

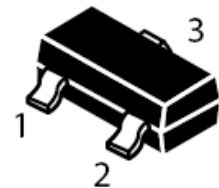
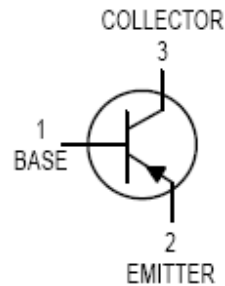
PNP General Purpose Transistor

FEATURES

- For switching and amplifier applications.
- Complementary NPN Type Available (MMBT3904)

MECHANICAL DATA

- Case: SOT-23 Plastic
- Case material: "Green" molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl)
- Lead Free in RoHS 2002/95/EC Compliant



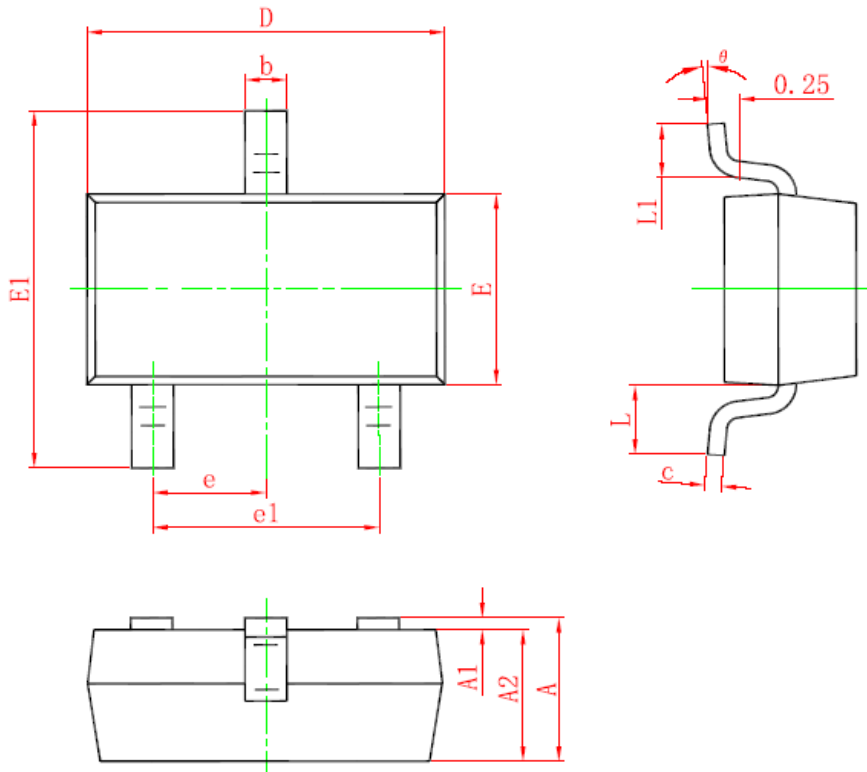
Maximum Ratings @ T_A = 25°C

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V _{CB0}	-40	V
Collector-Emitter Voltage	V _{CEO}	-40	V
Emitter-Base Voltage	V _{EBO}	-5	V
Collector Current -Continuous	I _C	-200	mA
Collector Power Dissipation	P _C	200	mW
Thermal Resistance, Junction to Ambient	R _{θJA}	625	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature Range	T _{STG}	-55~+150	°C

