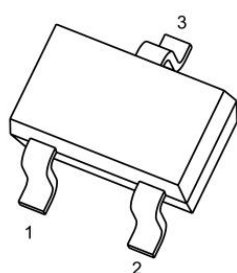


MMBT3906T3

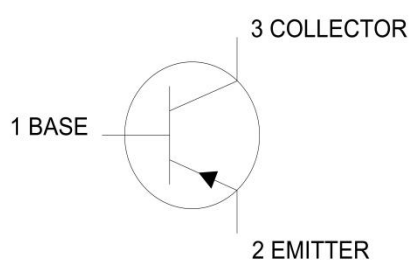
Feature

- Switching Transistor
- Collector-emitter voltage $V_{CE}=-40V$
- Collector current $I_C=-0.2A$

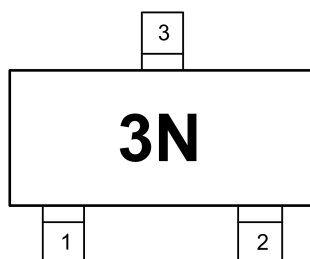
Package

**SOT-323**

Circuit diagram



Marking



**Absolute maximum ratings (Ta=25°C unless otherwise noted)**

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	-40	V
Collector Emitter Voltage	V_{CEO}	-40	V
Emitter Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-200	mA
Power Dissipation	P_{tot}	150	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 55 to + 150	°C

Electrical characteristics (Ta=25 °C, unless otherwise noted)

