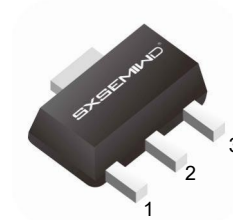


FEATURE

Switching and amplification in high voltage
Applications such as telephony
Low current(max. 500mA)
High voltage(max.160v)

SOT-89-3L



1. BASE
2. COLLECTOR
3. EMITTER

MARKING: 5401

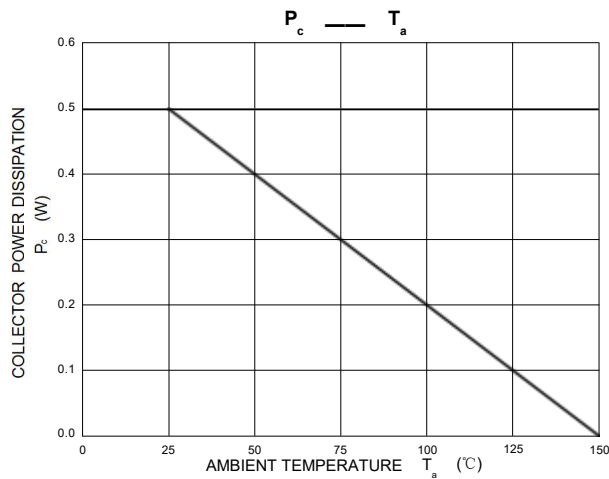
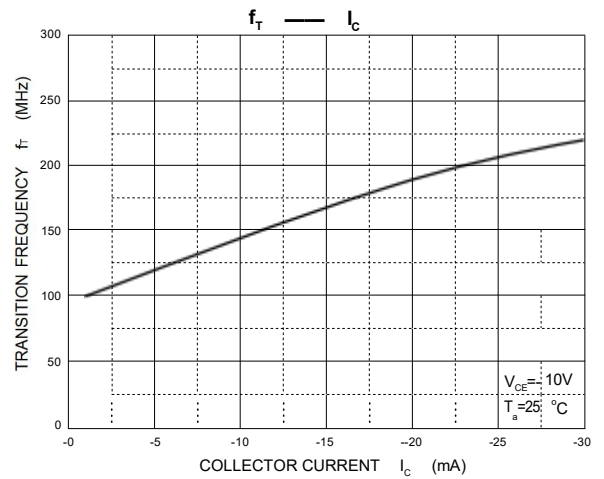
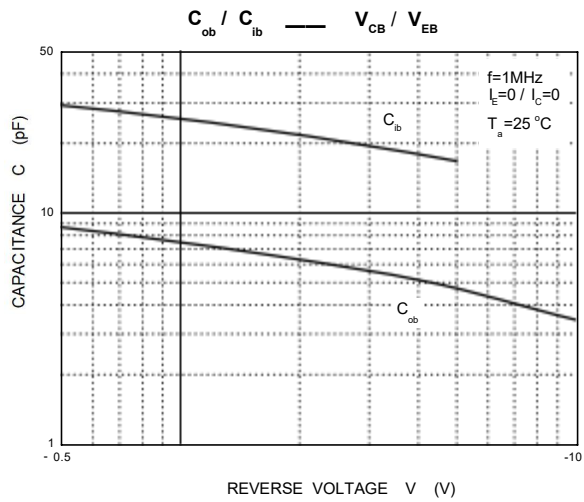
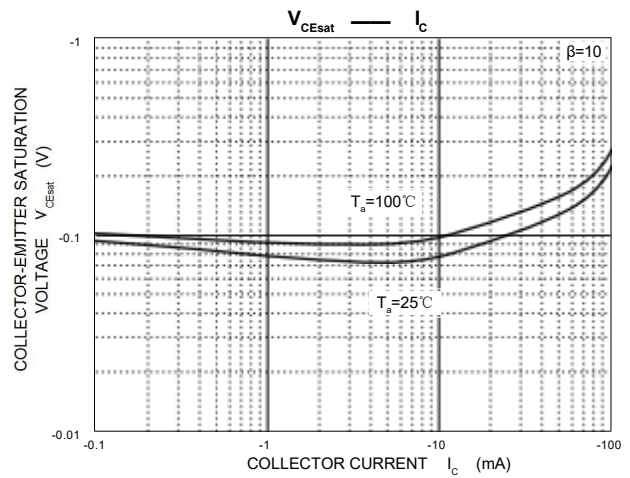
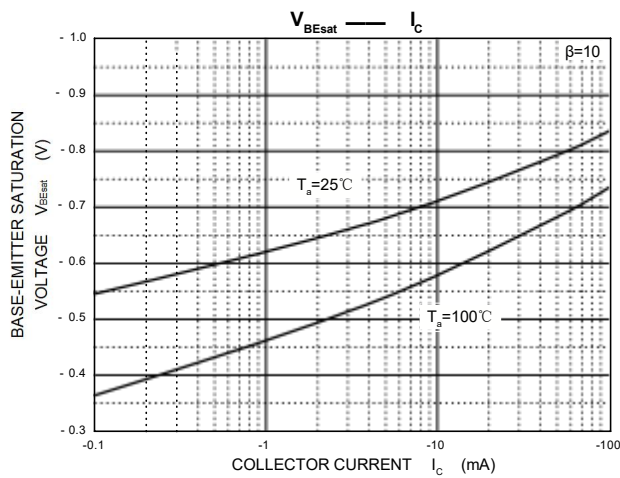
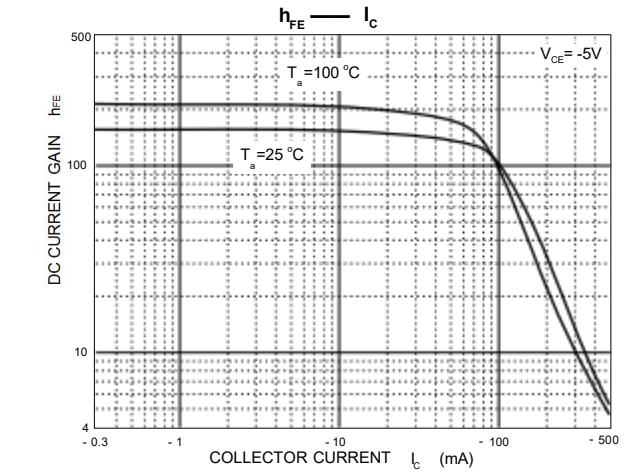
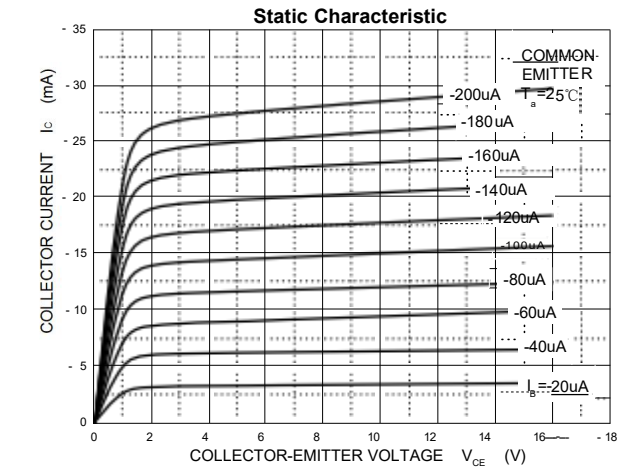
MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	-160	V
V _{CEO}	Collector-Emitter Voltage	-150	V
V _{EBO}	Emitter-Base Voltage	-5	V
I _C	Collector Current -Continuous	-0.5	A
P _C	Collector Power Dissipation	0.5	W
R _{θJA}	Thermal Resistance From Junction To Ambient	250	°C/W
T _J , T _{stg}	Operation Junction and Storage Temperature Range	-55~150	°C

