

Plastic-Encapsulate Transistors

TRANSISTOR (PNP)

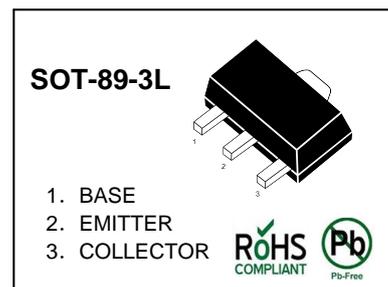
FEATURES

- Compliment to 2N3904U
- Low current
- Low voltage

MARKING: 2A

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

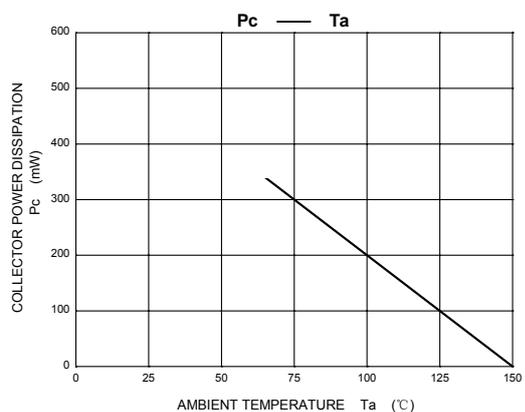
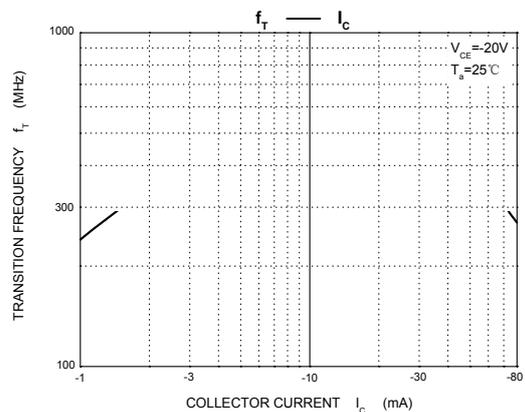
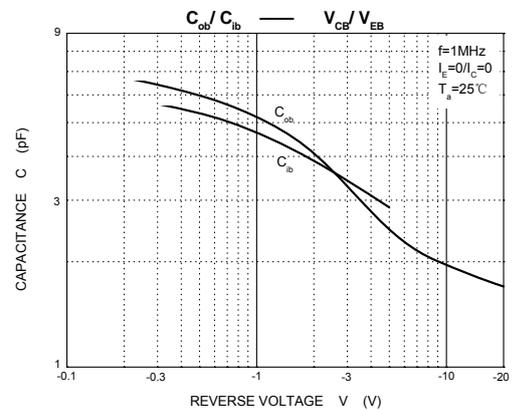
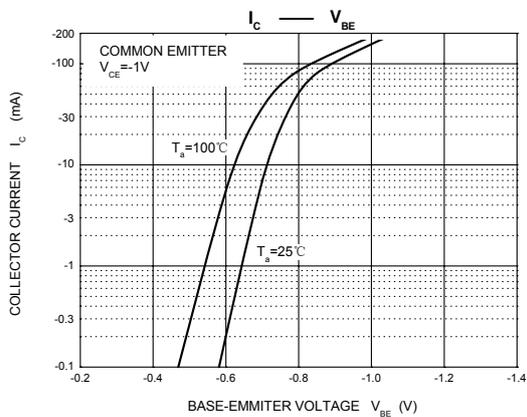
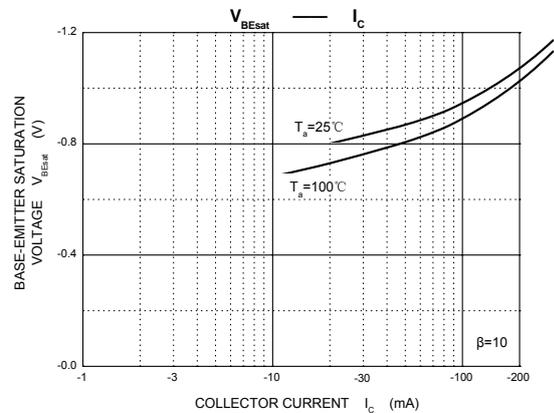
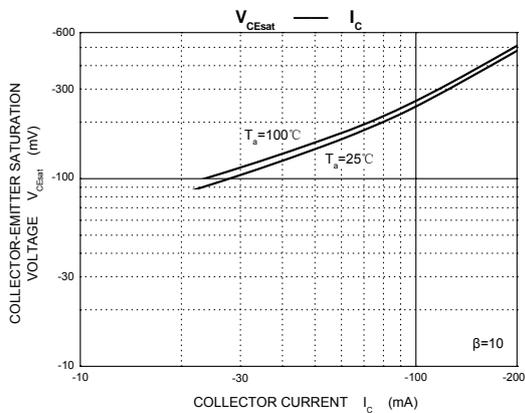
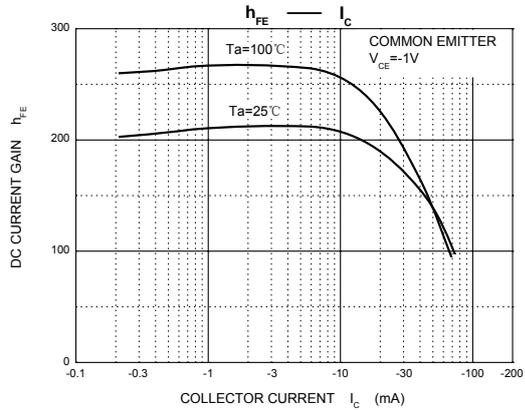
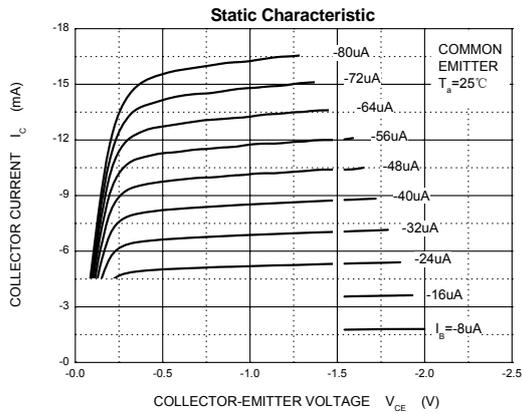
Symbol	Parameter	Value	Units
V _{CB0}	Collector-Base Voltage	-40	V
V _{CE0}	Collector-Emitter Voltage	-40	V
V _{EBO}	Emitter-Base Voltage	-6	V
I _C	Collector Current -Continuous	-0.2	A
P _C	Collector Power Dissipation	0.5	W
R _{θJA}	Thermal resistance from junction to ambient	250	°C/W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55-150	°C



