

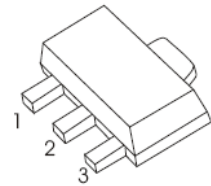
## TRANSISTOR (NPN)

### FEATURES

- Small Flat Package
- Audio Muting Application
- High Emitter-Base Voltage

### 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	25	V
$V_{CEO}$	Collector-Emitter Voltage	20	V
$V_{EBO}$	Emitter-Base Voltage	12	V
$I_C$	Collector Current	300	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	$V_{(BR)CB0}$	$I_C=0.1\text{mA}, I_E=0$	25			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=0.1\text{mA}, I_C=0$	12			V
Collector cut-off current	$I_{CB0}$	$V_{CB}=25\text{V}, I_E=0$			100	nA
Emitter cut-off current	$I_{EBO}$	$V_{EB}=12\text{V}, I_C=0$			100	nA
DC current gain	$h_{FE(1)}(\text{FOR})$	$V_{CE}=2\text{V}, I_C=4\text{mA}$	200		800	
	$h_{FE(2)}(\text{REV})$	$V_{CE}=2\text{V}, I_C=4\text{mA}$	20			
Collector-emitter saturation voltage	$V_{CE(\text{sat})}$	$I_C=100\text{mA}, I_B=10\text{mA}$			0.25	V
Base-emitter saturation voltage	$V_{BE(\text{sat})}$	$I_C=100\text{mA}, I_B=10\text{mA}$			1	V
Collector output capacitance	$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		10		pF
Transition frequency	$f_T$	$V_{CE}=10\text{V}, I_C=1\text{mA}, f=100\text{MHz}$		60		MHz