

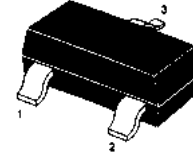
SOT23-3L Plastic-Encapsulate Transistors

2N3906

TRANSISTOR (PNP)

FEATURES

- Compliment to 2N3904
- Low current
- Low voltage



SOT-23-3L Plastic Package

MARKING: 2A

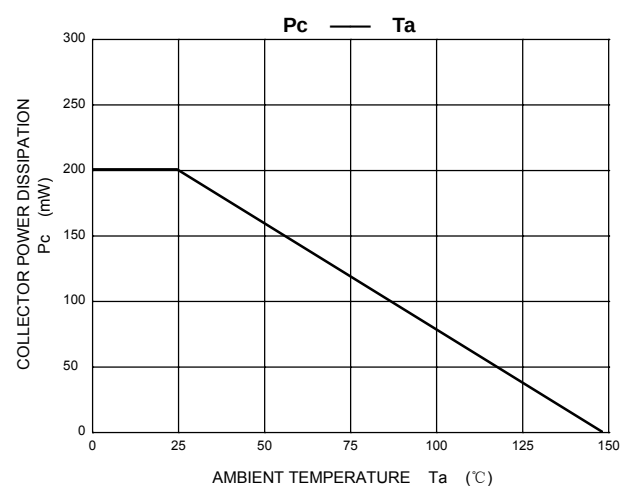
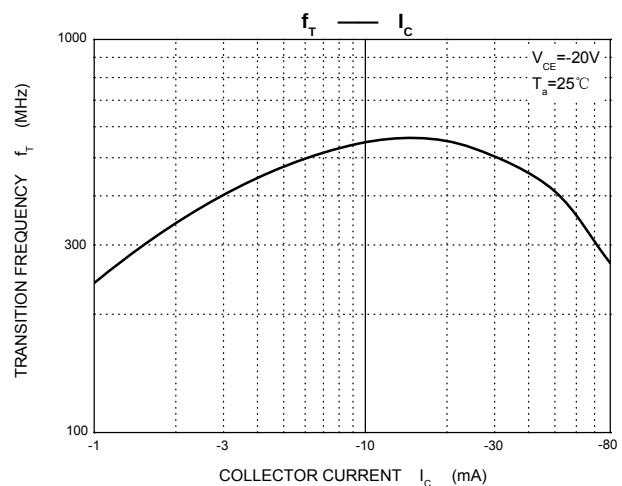
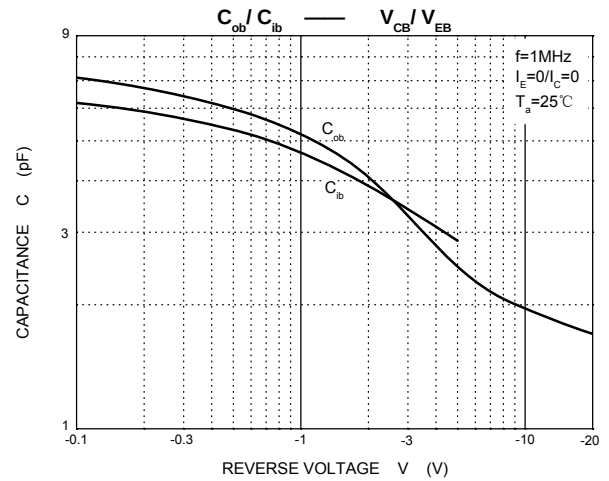
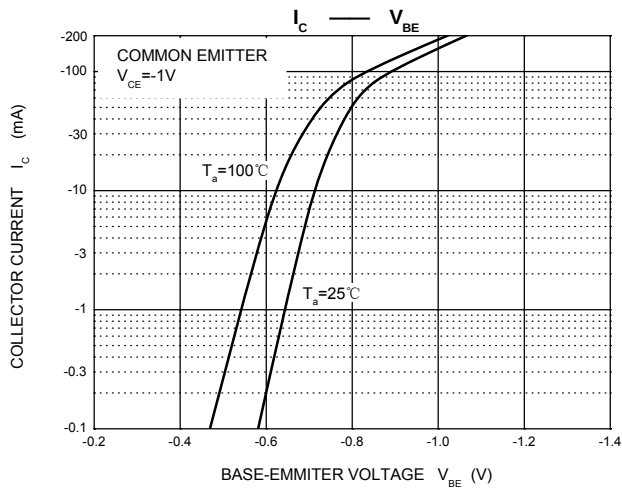
