

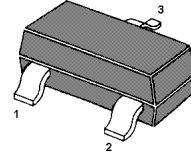


Plastic-Encapsulate Transistors

TRANSISTOR (NPN)

FEATURES

- Compliment to 2N3906
- Low current
- Low voltage



SOT-23-3L Plastic Package

MARKING: 1AM

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

Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	60	V
V _{CEO}	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	0.2	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	60			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 _{CB0}	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 _{CE} =30V, V _{BE(off)} =3V			0.05	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			0.2	V
	V _{CE(sat)2}	I _C =50mA, I _B =5mA			0.3	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	300			MHz
Collector capacitance	C _c	V _{CB} =5V, I _E =0, f=1MHz			4	pF
Emitter capacitance	C _e	V _{EB} =0.5V, I _C =0, f=1MHz			8	pF
Noise figure	NF	V _{CE} =5V, I _C =0.1mA, f=10Hz-15.7kHz, R _S =1KΩ			5	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				200	ns
Fall time	t _f				50	ns



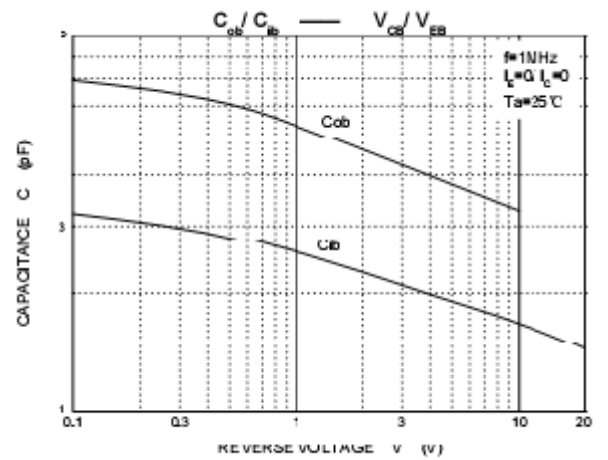
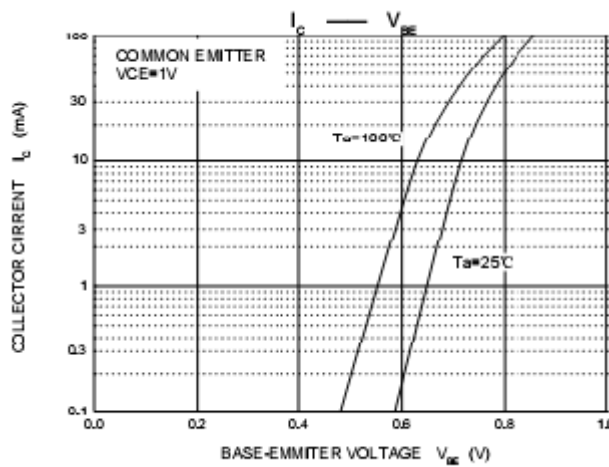
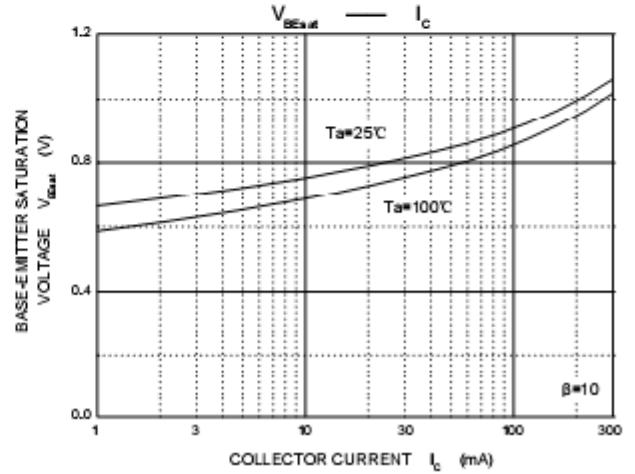
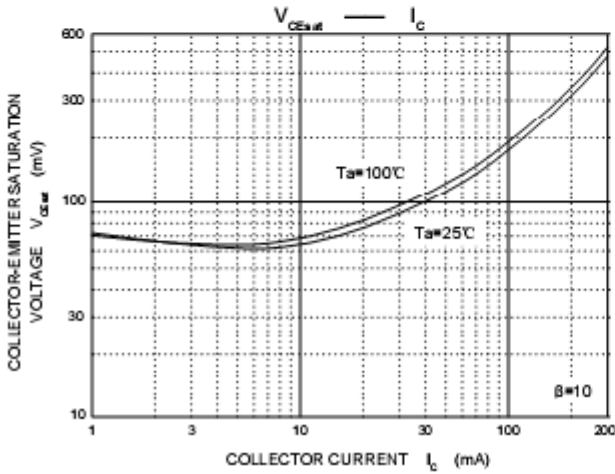
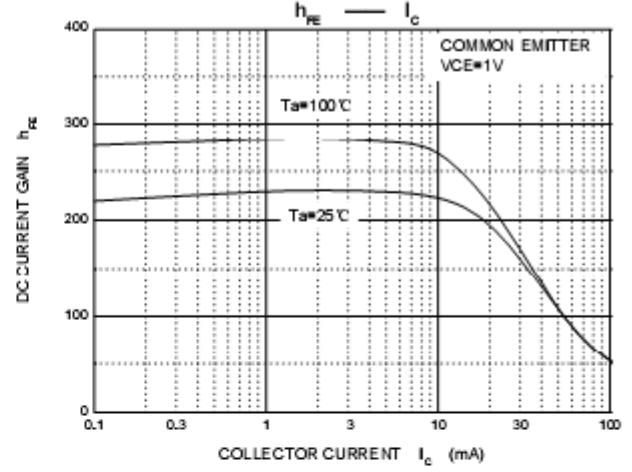
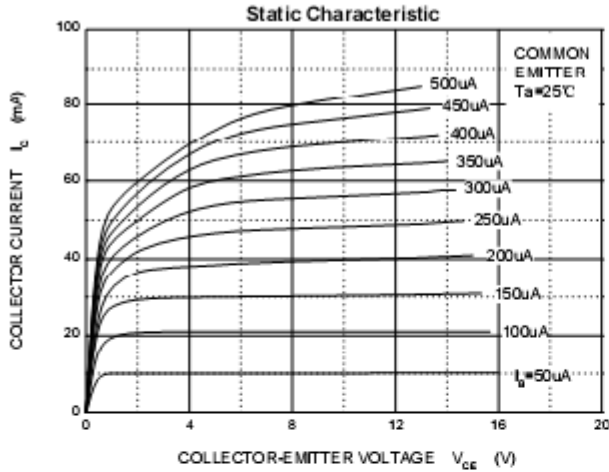
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SOT-23-3L

