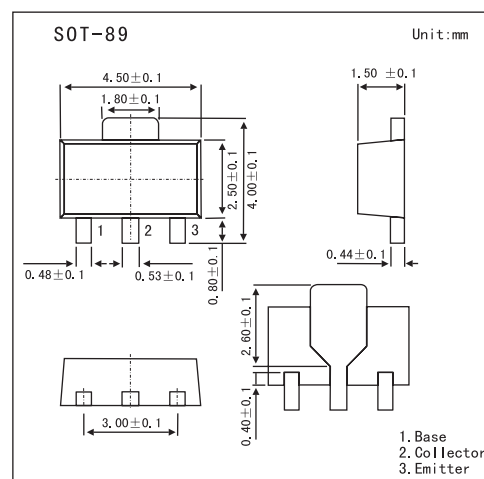


NPN High-Voltage Transistors

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 BST39	V_{CB0}	400	V
(open emitter) BST40		300	V
collector-emitter voltage BST39	V_{CE0}	350	V
(open-base) BST40		250	V
emitter-base voltage (open collector)	V_{EB0}	5	V
collector current (DC)	I_C	100	mA
peak collector current	I_{CM}	200	mA
peak base current	I_{BM}	100	mA
total power dissipation $T_{amb} \leq 25^\circ\text{C}^*$	P_{tot}	1.3	W
storage temperature	T_{stg}	-65 to 150	$^\circ\text{C}$
junction temperature	T_J	150	$^\circ\text{C}$
operating ambient temperature	T_{amb}	-65 to 150	$^\circ\text{C}$
thermal resistance from junction to ambient *	$R_{th\ j-a}$	96	K/W
thermal resistance from junction to soldering point	$R_{th\ j-s}$	16	K/W

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

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