

MMBTA06

MMBTA06 SOT-23 Plastic-Encapsulate Transistors(NPN)

General description

SOT-23 Plastic-Encapsulate Transistors(NPN)

FEATURES

- Complementary to MMBTA56
- Power Dissipation of 300mW
- High Stability and High Reliability
- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0

SOT-23



DEVICE MARKING CODE:

Device Type	Device Marking
MMBTA06	1GM

Maximum Ratings & Thermal Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)

Parameters	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	80	V
Emitter -Base Voltage	V_{EBO}	4	V
Collector Current-Continuous	I_C	500	mA
Collector Power Dissipation	P_C	300	mW
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55-+150	°C
Thermal resistance From junction to ambient	$R_{\theta JA}$	416	°C/W

Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified).

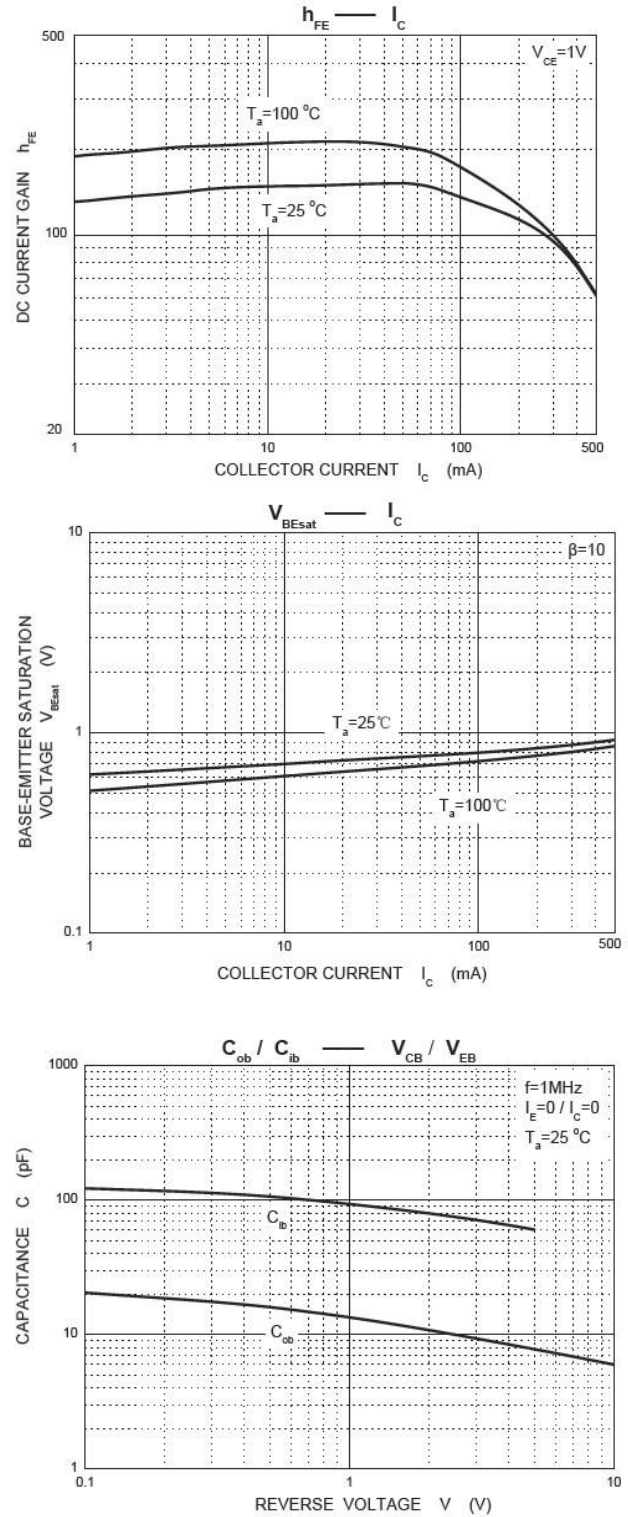
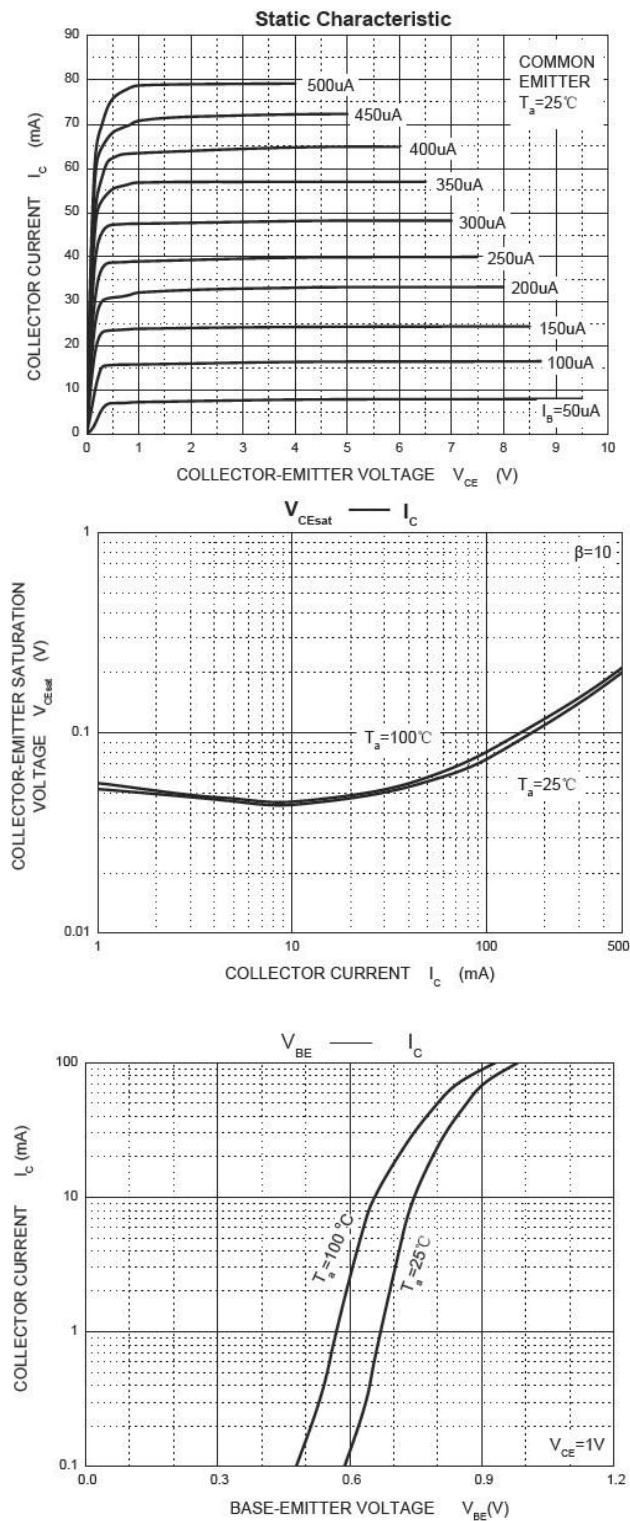
Parameter	Symbols	Test Condition	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	80		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	80		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	4		V
Collector cut-off current	I_{CBO}	$V_{CB}=80V, I_E=0$		100	nA
Collector cut-off current	I_{CEO}	$V_{CE}=60V, I_B=0$		1.0	uA
Emitter cut-off current	I_{EBO}	$V_{EB}=3V, I_C=0$		100	nA
DC current gain	$h_{FE(1)}^*$	$V_{CE}=1V, I_C=10mA$	100	400	
	$h_{FE(2)}^*$	$V_{CE}=1V, I_C=100mA$	100		
Collector-emitter saturation voltage	$V_{CE(sat)}^*$	$I_C=100mA, I_B=10mA$		0.25	V
Base -emitter saturation voltage	$V_{BE(sat)}^*$	$I_C=100mA, I_B=10mA$		1.20	V
Transition frequency	f_T	$V_{CE}=2V, I_C=10mA, f=100MHz$	100		MHz

