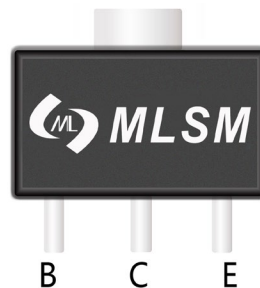


Features

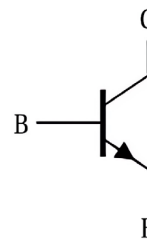
- Low Current
- High Voltage

Applications

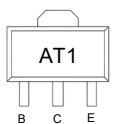
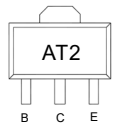
- General Purpose Switching and Amplification



SOT-89-3L top view



Schematic diagram

BST39	BST40
	

Marking and pin assignment



Pb-Free



Halogen-Free

Maximum Ratings (Ta=25°C unless otherwise noted)

Symbol	Parameter		Value	Unit
V_{CBO}	Collector-Base Voltage	BST39	400	V
		BST40	300	V
V_{CEO}	Collector-Emitter Voltage	BST39	350	V
		BST40	250	V
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 Junction to Ambient		250	°C/W
T_J, T_{STG}	Operating and Storage Temperature Range		-55~+150	°C

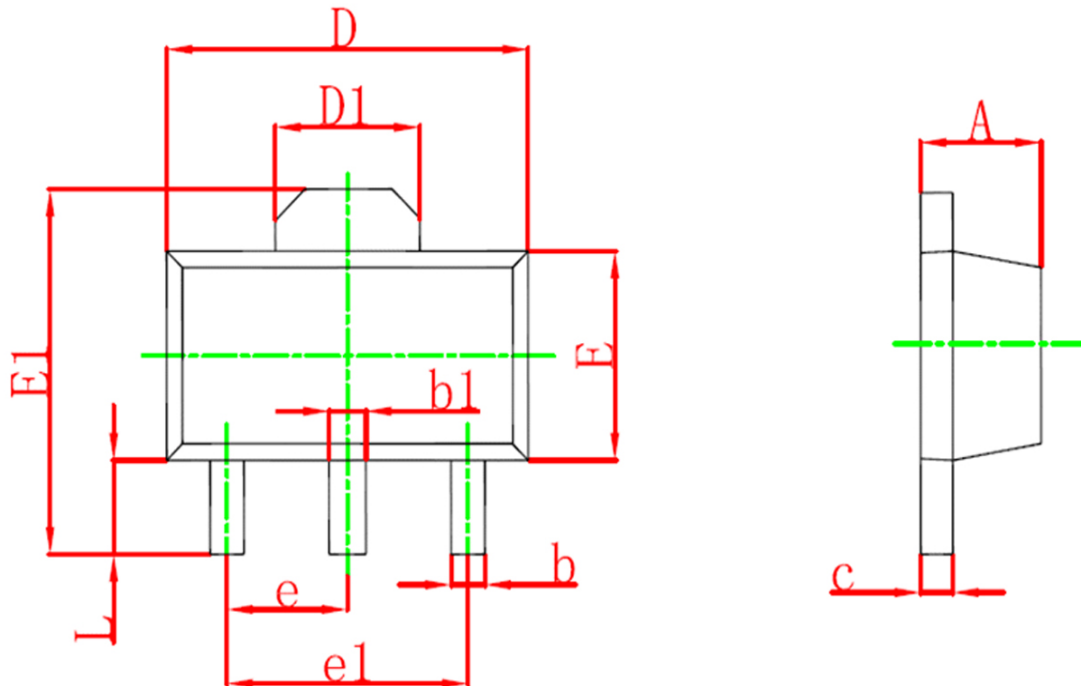
Electrical Characteristics (Ta=25°C unless otherwise specified)

Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=100\mu A, I_E=0$ BST39	400	--	--	V
		$I_C=100\mu A, I_E=0$ BST40	300	--	--	V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=1mA, I_B=0$ BST39	350	--	--	V
		$I_C=1mA, I_B=0$ BST40	250	--	--	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=1\mu A, I_C=0$	5	--	--	V
I_{CBO}	Collector cut-off current	$V_{CB}=30V, I_E=0$	--	--	20	nA
I_{EBO}	Emitter cut-off current	$V_{EB}=5V, I_C=0$	--	--	100	nA
h_{FE}	DC current gain	$V_{CE}=2V, I_C=5mA$	--	40	--	
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C=50mA, I_B=4mA$	--	--	0.5	V
V_{BE^*}	Base-emitter voltage	$V_{CE}=2V, I_C=0.5A$	--	--	1	V
f_T	Transition frequency	$V_{CE}=10V, I_C=10mA, f=100MHz$	70	--	--	MHz
C_{ob}	Collector output capacitance	$V_{CB}=10V, I_E=0, f=1MHz$	--	--	2	pF

Ordering Information (Example)

Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
BST39	SOT-89-3L	AT1	1,000	10,000	40,000	7"reel
BST40		AT2				

SOT-89-3L Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions in Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF		0.061 REF	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP		0.060 TYP	
e1	3.000 TYP		0.118 TYP	
L	0.900	1.200	0.035	0.047