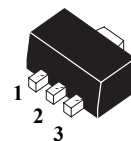


### PNP Epitaxial Planar Transistors

 Lead(Pb)-Free

1. BASE  
2. COLLECTOR  
3. EMITTER



SOT-89

#### ABSOLUTE MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ )

Rating	Symbol	Limits	Unit
Collector-Base Voltage	$V_{CBO}$	-35	V
Collector-Emitter Voltage	$V_{CEO}$	-30	V
Emitter-Base Voltage	$V_{EBO}$	-5.0	V
Collector Current	$I_C$	-0.8	A
Collector Power Dissipation	$P_D$	0.5	W
Junction Temperature	$T_j$	-55 to +150	$^{\circ}\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to +150	$^{\circ}\text{C}$

#### ELECTRICAL CHARACTERISTICS( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage $I_C=-1\text{mA}, I_E=0$	$BV_{CBO}$	-35	-	-	V
Collector-Emitter Breakdown Voltage $I_C=-10\text{mA}, I_B=0$	$BV_{CEO}$	-30	-	-	V
Emitter-Base Breakdown Voltage $I_E=-1\text{mA}, I_C=0$	$BV_{EBO}$	-5	-	-	V
Collector Cutoff Current $V_{CB}=-35\text{V}, I_E=0$	$I_{CBO}$	-	-	-0.1	$\mu\text{A}$
Collector Cutoff Current $V_{EB}=-5\text{V}, I_C=0$	$I_{EBO}$	-	-	-0.1	$\mu\text{A}$

**ELECTRICAL CHARACTERISTICS** ( $T_A=25^{\circ}\text{C}$  Unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
----------------	--------	-----	-----	-----	------

**ON CHARACTERISTICS**

DC Current Gain $V_{CE}=-1\text{V}, I_C=-100\text{mA}$	$h_{FE}$	100	-	320	-
DC Current Gain $V_{CE}=-1\text{V}, I_C=-700\text{mA}$	$h_{FE}$	35	-	-	-
Collector-Emitter Saturation Voltage $I_C=-1.5\text{A}, I_B=-30\text{mA}$	$V_{CE(sat)}$	-	-	-0.7	V
Base-Emitter Voltage $V_{CE}=-1\text{V}, I_C=-10\text{mA}$	$V_{BE}$	-0.5	-	-0.8	V

**DYNAMIC CHARACTERISTICS**

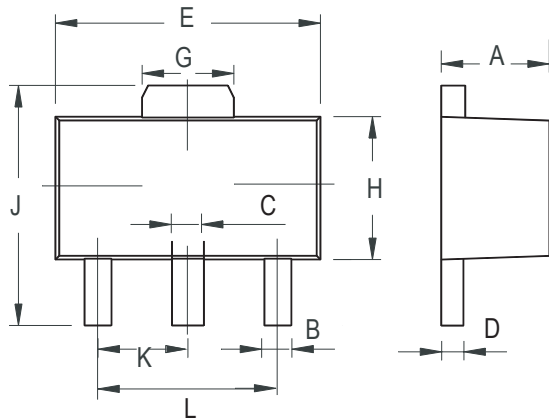
Transition Frequency $V_{CE}=-5\text{V}, I_C=-10\text{mA}$	$f_T$	-	120	-	MHz
Output Capacitance $V_{CB}=-10\text{V}, I_E=0, f=1\text{MHz}$	$C_{ob}$	-	19	-	pF

**CLASSIFICATION OF  $h_{FE}$** 

Rank	O	Y
Range	100-200	160-320
Marking	RO	RY

**SOT-89 Outline Dimensions**

unit:mm



<b>SOT-89</b>		
<b>Dim</b>	<b>Min</b>	<b>Max</b>
<b>A</b>	1.400	1.600
<b>B</b>	0.320	0.520
<b>C</b>	0.360	0.560
<b>D</b>	0.350	0.440
<b>E</b>	4.400	4.600
<b>G</b>	1.400	1.800
<b>H</b>	2.300	2.600
<b>J</b>	3.940	4.250
<b>K</b>	1.500 TYP	
<b>L</b>	2.900	3.100