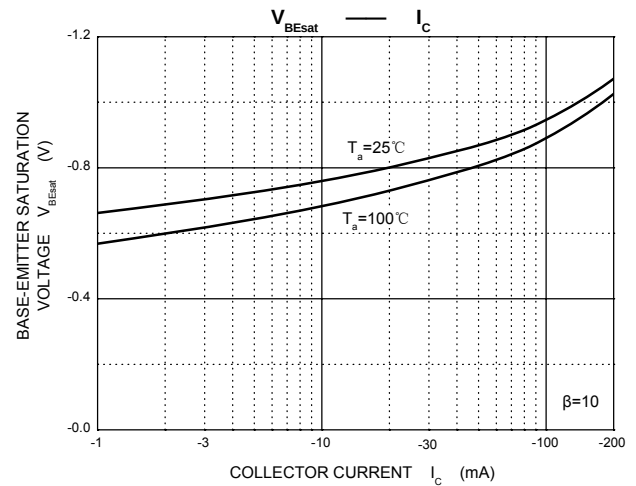
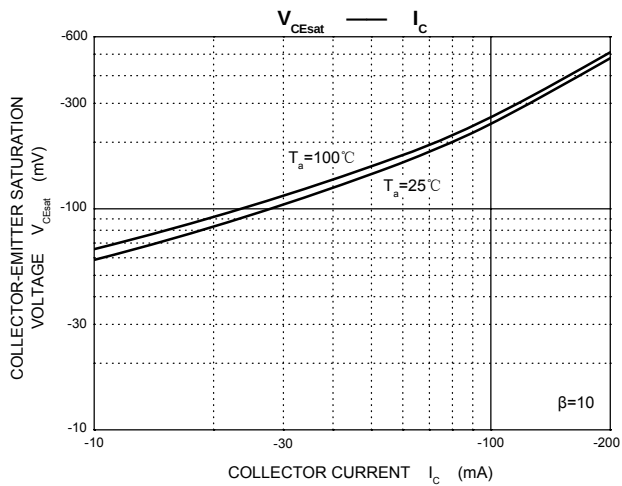
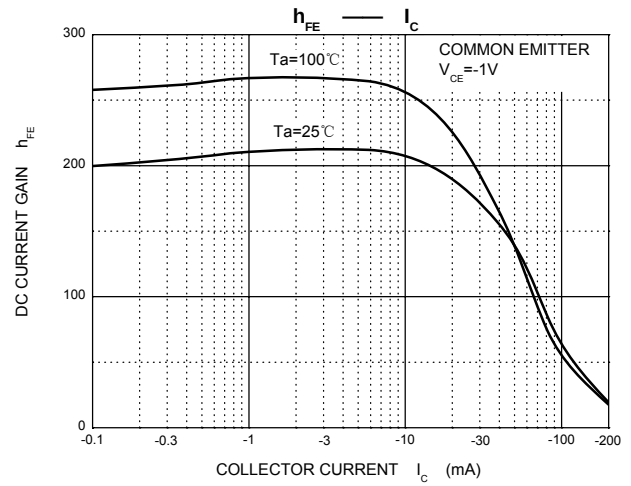
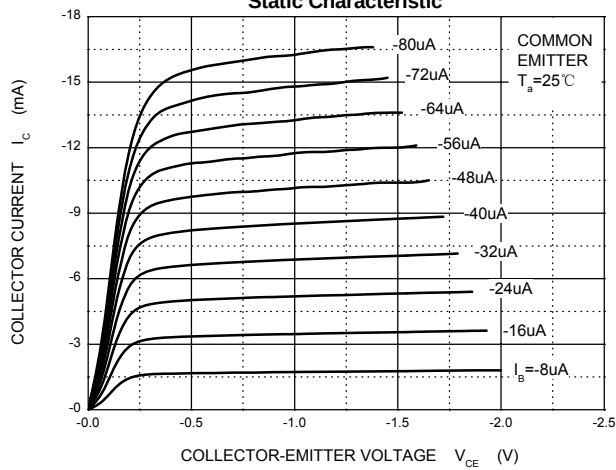
MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-40	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
$R_{\theta JA}$	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	$^{\circ}\text{C}$

