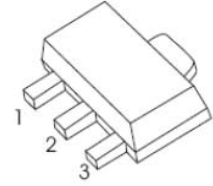


**Features**

- Low speed switching



**SOT-89-3L**

1. BASE
2. COLLECTOR
3. EMITTER

**Absolute Maximum Ratings** ( $T_A=25^{\circ}\text{C}$  unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	$V_{CB0}$	-40	V
Collector-Emitter Voltage	$V_{CEO}$	-30	V
Emitter-Base Voltage	$V_{EBO}$	-6	V
Collector Current -Continuous	$I_C$	-3	A
Collector Power Dissipation	$P_C$	0.5	W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	250	$^{\circ}\text{C/W}$
Junction Temperature	$T_J$	-55 to +150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55 to +150	$^{\circ}\text{C}$

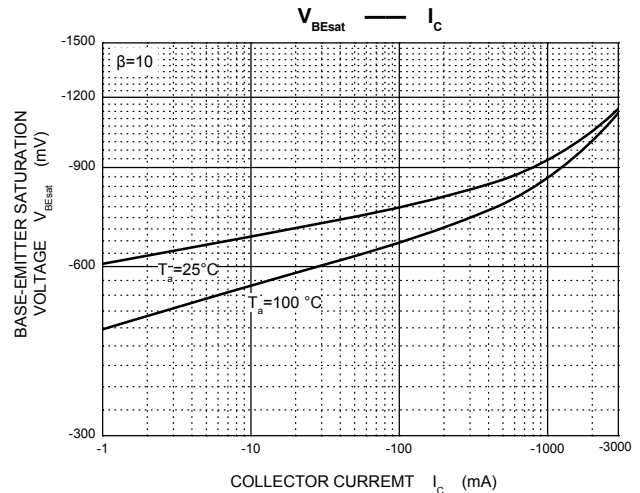
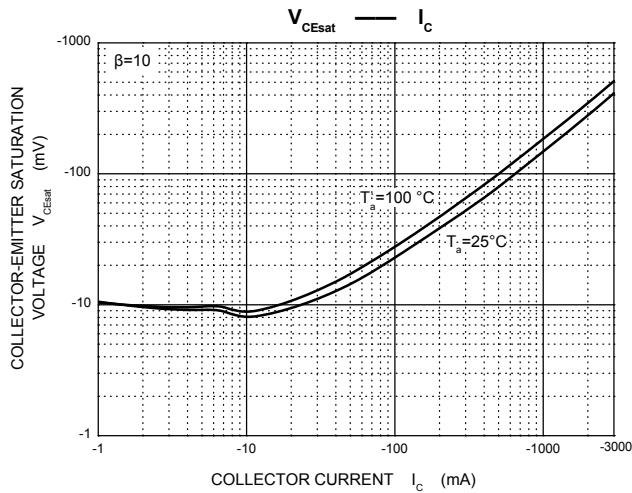
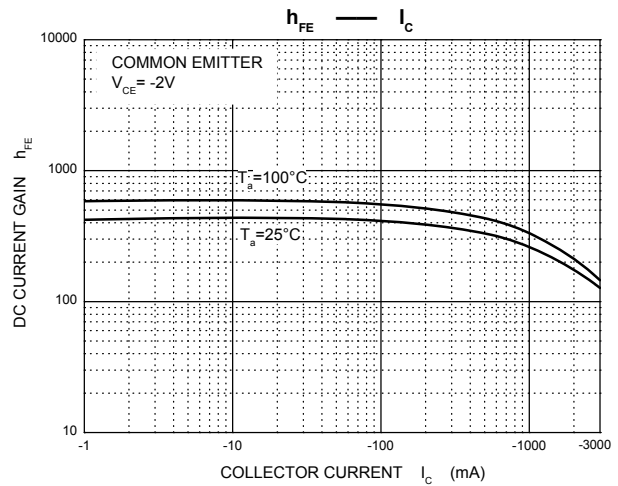
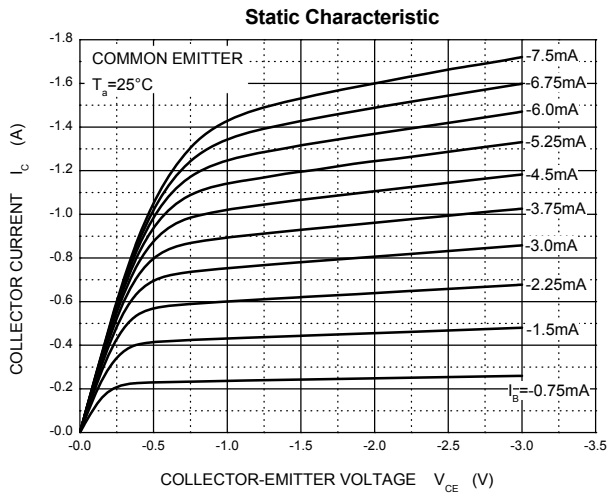
**Electrical Characteristics** ( $T_A=25^{\circ}\text{C}$  unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-100\mu\text{A}, I_E=0$	-40	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-10\text{mA}, I_B=0$	-30	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-100\mu\text{A}, I_C=0$	-6	-	V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=-40\text{V}, I_E=0$	-	-1	$\mu\text{A}$
Collector Cut-Off Current	$I_{CEO}$	$V_{CE}=-30\text{V}, I_B=0$	-	-10	$\mu\text{A}$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=-6\text{V}, I_C=0$	-	-1	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE}=-2\text{V}, I_C=-1\text{A}$	60	400	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-2\text{A}, I_B=-0.2\text{A}$	-	-0.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-2\text{A}, I_B=-0.2\text{A}$	-	-1.5	V
Transition Frequency	$f_T$	$V_{CE}=-5\text{V}, I_C=-0.1\text{A}$ $f=10\text{MHz}$	50	-	MHz