Electrical Characteristics @ T_A = 25°C unless otherwise specified

Characteristic	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Collector-base breakdown voltage	I _C = -10μA, I _E = 0	V _{CB0}	-40			V
Collector-emitter breakdown voltage	I _C = -1mA, I _B = 0	V _{CEO}	-40			V
Emitter-base breakdown voltage	I _E = -10μA, I _C = 0	V _{EBO}	-5			V
Collector-base cut-off current	V _{CB} = -40V, I _E = 0	I _{CB0}			-0.1	uA
Collector-base cut-off current	V _{CE} = -30V, V _{BE(off)} = -3V	I _{CEx}			-50	nA
Emitter-base cut-off current	V _{EB} = -5V, I _C = 0	I _{EBO}			-0.1	uA
DC current gain	V _{CE} = -1V, I _C = -10mA	h _{FE1}	100		300	V
	V _{CE} = -1V, I _C = -50mA	h _{FE2}	60			V
	V _{CE} = -1V, I _C = -100mA	h _{FE3}	30			V
Collector-emitter saturation voltage	I _C = -50mA, I _B = -5mA	V _{CE(sat)}			-0.4	V
Base-emitter saturation voltage	I _C = -50mA, I _B = -5mA	V _{BE(sat)}			-0.95	V
Transition frequency	V _{CE} = -20V, I _C = -10mA, f = 100MHz	f _T	300			MHz
Delay time	V _{CC} = -3V, V _{BE} = -0.5V	T _d			35	nS
Rise time	I _C = -10mA, I _{B1} = -I _{B2} = -1mA	T _r			35	nS
Storage time	V _{CC} = -3V, I _C = -10mA	T _s			225	nS
Fall time	I _{B1} = -I _{B2} = -1mA	T _f			75	nS

SOT-23 Outline Dimension



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	6°

Device Marking :

