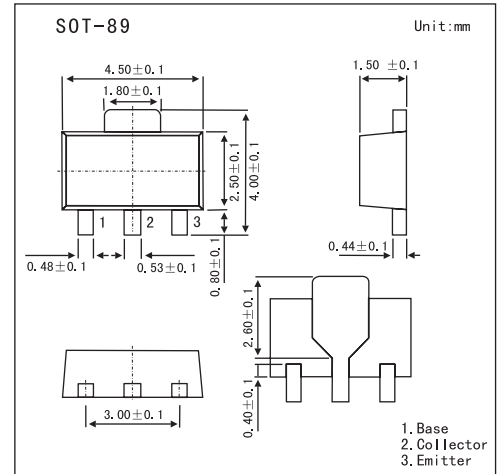


## NPN Silicon Transistors

## 2SC4942

## ■ Features

- New package with dimensions in between those of small signal and power signal package
- High voltage
- Fast switching speed

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

Parameter	Symbol	Rating	Unit
Collector to base voltage	$V_{CB0}$	600	V
Collector to emitter voltage	$V_{CE0}$	600	V
Emitter to base voltage	$V_{EB0}$	7	V
Collector current (DC)	$I_{D(DC)}$	1	A
Collector current (pulse)	$I_{D(pulse)}$ *1	2	A
Total power dissipation	$P_T$ *2	2	W
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to 150	$^\circ\text{C}$

\*1  $PW \leq 10$  ms, duty cycle  $\leq 50$  %

\*2  $7.5\text{ cm}^2 \times 0.7$  mm ceramic board mounted

■ Electrical Characteristics  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 600\text{ V}, I_E = 0$			10	$\mu\text{A}$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 7.0\text{ V}, I_C = 0$			10	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE} = 5.0\text{ V}, I_C = 0.1\text{ A}$	30	55	120	
		$V_{CE} = 5.0\text{ V}, I_C = 0.5\text{ A}$	5	10		
Collector saturation voltage	$V_{CE(sat)}$	$I_C = 400\text{ mV}, I_B = 80\text{ mA}$		0.35	1.0	V
Base saturation voltage	$V_{BE(sat)}$	$I_C = 400\text{ mV}, I_B = 80\text{ mA}$		0.9	1.2	V
Gain bandwidth product	$f_T$	$V_{CE} = 5.0\text{ V}, I_E = 750\text{ mA}$		30		MHz
Output capacitance	$C_{ob}$	$V_{CB} = 10\text{ V}, I_E = 0, f = 1.0\text{ MHz}$		15		pF
Turn-on time	$t_{ON}$	$I_C = 0.5\text{ A}, V_{CC} = 250\text{ V}$		0.1	0.5	$\mu\text{s}$
Storage time	$t_{stg}$	$I_{B1} = ? I_{B2} = 0.1\text{ A}$		4.0	5.0	$\mu\text{s}$
Fall time	$t_f$	$R_L = 500\Omega$		0.2	0.5	$\mu\text{s}$

■  $h_{FE}$  Classification

Marking	AA1	AA2	AA3
$h_{FE}$	30 to 60	40 to 80	60 to 120