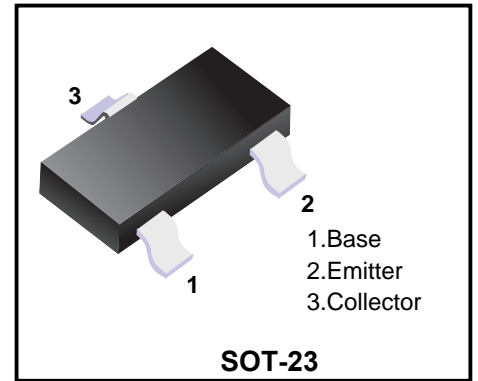


Plastic-Encapsulate Transistors

TRANSISTOR(NPN)

FEATURES

- High Voltage Application
- Telephone Application
- Complementary to MMBTA93



Marking Code	
MMBTA43	2D

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

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	200	V
V _{CEO}	Collector-Emitter Voltage	200	V
V _{EBO}	Emitter-Base Voltage	5	V
I _C	Collector Current	500	mA
P _C	Collector Power Dissipation	350	mW
R _{θJA}	Thermal Resistance From Junction To Ambient	357	°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	200			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =1mA, I _B =0	200			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =0.1mA, I _C =0	5			V
DC current gain	h _{FE(1)} *	V _{CE} =10V, I _C =10mA	40			
	h _{FE(2)} *	V _{CE} =10V, I _C =1mA	40			
	h _{FE(3)} *	V _{CE} =10V, I _C =30mA	40			
Collector-emitter saturation voltage	V _{CE(sat)} *	I _C =20mA, I _B =2mA			0.5	V
Base-emitter saturation voltage	V _{BE(sat)} *	I _C =20mA, I _B =2mA			0.9	V
Transition frequency	f _T	V _{CE} =20V, I _E =10mA, f=100MHz	50			MHz
Collector output capacitance	C _{ob}	V _{CB} =20V, I _E =0, f=1MHz			4	pF

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

Typical Characteristics

Fig. 1 Output Characteristics Curve

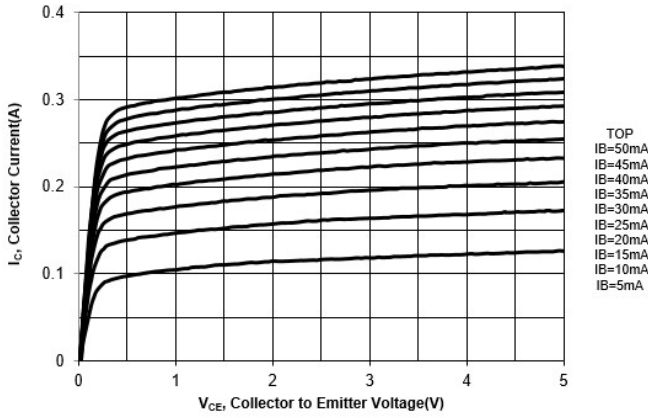


Fig. 2 Output Characteristics Curve

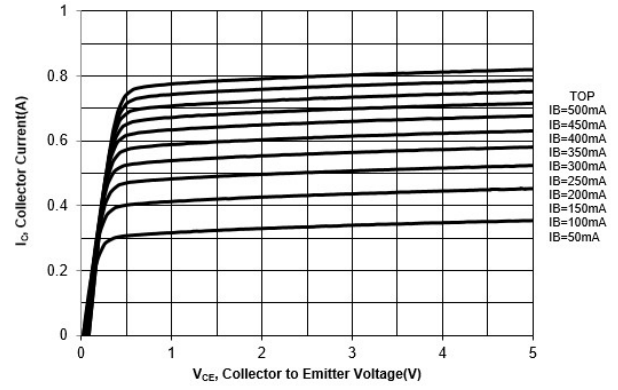


Fig. 3 Collector Current vs. V_{BE}

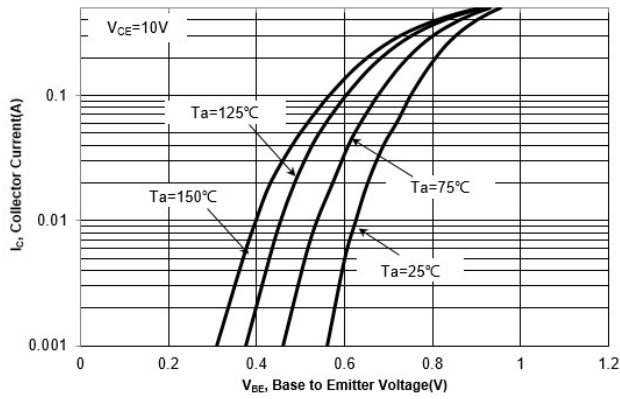
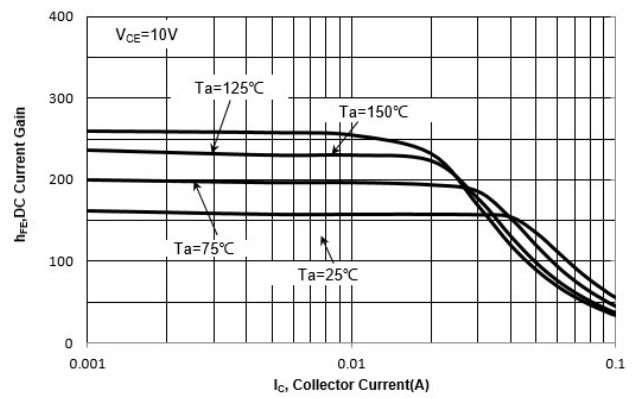


Fig. 4 h_{FE} vs. Collector Current



Ordering information

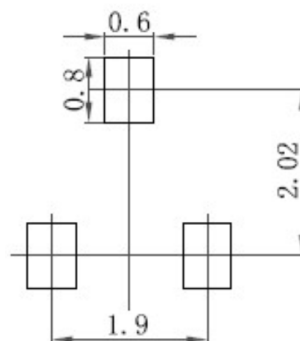
Package	Packing Description	Base Quantity	Packing Quantity
SOT-23	Tape/Reel,7"reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

Package Dimensions

SOT-23

Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	0.9	1.15	35	45
A1	0.1		3.9	
bp	0.38	0.48	15	19
C	0.09	0.15	3.54	5.9
D	2.8	3.0	110	118
E	1.2	1.4	47	55
E	1.9		75	
E1	0.95		37	
HE	2.1	2.55	83	100
Lp	0.15	0.45	5.9	18
Q	0.45	0.55	18	22
v	0.2		7.9	
W	0.1		4	

The recommended mounting pad size



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