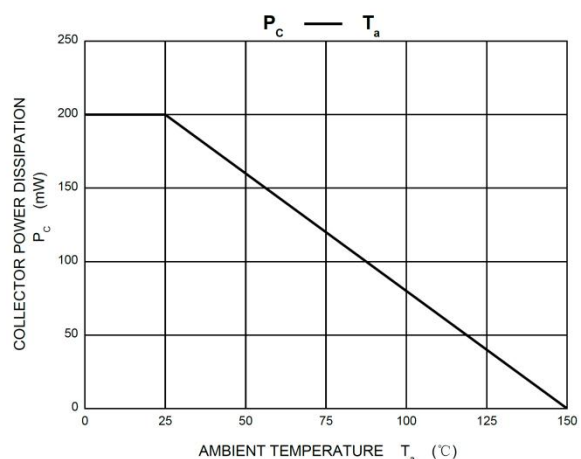
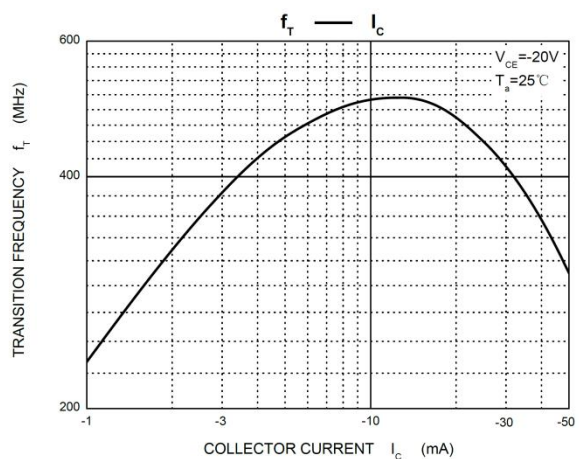
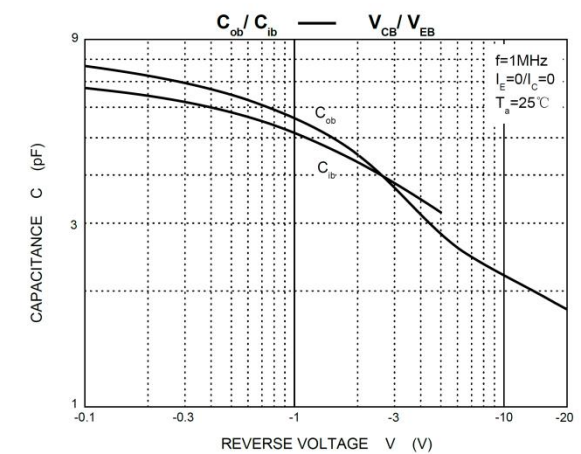
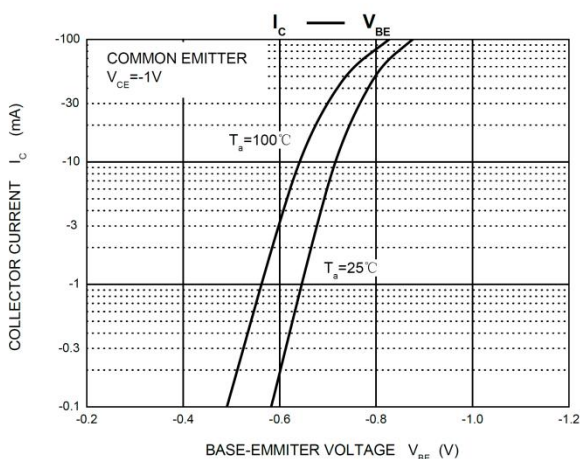
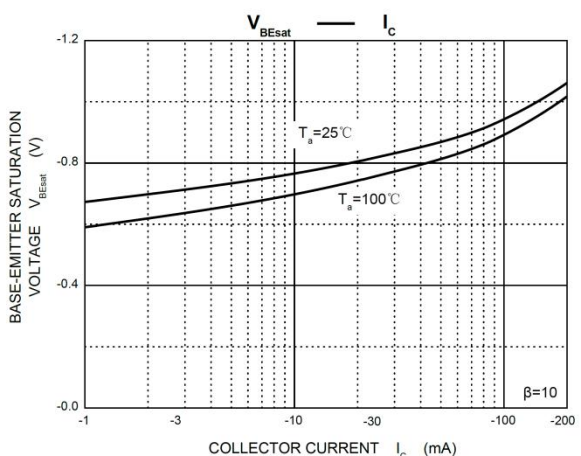
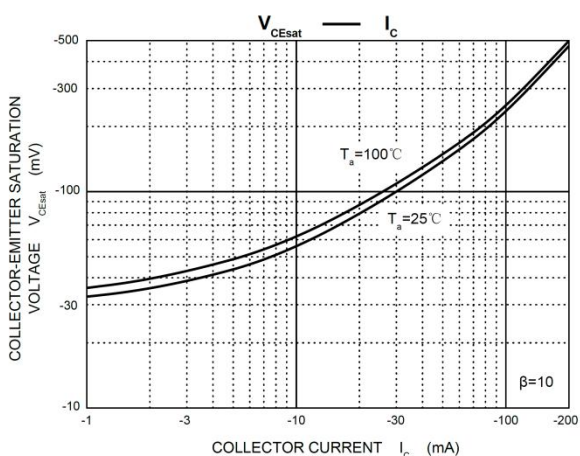
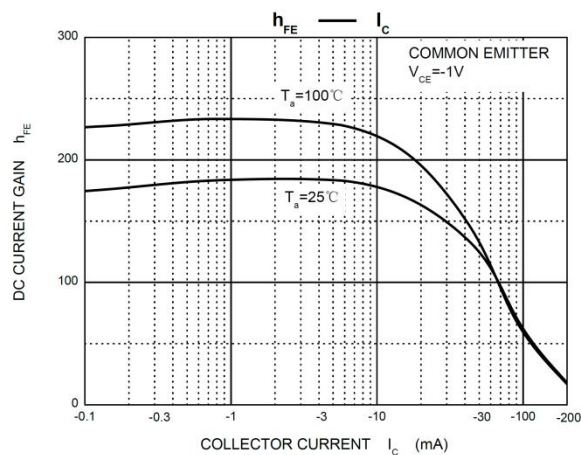
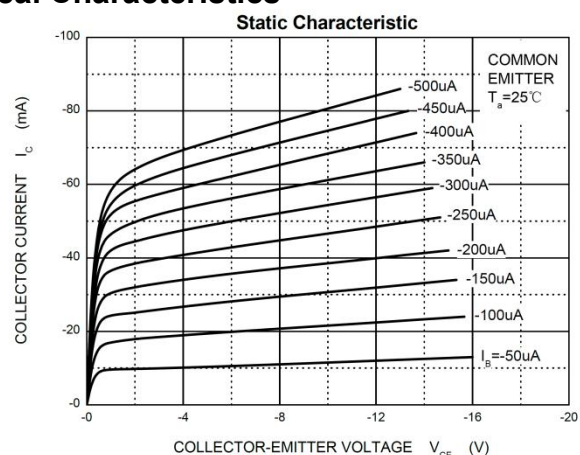
Parameter	Symbol	Test Condition	Min	Max	Unit
Collector-base breakdown voltage	BV_{CBO}	$I_C=-1mA, I_E=0$	-40		V
Collector-emitter breakdown voltage	BV_{CEO}	$I_C=-100\mu A, I_B=0$	-40		V
Emitter-base breakdown voltage	BV_{EBO}	$I_E=-100\mu A, I_C=0$	-5		V
Base cut-off current	I_{BL}	$V_{CB}=-30V, V_{EB(Off)}=-3V$		-50	nA
Collector cut-off current	I_{CEX}	$V_{CB}=-30V, V_{EB(Off)}=-3V$		-50	nA
DC current gain	h_{FE1}	$V_{CE}=-1V, I_C=-0.1mA$	60		
	h_{FE2}	$V_{CE}=-1V, I_C=-1mA$	80		
	h_{FE3}	$V_{CE}=-1V, I_C=-10mA$	100	300	
	h_{FE4}	$V_{CE}=-1V, I_C=-100mA$	30		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-10mA, I_B=-1mA$		-0.25	V
	$V_{CE(sat)}$	$I_C=-50mA, I_B=-5mA$		-0.4	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=-10mA, I_B=-1mA$		-0.85	V
	$V_{BE(sat)}$	$I_C=-50mA, I_B=-5mA$		-0.95	V
Transition frequency	f_T	$V_{CE}=-20V, I_C=-10mA, f=30MHz$	250		MHZ

