MMBTA44

NPN HIGH VOLTAGE TRANSISTOR

VOLTAGE	400 Volt	POWER	225 mWatt

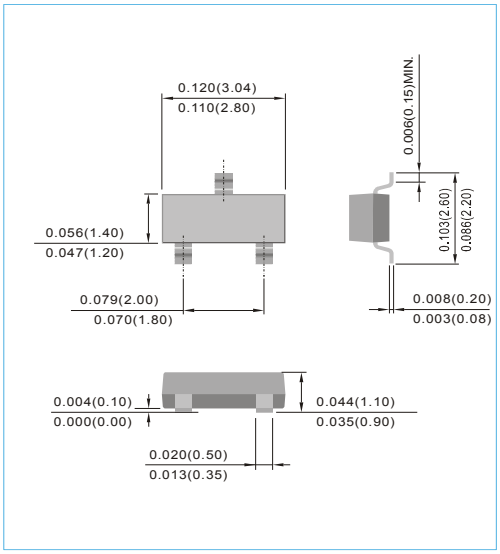
FEATURES

- Silicon, planar design
- Collector-emitter voltage V_{CE} = 400V
- Collector current I_C = 300mA
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

MECHANICAL DATA

- Case: SOT-23, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0003 ounces, 0.008 grams
- Marking: A44

SOT-23 Unit : inch(mm)



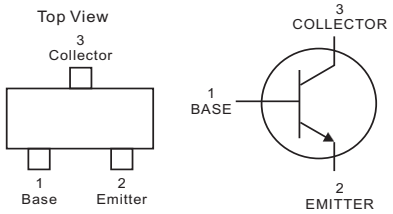
ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Units
Collector - Emitter Voltage	V_{CEO}	400	V
Collector - Base Voltage	V_{CBO}	500	V
Emitter - Base Voltage	V_{EBO}	6.0	V
Collector Current Continuous	I_C	300	mA

THERMAL CHARACTERISTICS

Parameter	Symbol	Value	Units
Max Power Dissipation (Note 1)	P_{TOT}	225	mW
Thermal Resistance ,Junction to Ambient	$R_{\theta JA}$	556	°C/W
Junction Temperature	T_J	-55 to 150	°C
Storage Temperature	T_{STG}	-55 to 150	°C

Note 1: Transistor mounted on FR-5 board 1 x 0.75 x 0.062 in.



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ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Test Condition	MIN.	TYP.	MAX.	Units
Collector - Emitter Breakdown Voltage	$V_{(BR)}CEO$	I_C=1mA,I_B=0	400	-	-	V
Collector - Base Breakdown Voltage	$V_{(BR)}CBO$	I_C=100μA,I_E=0	500	-	-	V
Emitter - Base Breakdown Voltage	$V_{(BR)}EBO$	I_E=10μA,I_C=0	6	-	-	V
Collector Cut-off Current	I_{CBO}	V_{CB}=400V,I_E=0A	-	-	0.1	μA
Emitter Cut-off Current	I_{EBO}	V_{EB}=6V,I_C=0	-	-	0.1	μA
DC Current Gain	h_{FE}	V_{CE}=10V,I_C=1mA V_{CE}=10V,I_C=10mA V_{CE}=10V,I_C=50mA V_{CE}=10V,I_C=100mA	40 50 45 40	- - - -	- 200 - -	-
Collector - Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C=1mA,I_B=0.1mA I_C=10mA,I_B=1mA I_C=50mA,I_B=5mA	-	-	0.4 0.5 0.75	V
Base - Emitter Satruation Voltage	$V_{BE(SAT)}$	I_C=10mA,I_B=1mA	-	-	0.75	V
Collector Gain - Bandwidth Product	F_T	I_C=10mA,V_{CE}=20V, f=100MH_Z	50	-	-	MH_Z

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RATING AND CHARACTERISTIC CURVES

