

TRANSISTOR(NPN)

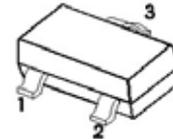
Features

For Switching and Amplifier Applications
Complementary to MMBTA56
Power Dissipation of 300mW
High Stability and High Reliability

Mechanical Data

Small Outline Plastic Package
Epoxy UL: 94V-0
Mounting Position: Any

SOT-23



1. BASE
2. EMITTER
3. COLLECTOR

Marking: 1GM

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

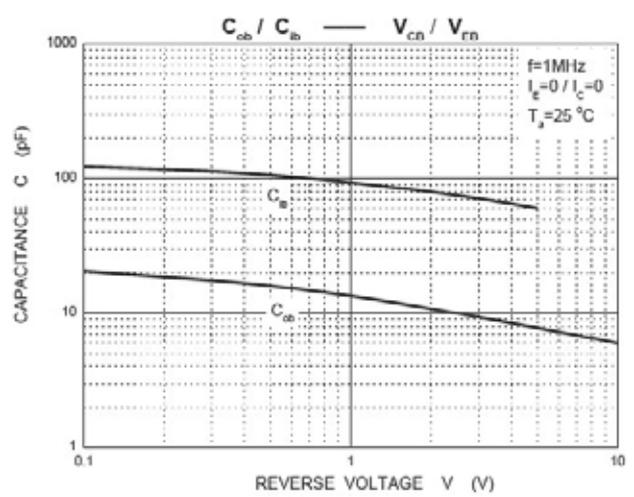
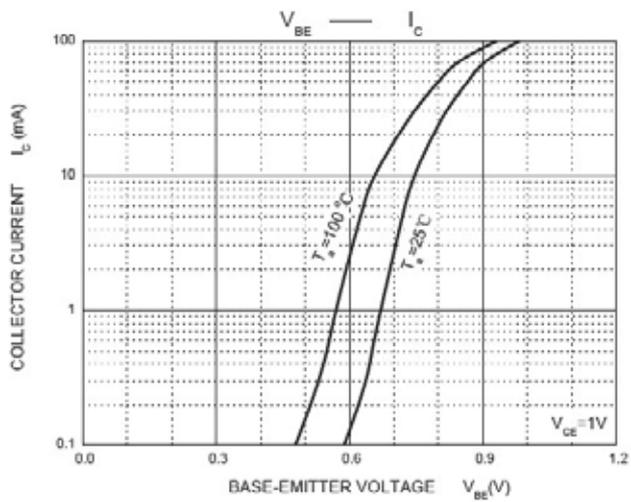
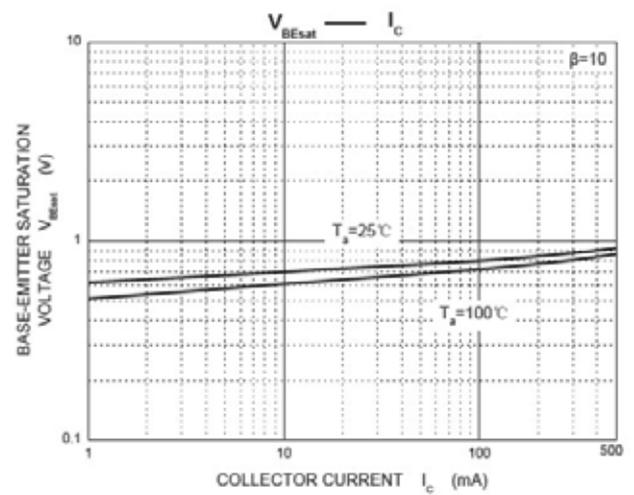
