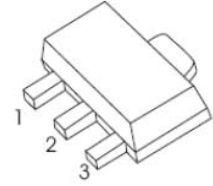


Features

- Low saturation voltage
- High speed switching



SOT-89-3L

1. BASE
2. COLLECTOR
3. EMITTER

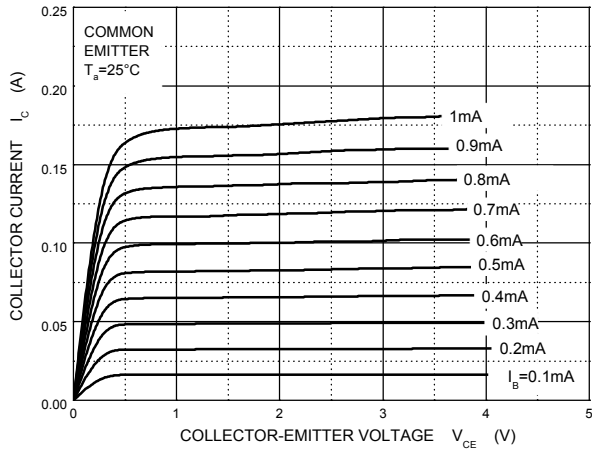
Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CB0}	100	V
Collector-Emitter Voltage	V_{CEO}	100	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	2	A
Collector Power Dissipation	P_C	500	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	250	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	-55 to +150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}\text{C}$

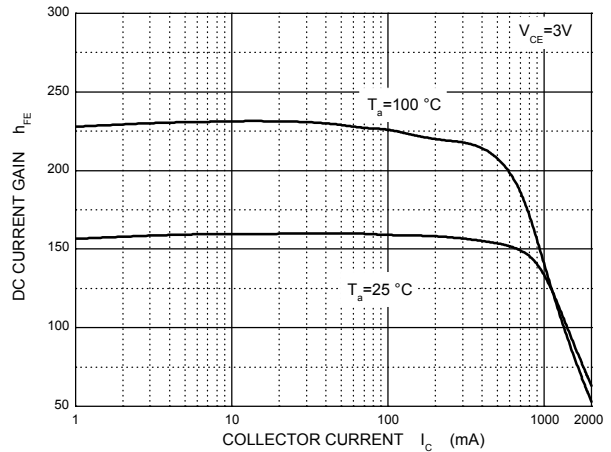
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=1\text{mA}, I_E=0$	100	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	100	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1\text{mA}, I_C=0$	-	-	-	V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=10\text{V}, I_E=0$	-	-	1	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=4\text{V}, I_C=0$	-	-	1	μA
DC Current Gain	h_{FE}	$V_{CE}=3\text{V}, I_C=100\text{mA}$	82	-	270	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=500\text{mA}, I_B=25\text{mA}$	-	-	0.2	V
		$I_C=1\text{A}, I_B=50\text{mA}$	-	-	0.3	V
Transition Frequency	f_T	$V_{CE}=5\text{V}, I_C=100\text{mA}$	30	-	-	MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$	-	16	-	pF

