{off}				250	ns
Storage time	t_s				200	ns
Fall time	t_f				60	ns

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

■ Marking

Marking	2X
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