

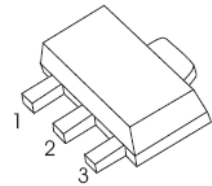
# TRANSISTOR

## FEATURES

- Power Transistor
- Excellent DC current Gain
- Low Collector-emitter Saturation 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
$V_{CBO}$	Collector-Base Voltage	-30	V
$V_{CEO}$	Collector-Emitter Voltage	-20	V
$V_{EBO}$	Emitter-Base Voltage	-6	V
$I_C$	Collector Current	-3	A
$P_C$	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	$V_{(BR)CBO}$	$I_C=-50\mu\text{A}, I_E=0$	-30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-1\text{mA}, I_B=0$	-20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-50\mu\text{A}, I_C=0$	-6			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=-20\text{V}, I_E=0$			-0.5	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=-5\text{V}, I_C=0$			-0.5	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE}=-2\text{V}, I_C=-0.5\text{A}$	82		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-1.5\text{A}, I_B=-0.15\text{A}$			-0.45	V
Collector output capacitance	$C_{ob}$	$V_{CB}=-20\text{V}, I_E=0, f=1\text{MHz}$		60		pF
Transition frequency	$f_T$	$V_{CE}=-6\text{V}, I_C=-50\text{mA}, f=30\text{MHz}$		120		MHz

## CLASSIFICATION OF $h_{FE}$

RANK	P	Q	R
RANGE	82 - 180	120 - 270	180 - 390
MARKING	BFP	BFQ	BFR