

MARKING: Y2

MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$  unless otherwise noted)

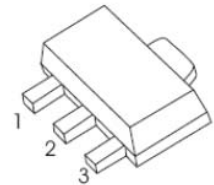
Symbol	Parameter	Value	Unit
$V_{CB0}$	Collector-Base Voltage	-40	V
$V_{CEO}$	Collector-Emitter Voltage	-25	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current -Continuous	-1.5	A
$P_C$	Collector Power Dissipation	0.5	W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	250	$^\circ\text{C/W}$
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~150	$^\circ\text{C}$

SOT-89-3L

1. BASE

2. COLLECTOR

3. EMITTER



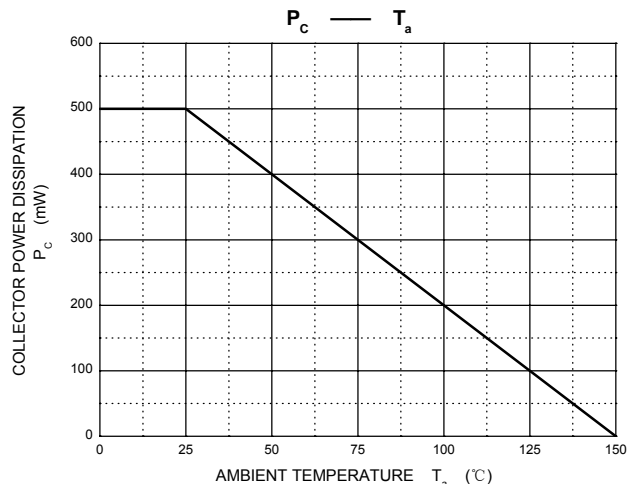
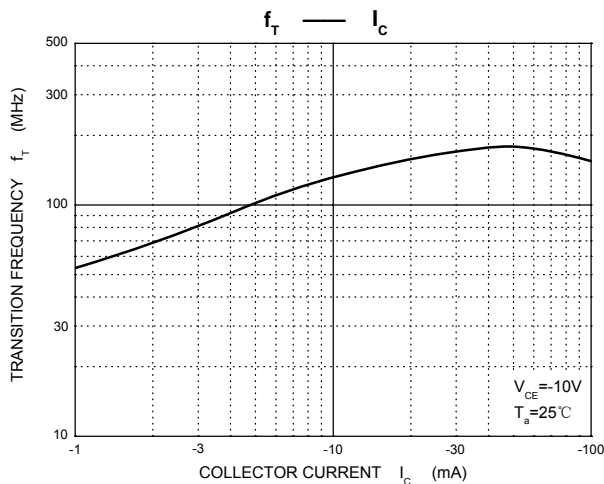
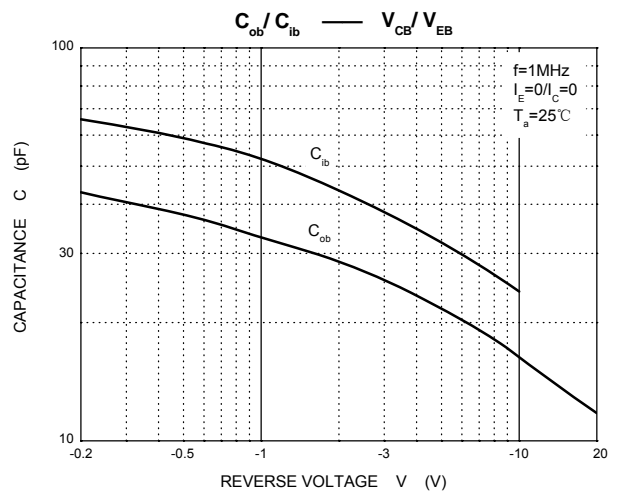
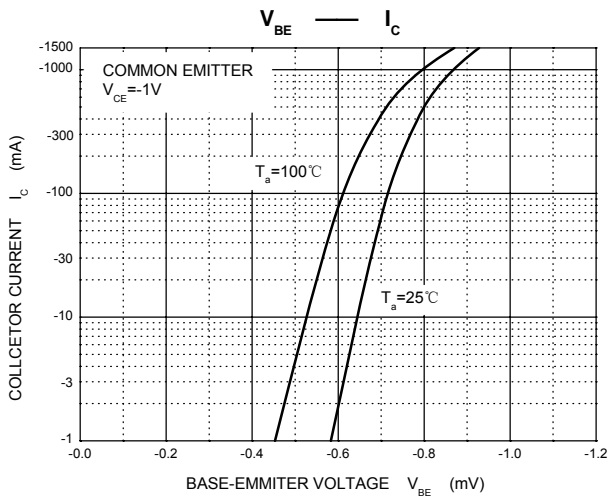
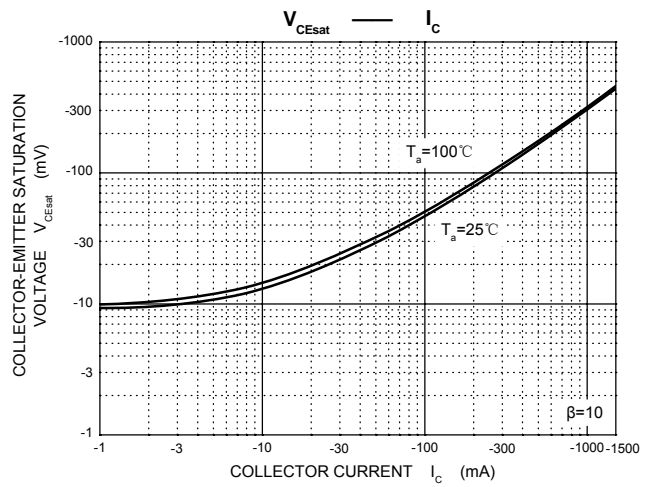
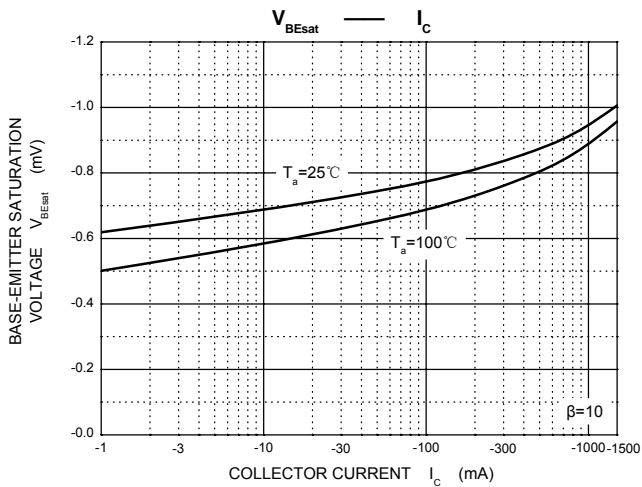
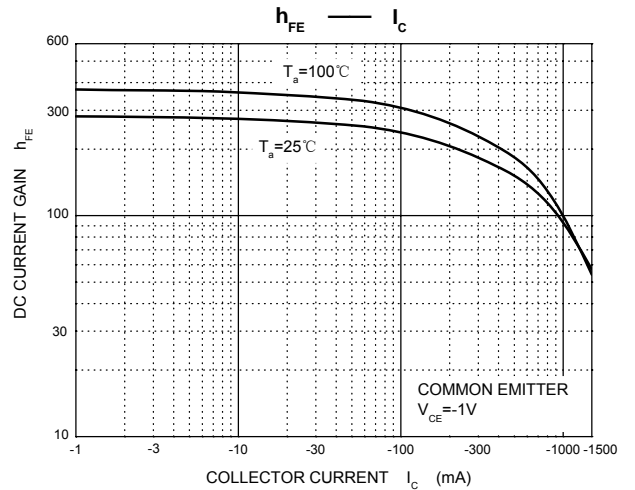
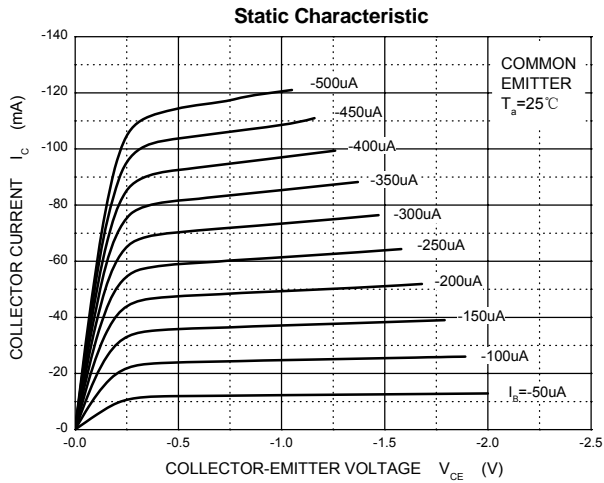
ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$  unless otherwise specified)