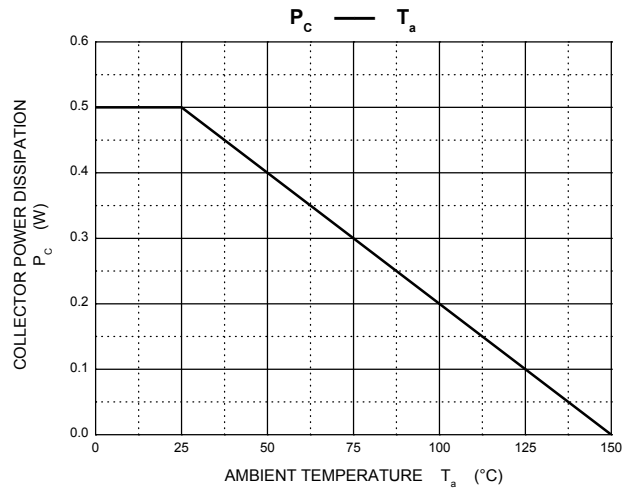
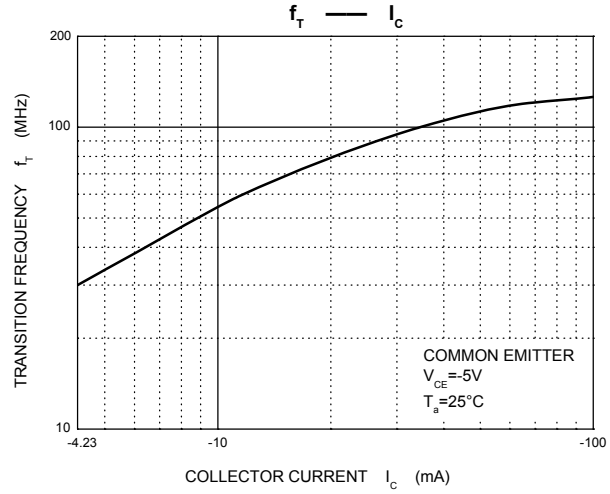
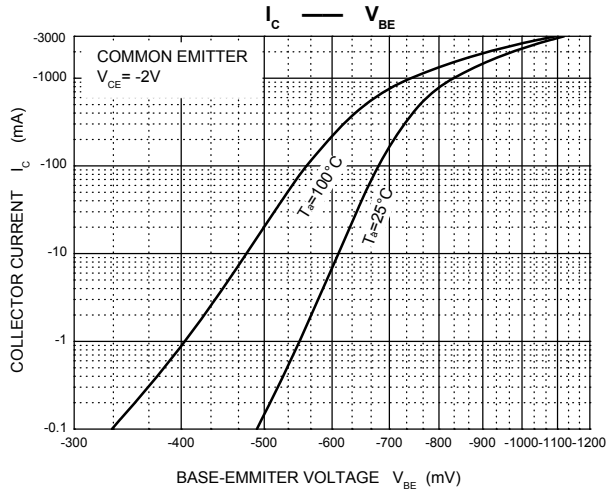
**Classification Of  $h_{FE}$**

Rank	R	O	Y	GR
Range	60-120	100-200	160-320	200-400

**Typical characteristics**

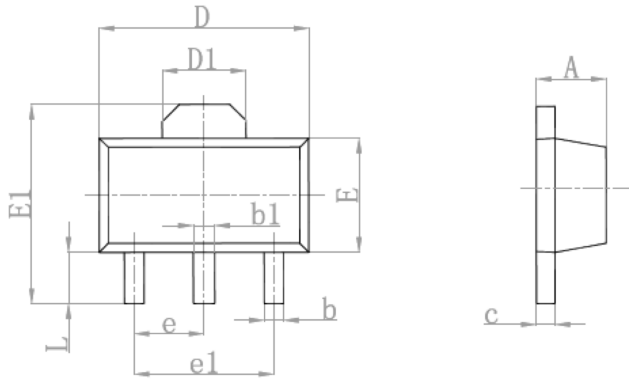


**Typical characteristics**



**Package Outline Dimensions**

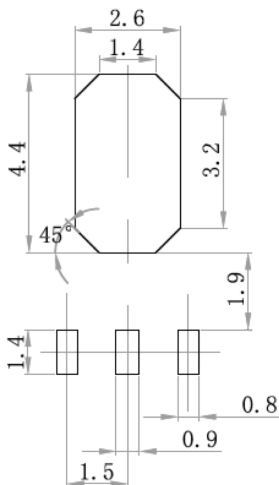
**SOT-89-3L**



Symbol	Dimensions In Millimeters		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

**Suggested Pad Layout**

**SOT-89-3L**



**Note:**

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.