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



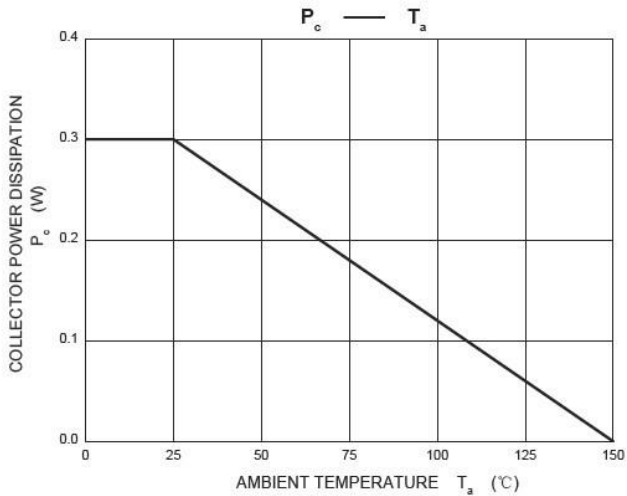
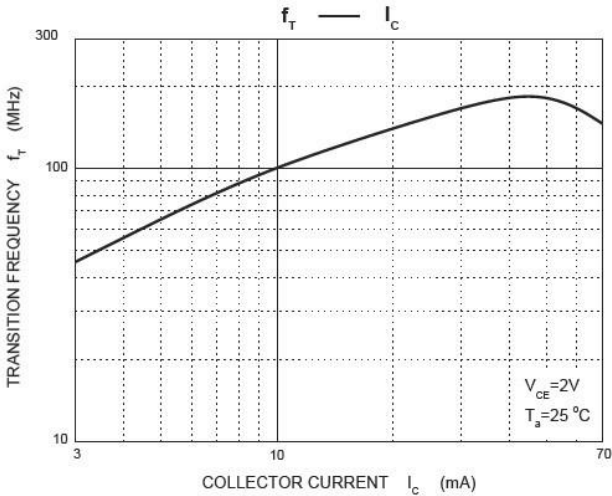
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TYPICAL CHARACTERISTIC

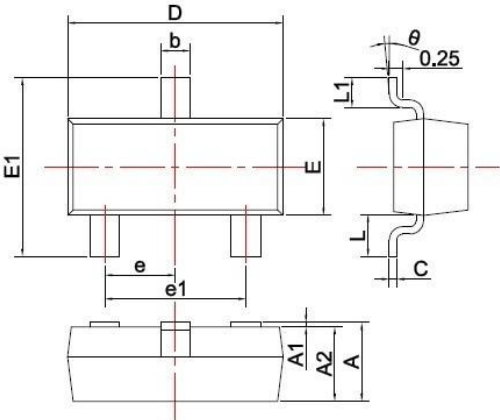




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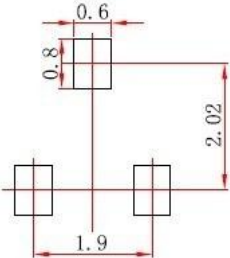
SOT-23 PACKAGE OUTLINE Plastic surface mounted package



SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

Unit: mm

Precautions: PCB Design
Recommended land dimensions for SOT-23 diode. Electrode patterns for PCBs



Note:
1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

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