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	$V_{(BR)CEO}$	$I_C = -0.1\text{mA}, I_B = 0$	-25		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -100\mu\text{A}, I_C = 0$	-5		V
Collector cut-off current	$I_{CBO}$	$V_{CB} = -40\text{V}, I_E = 0$		-0.1	$\mu\text{A}$
Collector cut-off current	$I_{CEO}$	$V_{CE} = -20\text{V}, I_B = 0$		-0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -5\text{V}, I_C = 0$		-0.1	$\mu\text{A}$
DC current gain	$h_{FE(1)}$	$V_{CE} = -1\text{V}, I_C = -100\text{mA}$	85	400	
	$h_{FE(2)}$	$V_{CE} = -1\text{V}, I_C = -800\text{mA}$	40		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -800\text{mA}, I_B = -80\text{mA}$		-0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -800\text{mA}, I_B = -80\text{mA}$		-1.2	V
Base-emitter on voltage	$V_{BE(on)}$	$I_C = -1\text{V}, V_{CE} = -10\text{mA}$		-1	V
Base-emitter positive forward voltage	$V_{BEF}$	$I_B = -1\text{A}$		-1.55	V
Transition frequency	$f_T$	$V_{CE} = -10\text{V}, I_C = -50\text{mA}$	100		MHz
output capacitance	$C_{ob}$	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$		20	pF

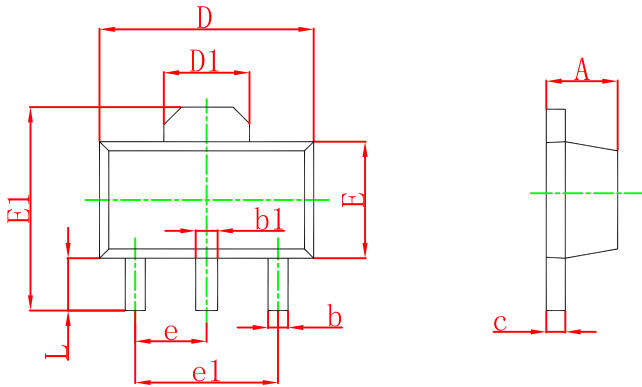
CLASSIFICATION OF  $h_{FE(1)}$

Rank	B	C	D	D3
Range	85-160	120-200	160-300	300-400

# Typical Characteristics



## SOT-89-3L Package Outline Dimensions



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

## SOT-89-3L Suggested Pad Layout



Note:

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