Device P/N	Marking code
MMBT3906	2A

Electrical characteristic curves

Fig.1 Power Derating Curve

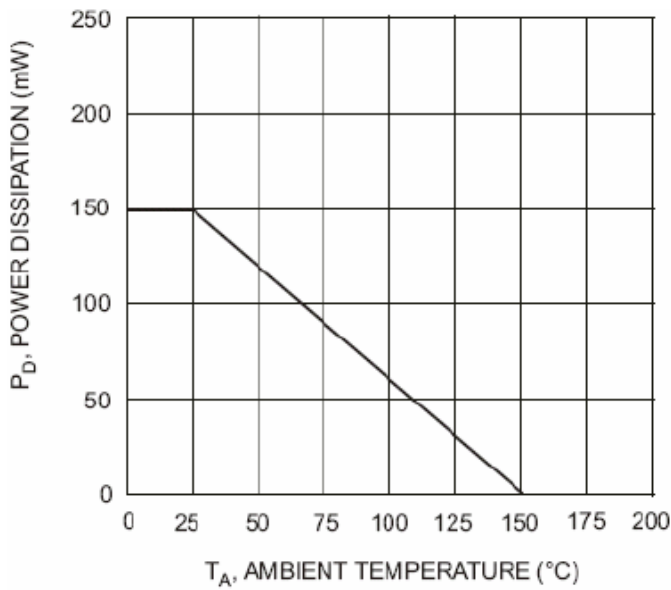


Fig.2 Input and Output Capacitance vs. Collector-Base Voltage

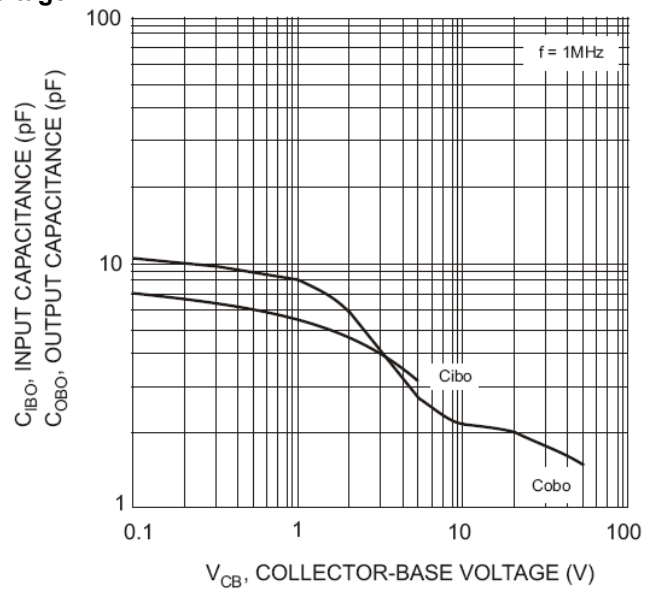


Fig.3 Typical DC Current Gain vs. Collector Current

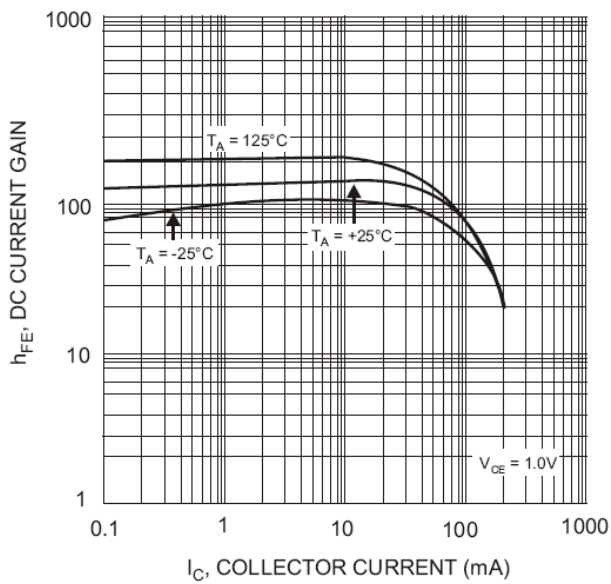


Fig.4 Collector-Emitter Saturation Voltage vs. Collector Current

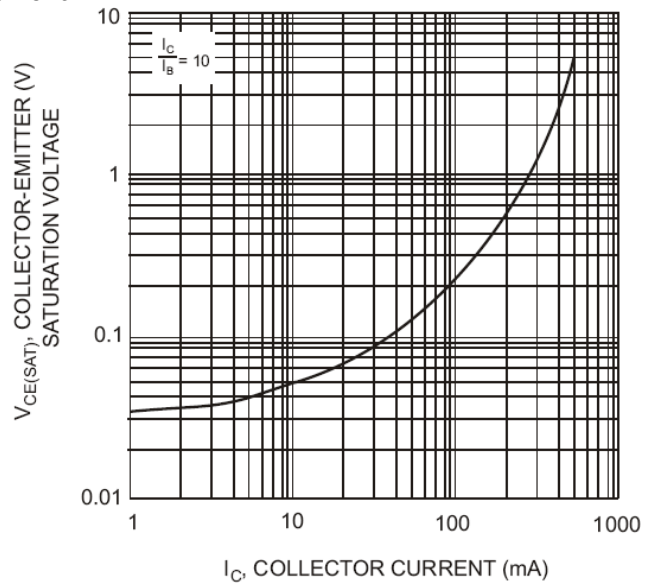
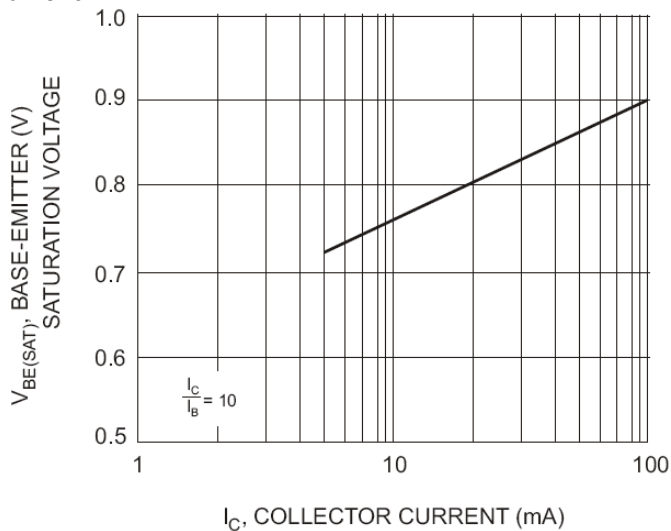


Fig.5 Base-Emitter Saturation Voltage vs. Collector Current



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