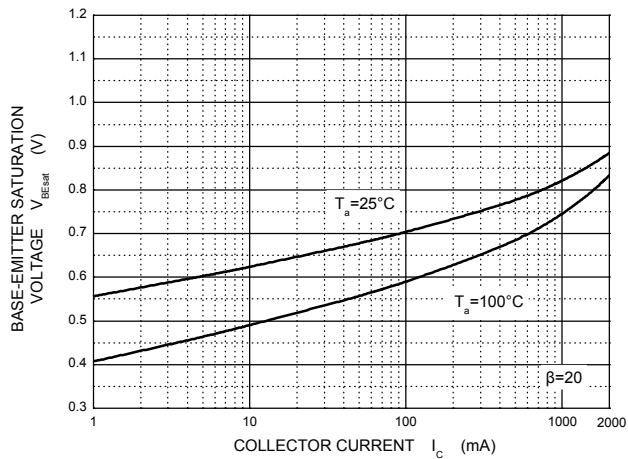
Typical characteristics



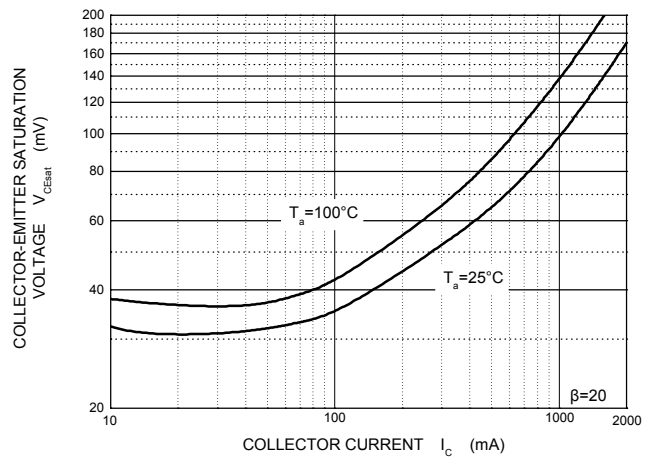
Static Characteristic



$h_{FE} \text{ — } I_c$

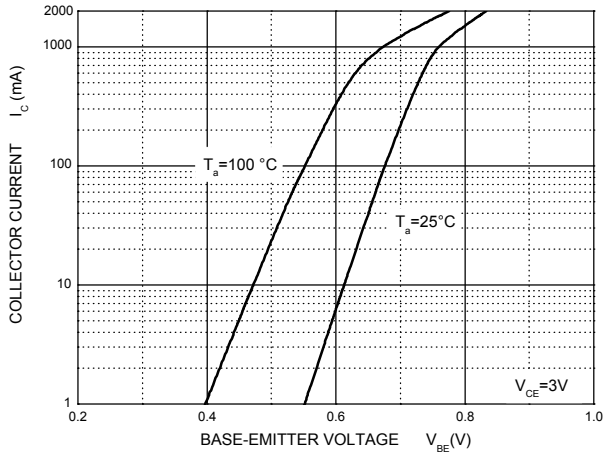


$V_{BE(sat)} \text{ — } I_c$

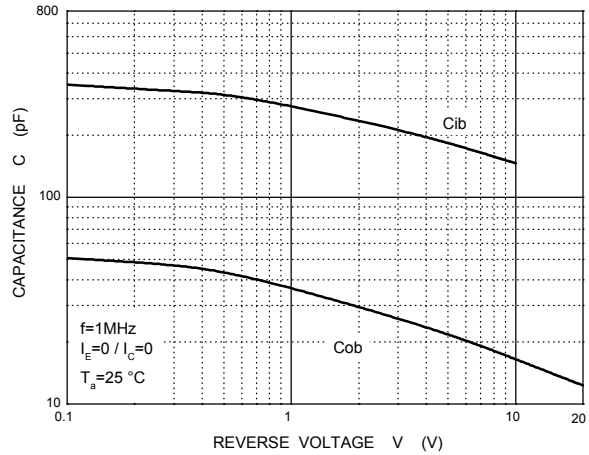


$V_{CE(sat)} \text{ — } I_c$

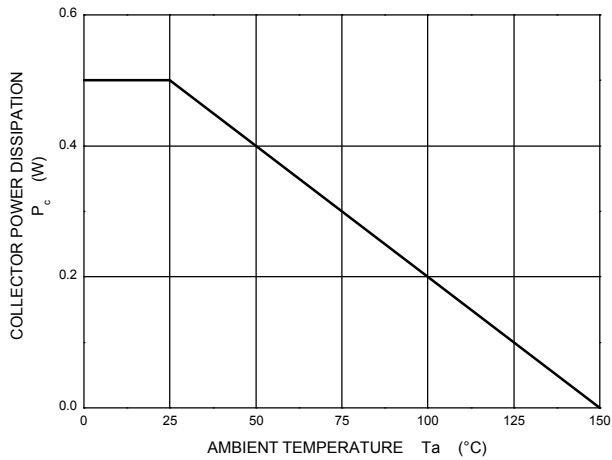
Typical characteristics



V_{BE} — I_c



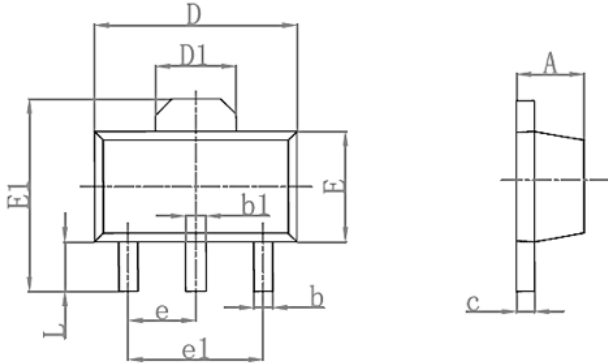
C_{ob} / C_{ib} — V_{CB} / V_{EB}



P_c — T_a

Package Outline Dimensions

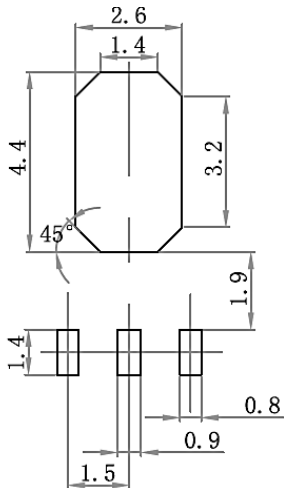
SOT-89-3L



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.

Ordering Information

Device	Package	Marking	Quality	HSF Status
GSBCX554	SOT-89-3L	C554	1000pcs/Reel	RoHS Compliant