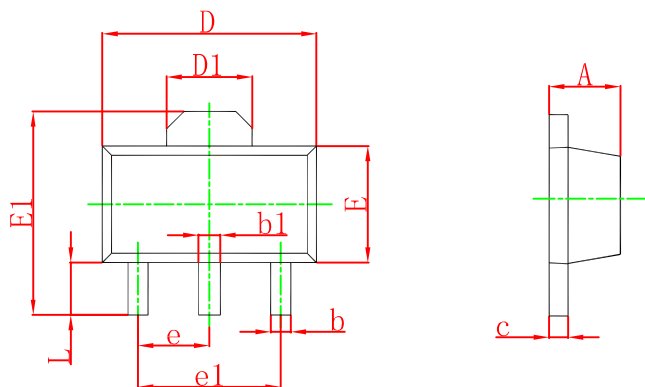
ELECTRICAL CHARACTERISTICS(T_a=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C = -100μA, I _E = 0	-160			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C = -1mA, I _B = 0	-150			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E = -10μA, I _C = 0	-5			V
Collector cut-off current	I _{CBO}	V _{CB} = -120 V, I _E = 0			-50	nA
Emitter cut-off current	I _{EBO}	V _{EB} = -3V, I _C = 0			-50	nA
DC current gain	h _{FE(1)}	V _{CE} = -5V, I _C = -1 mA	50			
	h _{FE(2)}	V _{CE} = -5V, I _C = -10 mA	100		300	
	h _{FE(3)}	V _{CE} = -5V, I _C = -50 mA	50			
Collector-emitter saturation voltage	V _{CE(sat)}	I _C = -10 mA, I _B = -1 mA			-0.2	V
	V _{CE(sat)}	I _C = -50 mA, I _B = -5 mA			-0.5	V
Base-emitter saturation voltage	V _{BE(sat)}	I _C = -10 mA, I _B = -1 mA			-1	V
	V _{BE(sat)}	I _C = -50 mA, I _B = -5 mA			-1	V
Transition frequency	f _T	V _{CE} = -10V, I _C = -10mA, f = 100MHz	100		300	MHz
Output Capacitance	C _{ob}	V _{CB} = -10V, I _E = 0, f = 1MHz			6	pF
Noise Figure	NF	V _{CE} = -5.0V, I _C = -200μA, R _S = 10Ω, f = 10Hz to 15.7kHz			8	dB

Typical Characteristics

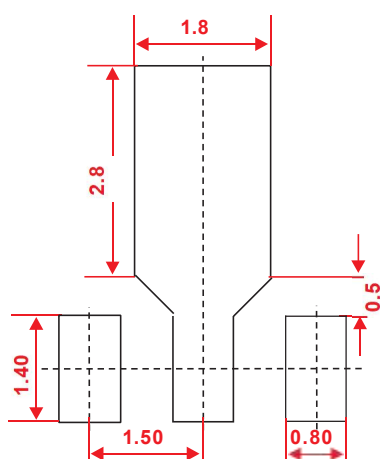


SOT-89-3L Package Outline Dimensions



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: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.