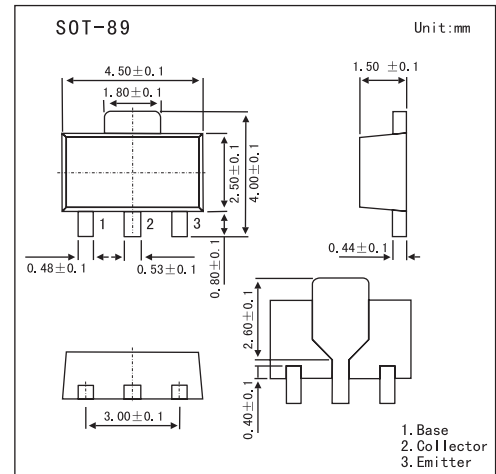


■ Features

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



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

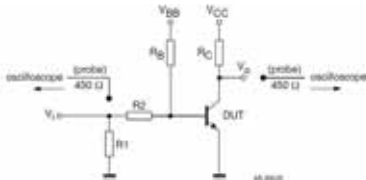
Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CB0}$	60	V
Collector-emitter voltage	$V_{CEO}$	40	V
Emitter-base voltage	$V_{EBO}$	5	V
Collector current	$I_c$	600	mA
Peak collector current	$I_{CM}$	800	mA
Peak base current	$I_{BM}$	200	mA
Total power dissipation	$P_{tot}$		W
	* 1	0.5	
	* 2	0.8	
	* 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	$R_{th(j-a)}$		K/W
	* 1	250	
	* 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  $1\text{ cm}^2$ .

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

■ 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	 <p> <math>V_i = 9.5 \text{ V}</math>; <math>T = 500 \mu\text{s}</math>; <math>t_p = 10 \mu\text{s}</math>; <math>t_r = t_f \leq 3 \text{ ns}</math>.  <math>R_1 = 68 \Omega</math>; <math>R_2 = 325 \Omega</math>; <math>R_B = 325 \Omega</math>; <math>R_C = 160 \Omega</math>.  <math>V_{BB} = -3.5 \text{ V}</math>; <math>V_{CC} = 29.5 \text{ V}</math>.                      Oscilloscope: input impedance <math>Z_i = 50 \Omega</math>.                 </p>			35	ns
Delay time	td				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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