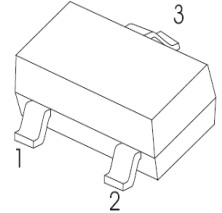


SOT-23 Plastic-Encapsulate Transistor
MMBTA06 TRANSISTOR (NPN)
SOT-23
FEATURES

- For Switching and Amplifier Applications
- Complementary Type PNP Transistor MMBTA56

Marking: 1GM

1. BASE
2. EMITTER
3. COLLECTOR


PACKAGE SPECIFICATIONS

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (pcs)	Box Size (mm)	QTY/Box (pcs)	Carton Size (mm)	Q'TY/Carton (pcs)
SOT-23	7'	330	3000	203×203×195	45000	438×438×220	180000

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

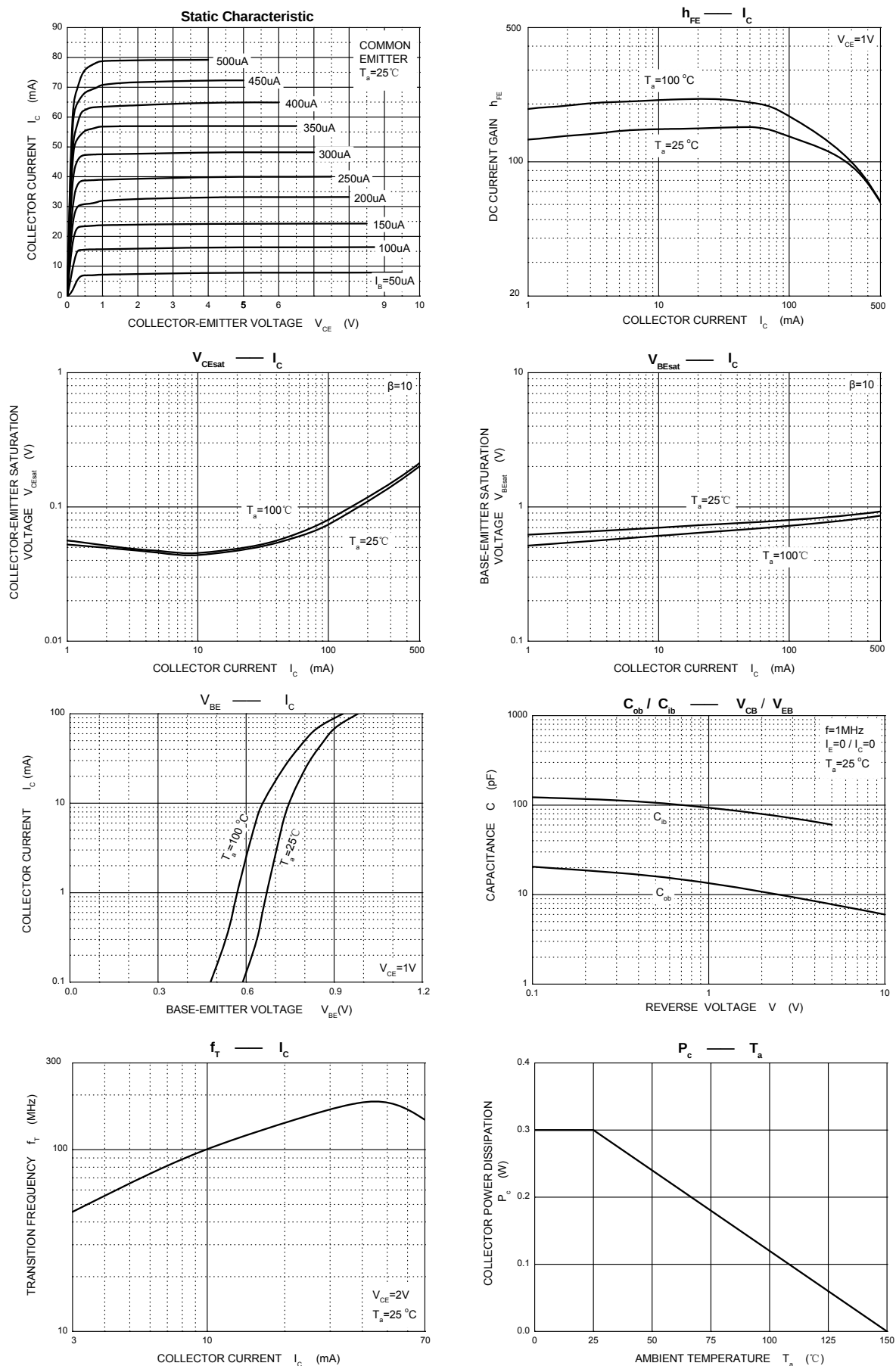
Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	80	V
V _{CEO}	Collector-Emitter Voltage	80	V
V _{EBO}	Emitter-Base Voltage	4	V
I _C	Collector Current –Continuous	500	mA
P _C *	Collector Power Dissipation	300	mW
R _{θJA}	Thermal Resistance, junction to Ambient	416	°C/W
T _J	Junction Temperature	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 =0.1mA, 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 =0.1mA, I _C =0	4			V
Collector cut-off current	I _{CBO}	V _{CB} =80V, I _E =0			0.1	μA
Collector cut-off current	I _{CES}	V _{CE} =60V, I _B =0			0.1	μA
Emitter cut-off current	I _{EBO}	V _{EB} =3V, I _C =0			0.1	μA
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			1.2	V
Transition frequency	f _T	V _{CE} =2V, I _C =10mA, f=100MHz	100			MHz

The above data are for reference only.

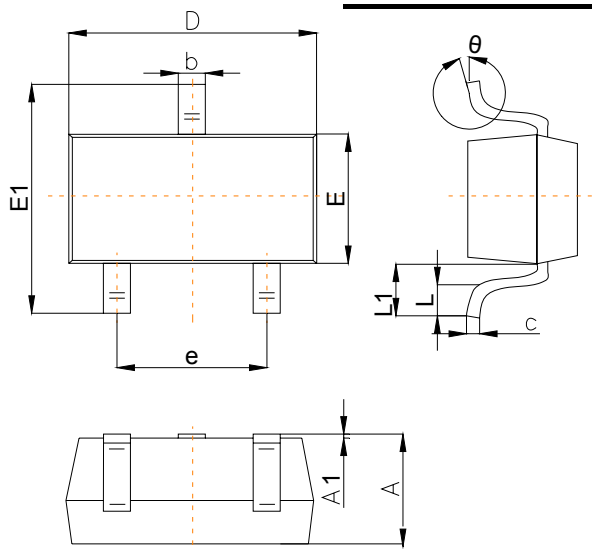
Typical Characteristics



The curve above is for reference only.

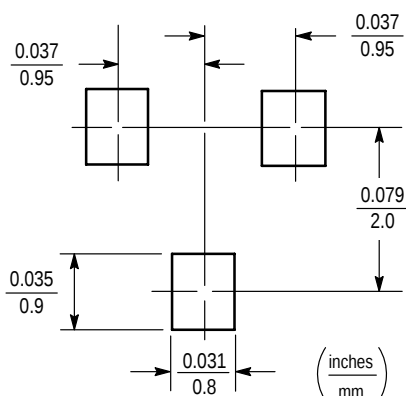
Outline Drawing

SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		
	Min	Typ	Max
A	0.65		1.40
A1	0.00		0.20
b	0.30		0.55
c	0.08		0.20
D	2.70		3.10
E	1.15		1.65
E1	2.10		2.80
e	1.70		2.10
L	0.15		0.50
L1	0.35		0.70
θ	0°		12°

Suggested Pad Layout



Note:

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