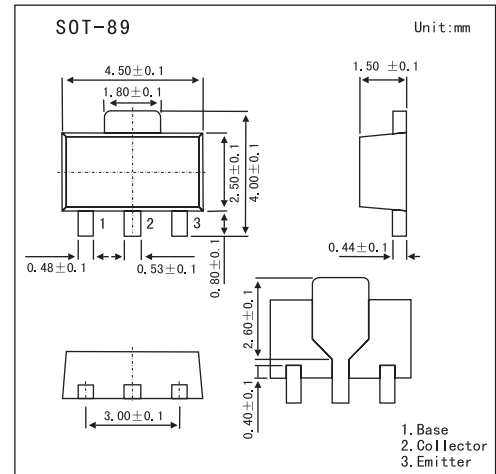


## NPN High-Voltage Transistors

## BST39; BST40

## ■ Features

- Low current (max. 50 mA)
- High voltage (max. 300 V).

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

Parameter	Symbol	Rating	Unit
collector-base voltage	V <sub>CB0</sub>	400	V
(open emitter)		300	V
collector-emitter voltage	V <sub>CE0</sub>	350	V
(open-base)		250	V
emitter-base voltage (open collector)	V <sub>EB0</sub>	5	V
collector current (DC)	I <sub>c</sub>	100	mA
peak collector current	I <sub>CM</sub>	200	mA
peak base current	I <sub>BM</sub>	100	mA
total power dissipation $T_{amb} \leq 25^\circ\text{C}^*$	P <sub>tot</sub>	1.3	W
storage temperature	T <sub>stg</sub>	-65 to 150	°C
junction temperature	T <sub>j</sub>	150	°C
operating ambient temperature	T <sub>amb</sub>	-65 to 150	°C
thermal resistance from junction to ambient *	R <sub>th j-a</sub>	96	K/W
thermal resistance from junction to soldering point	R <sub>th j-s</sub>	16	K/W

\* Device mounted on a printed-circuit board, single-sided copper, tinplated, mounting pad for collector 6 cm<sup>2</sup>.

**BST39; BST40**■ Electrical Characteristics  $T_a = 25^\circ\text{C}$  unless otherwise specified.

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
collector cut-off current	$I_{CBO}$	$I_E = 0; V_{CB} = 300\text{ V}$			20	nA
emitter cut-off current	$I_{EBO}$	$I_C = 0; V_{EB} = 5\text{ V}$			100	nA
DC current gain	$h_{FE}$	$I_C = 20\text{ mA}; V_{CE} = 10\text{ V}$			40	
collector-emitter saturation voltage	$V_{CEsat}$	$I_C = 50\text{ mA}; I_B = 4\text{ mA}$			500	mV
collector capacitance	$C_c$	$I_E = I_e = 0; V_{CB} = 10\text{ V}; f = 1\text{ MHz}$			2	pF
transition frequency	$f_r$	$I_C = 10\text{ mA}; V_{CE} = 10\text{ V}; f = 100\text{ MHz}$	70			MHz

## ■ Marking

Type Number	BST39	BST40
Marking	AT1	AT2