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

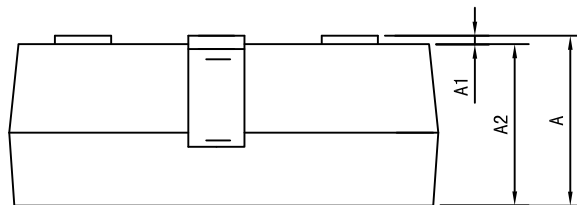
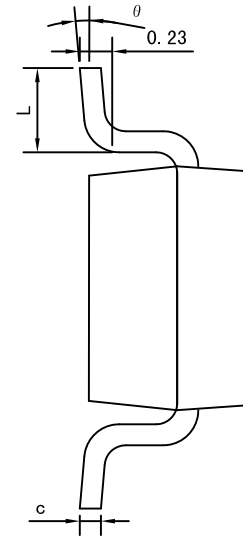
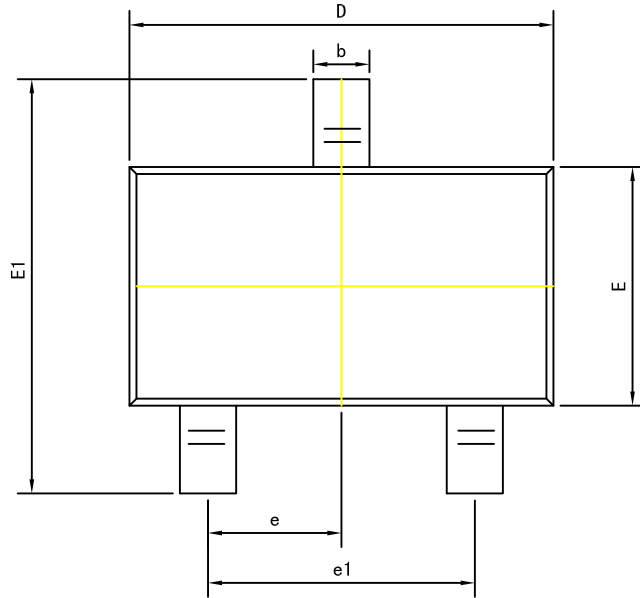
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-10\mu\text{A}, I_E=0$	-40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-1\text{mA}, I_B=0$	-40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-10\mu\text{A}, I_C=0$	-6			V
Collector cut-off current	I_{CBO}	$V_{CB}=-30\text{V}, I_E=0$			-0.05	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-6\text{V}, I_C=0$			-0.05	μA
Collector ut-off current	I_{CEX}	$V_{CB}=-30\text{V}, V_{BE(off)}=-3\text{V}$			-0.05	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=-1\text{V}, I_C=-0.1\text{mA}$	60			
	$h_{FE(2)}$	$V_{CE}=-1\text{V}, I_C=-1\text{mA}$	80			
	$h_{FE(3)}$	$V_{CE}=-1\text{V}, I_C=-10\text{mA}$	100		300	
	$h_{FE(4)}$	$V_{CE}=-1\text{V}, I_C=-50\text{mA}$	60			
	$h_{FE(5)}$	$V_{CE}=-1\text{V}, I_C=-100\text{mA}$	30			
Collector-emitter saturation voltage	$V_{CE(sat)1}$	$I_C=-10\text{mA}, I_B=-1\text{mA}$			-0.25	V
	$V_{CE(sat)2}$	$I_C=-50\text{mA}, I_B=-5\text{mA}$			-0.4	V
Base-emitter saturation voltage	$V_{BE(sat)1}$	$I_C=-10\text{mA}, I_B=-1\text{mA}$	-0.65		-0.85	V
	$V_{BE(sat)2}$	$I_C=-50\text{mA}, I_B=-5\text{mA}$			-0.95	V
Transition frequency	f_T	$V_{CE}=-20\text{V}, I_C=-10\text{mA}, f=100\text{MHz}$	250			MHz
Collector capacitance	C_c	$V_{CB}=-5\text{V}, I_E=0, f=1\text{MHz}$			4.5	pF
Emitter capacitance	C_e	$V_{EB}=-0.5\text{V}, I_C=0, f=1\text{MHz}$			10	pF
Noise figure	NF	$V_{CE}=-5\text{V}, I_C=-0.1\text{mA}, f=10\text{Hz}-15.7\text{kHz}, R_S=1\text{K}\Omega$			4	dB
Delay time	t_d	$I_C=-10\text{mA}, I_{B1}=-I_{B2}=-1\text{mA}$			35	nS
Rise time	t_r				35	nS
Storage time	t_s				225	nS
Fall time	t_f				75	nS

Static Characteristic



Package outline dimensions

SOT23-3L



Symbol	Dimension in Millimeters		
	MIn	Typ	Max
A	1.050	1.150	1.250
A1	0.000	0.050	0.100
A2	1.050	1.100	1.150
b	0.300	0.400	0.500
c	0.100	0.150	0.200
D	2.820	2.920	3.020
E	1.500	1.600	1.700
E1	2.650	2.800	2.950
e	0.950 (Basic)		
e1	1.800	1.900	2.000
L	0.300	-	0.600
θ	0°	-	8°