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

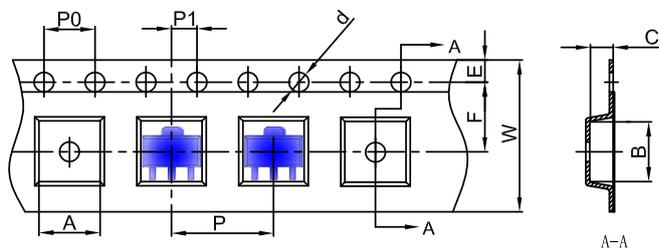
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =-10μA, I _E =0	-40			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =-1mA, I _B =0	-40			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =-10μA, I _C =0	-6			V
Collector cut-off current	I _{CBO}	V _{CB} =-30V, I _E =0			-0.05	μA
Emitter cut-off current	I _{EBO}	V _{EB} =-6V, I _C =0			-0.05	μA
Collector ut-off current	I _{CEX}	V _{CB} =-30V, V _{BE(off)} =-3V			-0.	μA
DC current gain	h _{FE(1)}	V _{CE} =-1V, I _C =-0.1mA	60			
	h _{FE(2)}	V _{CE} =-1V, I _C =-1mA	80			
	h _{FE(3)}	V _{CE} =-1V, I _C =-10mA	100		300	
	h _{FE(4)}	V _{CE} =-1V, I _C =-50mA	60			
	h _{FE(5)}	V _{CE} =-1V, I _C =-100mA	30			
Collector-emitter saturation voltage	V _{CE(sat)1}	I _C =-10mA, I _B =-1mA			-0.25	V
	V _{CE(sat)2}	I _C =-50mA, I _B =-5mA			-0.4	V
Base-emitter saturation voltage	V _{BE(sat)1}	I _C =-10mA, I _B =-1mA	-0.65		-0.85	V
	V _{BE(sat)2}	I _C =-50mA, I _B =-5mA			-0.95	V
Transition frequency	f _T	V _{CE} =-20V, I _C =-10mA, f=100MHz	250			MHz
Collector capacitance	C _c	V _{CB} =-5V, I _E =0, f=1MHz			4.5	pF
Emitter capacitance	C _e	V _{EB} =-0.5V, I _C =0, f=1MHz			10	pF
Noise figure	NF	V _{CE} =-5V, I _c =-0.1mA, f=10Hz-15.7kHz, R _S =1KΩ			4	dB
Delay time	t _d	I _C =-10mA, I _{B1} =-I _{B2} =-1mA			35	nS
Rise time	t _r				35	nS
Storage time	t _S				225	nS
Fall time	t _f				75	nS