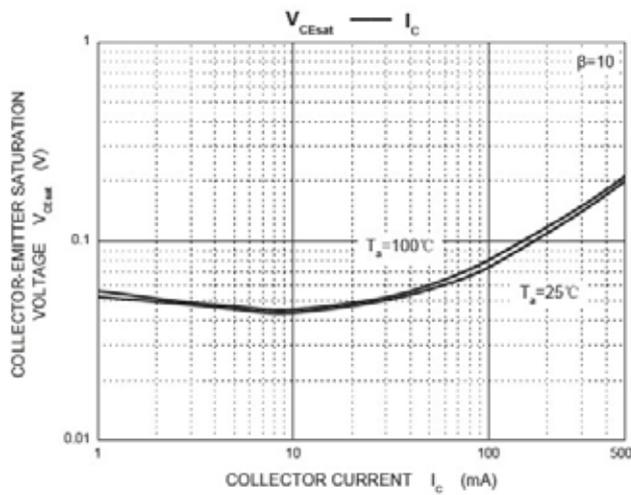
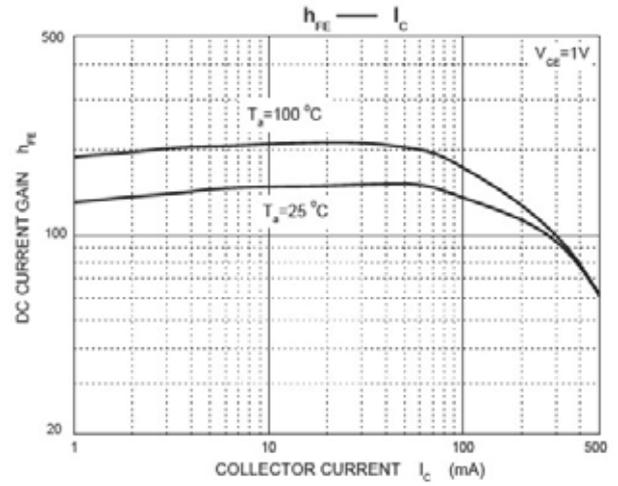
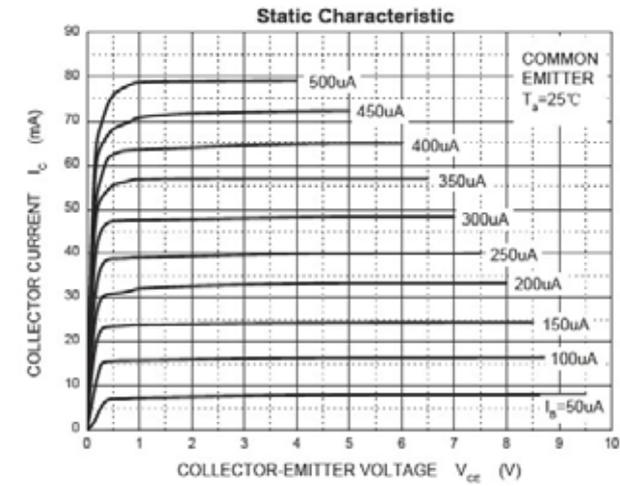
Parameters	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	80	V
Collector-Emitter Voltage	V _{CEO}	80	V
Emitter -Base Voltage	V _{EBO}	4	V
Collector Current-Continuous	I _C	500	mA
Collector Power Dissipation	P _C	300	mW
Junction Temperature	T _j	-55~+150	°C
Storage Temperature	T _{stg}	-55~+150	°C
Thermal resistance From junction to ambient	R _{θJA}	416	°C /W