2N3904



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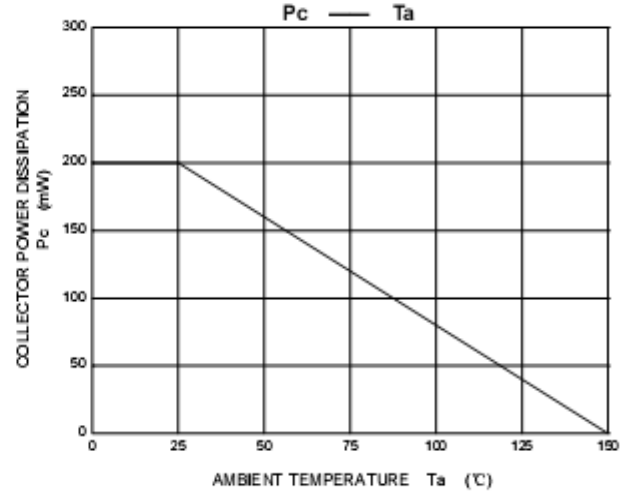
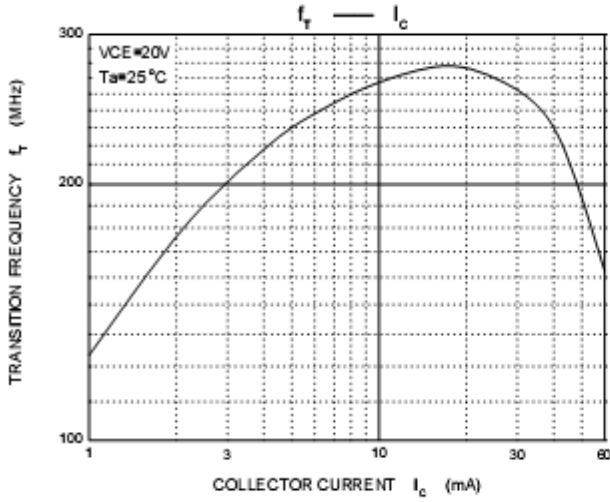
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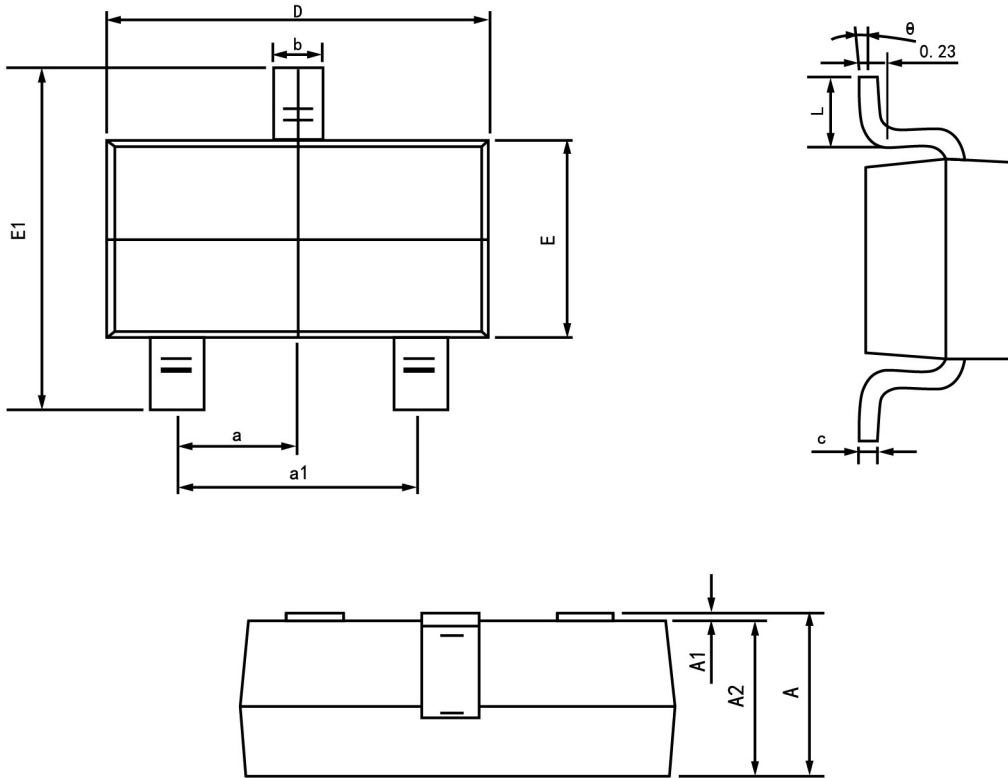
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SOT-23-3L Package Outline Dimensions



Symbol	Dimension in Millimeters	
	Min	Max
A	1.050	1.250
A1	0.000	0.100
A2	1.050	1.150
b	0.300	0.500
c	0.100	0.200
D	2.820	3.020
E	1.500	1.700
E1	2.650	2.950
e	0.950 (Basic)	
e1	1.800	2.000
L	0.300	0.600
θ	0°	8°