Typical Characteristics



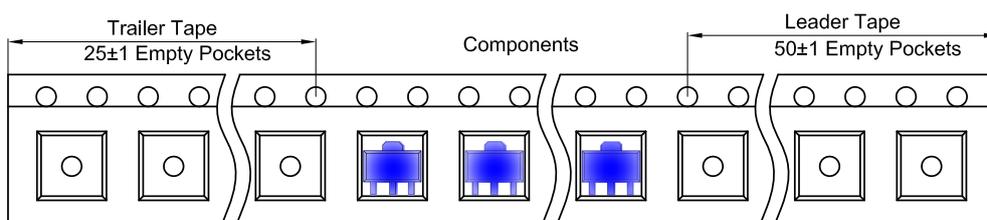
SOT-89-3L Tape and Reel

SOT-89-3L Embossed Carrier Tape

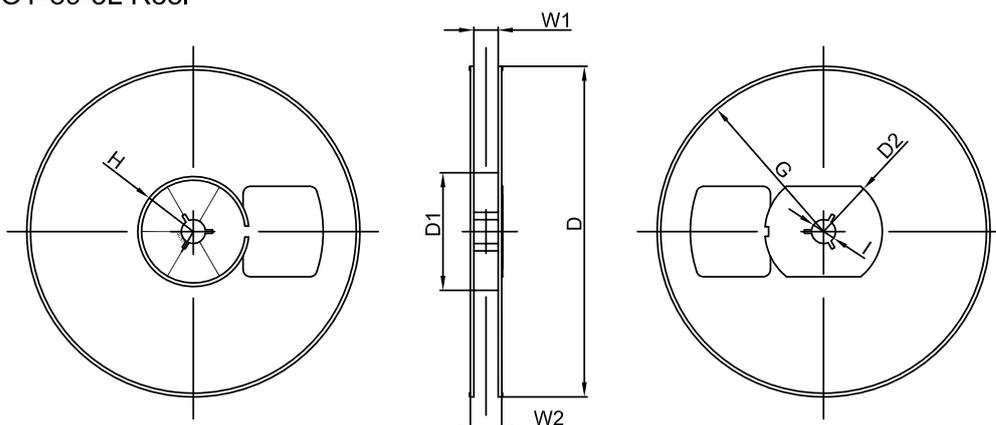


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-89-3L	4.85	4.45	1.85	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00

SOT-89-3L Tape Leader and Trailer

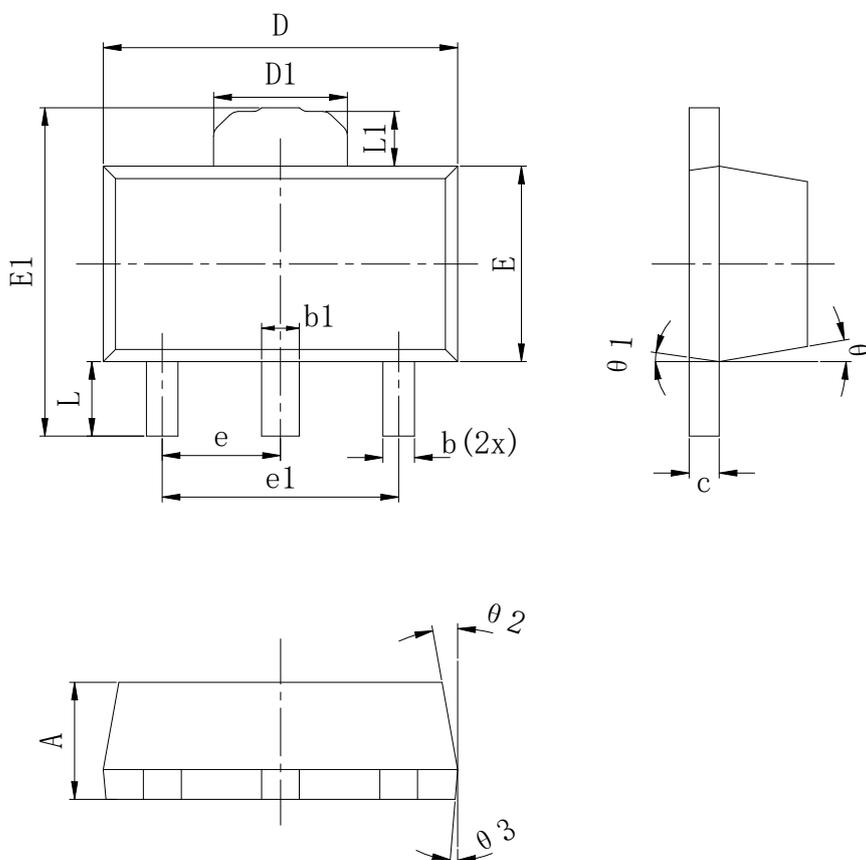


SOT-89-3L Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø180.00	60.00	R32.00	R86.50	R30.00	Ø13.00	13.20	16.50

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
1000 pcs	7 inch	10,000 pcs	203×203×195	40,000 pcs	438×438×220	



SYMBOL	MILLIMETER		
	MIN	TYP.	MAX
A	1.400	1.500	1.600
b	0.320	0.400	0.520
b1	0.400	0.480	0.580
c	0.350	0.381	0.440
D	4.400	4.500	4.600
D1	1.700REF		
E	2.400	2.500	2.600
E1	4.050	4.200	4.350
e	1.500TYP.		
e1	3.000TYP.		
L	0.800	0.950	1.200
L1	0.700REF		
θ	10° REF		
θ 1	8° REF		
θ 2	10° REF		
θ 3	5° REF		

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