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

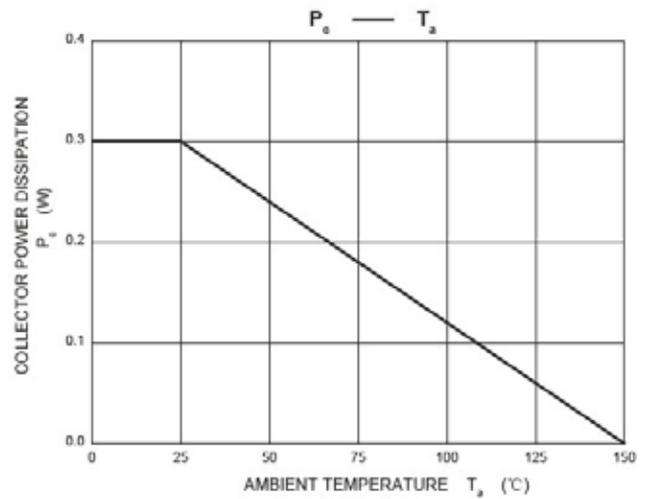
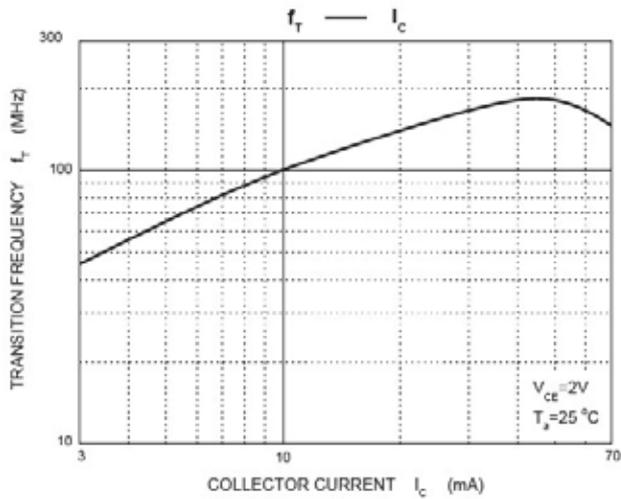
Parameter	Symbols	Test Condition	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	V(BR)CBO	I _C =100uA, I _E =0	80		V
Collector-emitter breakdown voltage	V(BR)CEO	I _C =1mA, I _B =0	80		V
Emitter-base breakdown voltage	V(BR)EBO	I _E =100uA, I _C =0	4		V
Collector cut-off current	I _{CBO}	V _{CB} =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	hFE(1)*	V _{CE} =1V, I _C =10mA	100	400	
	hFE(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	300		MHz

*Pulse test: pulse width ≤ 300us, duty cycle ≤ 2.0%.

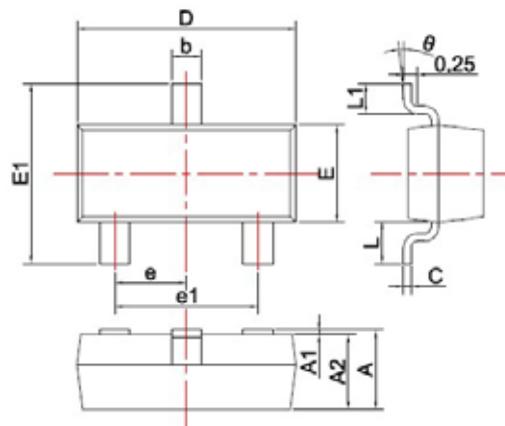
RATING AND CHARACTERISTICS CURVES (MMBTA06)



RATING AND CHARACTERISTICS CURVES (MMBTA06)



SOT-23 PACKAGE OUTLINE Plastic surface mounted package

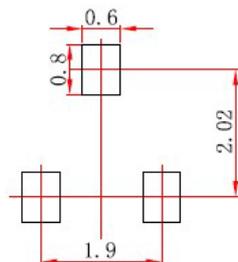


SYMBOL	DIMENSIONS	
	MIN	MAX
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

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: ± 0.05 mm.
 3. The pad layout is for reference purposes only.