NOTE:

Pulse test: pulse width $\leq 300\mu s$, duty cycle $\leq 2.0\%$.

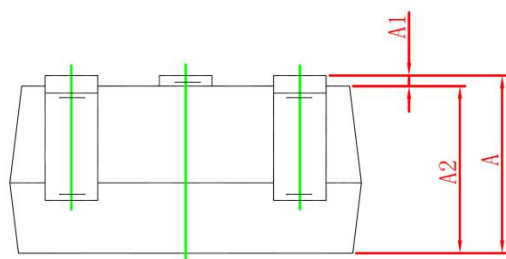
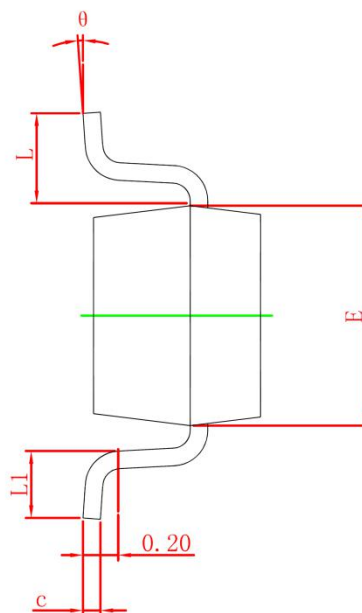
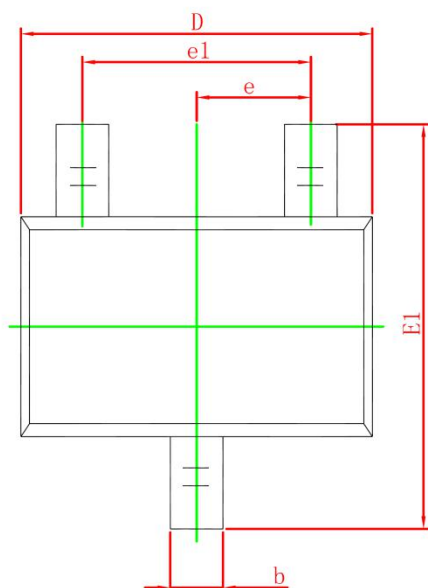


Typical Characteristics





SOT-323 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP.		0.026 TYP.	
e1	1.200	1.400	0.047	0.055
L	0.525 REF.		0.021 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

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