

TRANSISTOR (NPN)

FEATURES

- Low Current
- High Voltage

APPLICATIONS

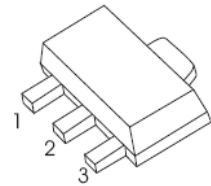
- General Purpose Switching and Amplification

MARKING: BCT39:AT1

BCT40:AT2

SOT-89-3L

1. BASE
2. COLLECTOR
3. EMITTER



MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter		Value	Unit
V_{CB0}	Collector-Base Voltage	BST39	400	V
		BST40	300	
V_{CEO}	Collector-Emitter Voltage	BST39	350	V
		BST40	250	
V_{EBO}	Emitter-Base Voltage		5	V
I_C	Collector Current		100	mA
P_C	Collector Power Dissipation		500	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient		250	$^{\circ}\text{C}/\text{W}$
T_j	Junction Temperature		150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature		-55~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	BST39	400		V
			BST40	300		
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	BST39	350		V
			BST40	250		
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=300\text{V}, I_E=0$			20	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			100	nA
DC current gain	h_{FE}	$V_{CE}=10\text{V}, I_C=20\text{mA}$		40		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=50\text{mA}, I_B=4\text{mA}$			0.5	V
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	70			MHz
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$			2	pF