REEL TAPING SPECIFICATIONS FOR SURFACE MOUNT DEVICES-SOT-23

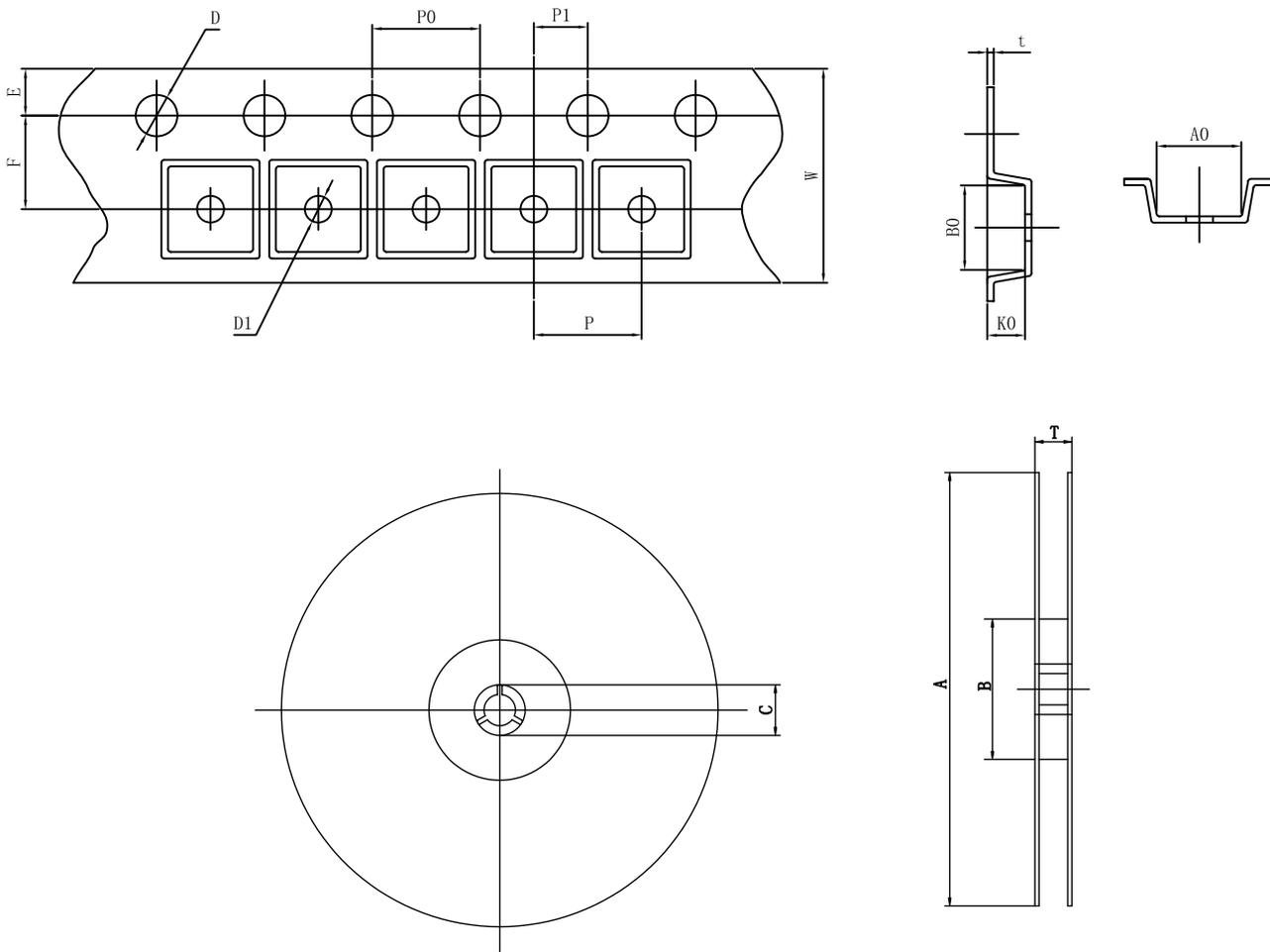


Fig.: Configuration of SOT-23 TAPING

ITEM	SYMBOL	SPECIFICATIONS (mm)	SPECIFICATIONS (inch)
Carrier width	A0	3.25 Max.	0.128 Max.
Carrier length	B0	2.87 Max.	0.113 Max.
Carrier depth	K0	1.32 Max.	0.052 Max.
Sprocket hole	D	1.5+0.1/0	0.059+0.004/0
Reel outside diameter	A	178±1.0	7.009±0.039
Reel inner diameter	B	54 Min.	2.126 Min.
Feed hole diameter	C	13.0±0.20	0.512±0.008
Sprocket hole position	E	1.75±0.10	0.069±0.004
Punch hole position	F	3.5±0.05	0.138±0.002
Punch hole pitch	P	4.0±0.10	0.158±0.004
Sprocket hole pitch	P0	4.0±0.10	0.158±0.004
Embossment center	P1	2.0±0.05	0.079±0.002
Overall tape thickness	t	0.242 Max.	0.010 Max.
Tape width	W	8.0+0.3/-0.1	0.315+0.012/-0.004
Reel width	T	12.5 Max.	0.492 Max.
Punch hole diameter	D1	1.05 Max.	0.041 Max.

Note : Devices are packed in accordance with EIA standard RS-481-A and specification given above. Available only for SOT-23 devices.

PACKAGING OF DIODE

REEL PACK

PACKAGE	PACKING CODE	REEL (EA)	COMPONENT SPACE(mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
SOT-23/-3L	-T	3,000	---	---	178	390*205*310	120,000	---

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