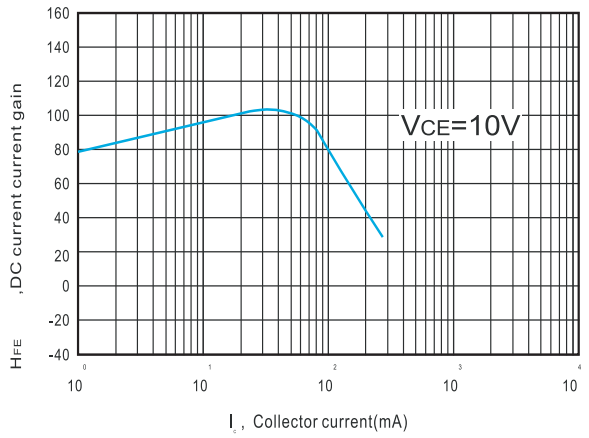

Fig.1 DC current gain

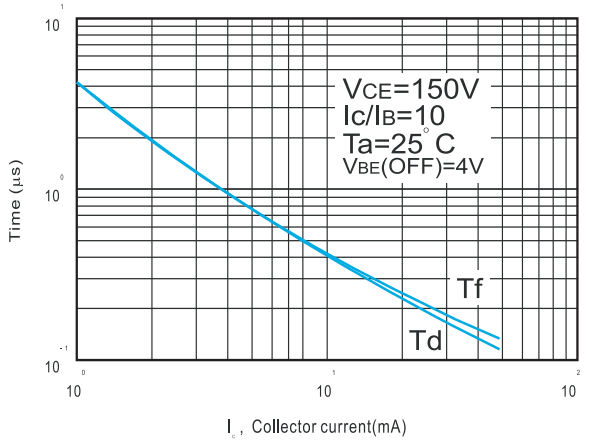

Fig.2 Turn-on switching time

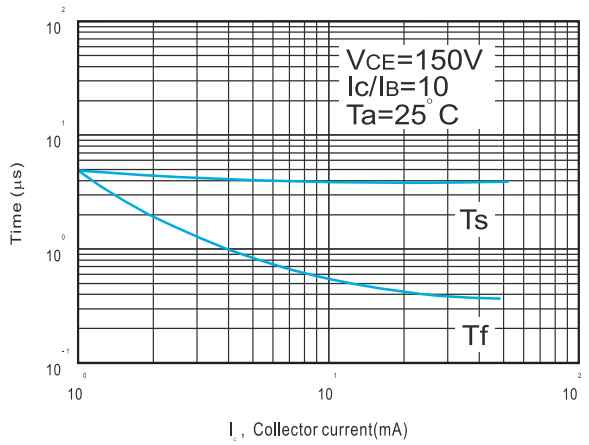

Fig.3 Turn-off switching time

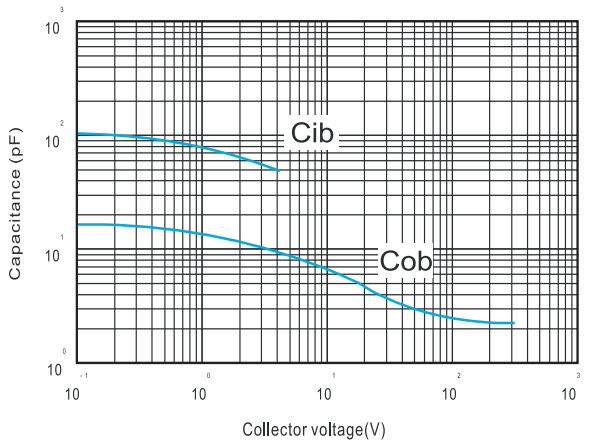

Fig.4 Capacitance

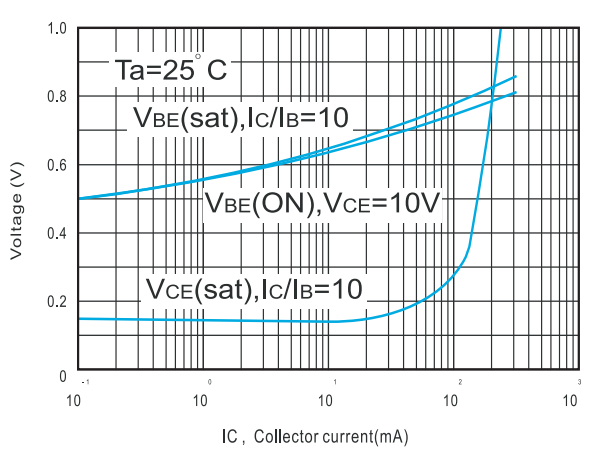

Fig.5 ON Voltage

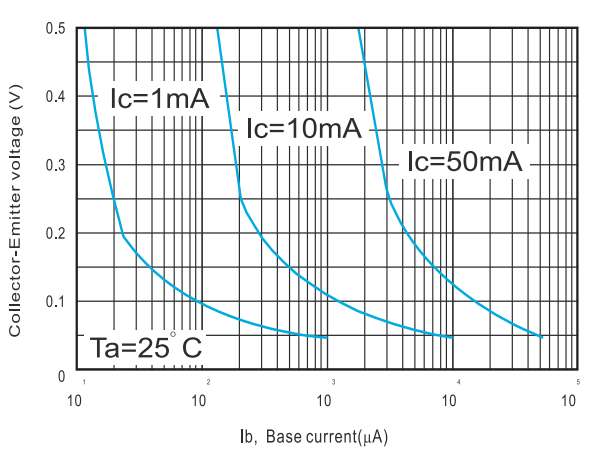

Fig.6 Collector saturation region

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RATING AND CHARACTERISTIC CURVES

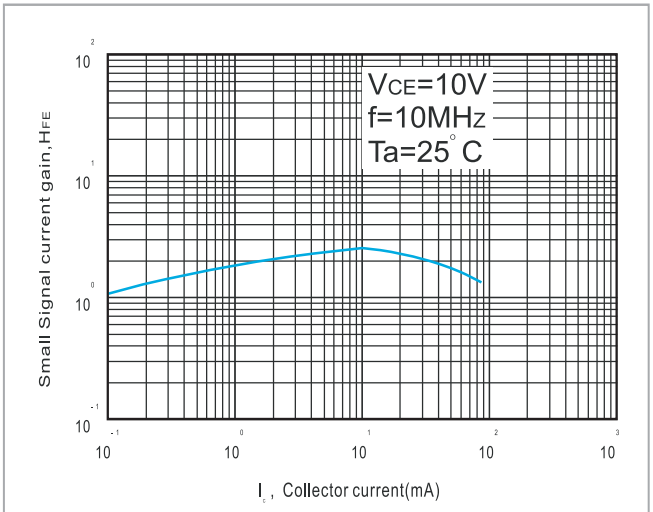

Fig.7 High Frequency current gain

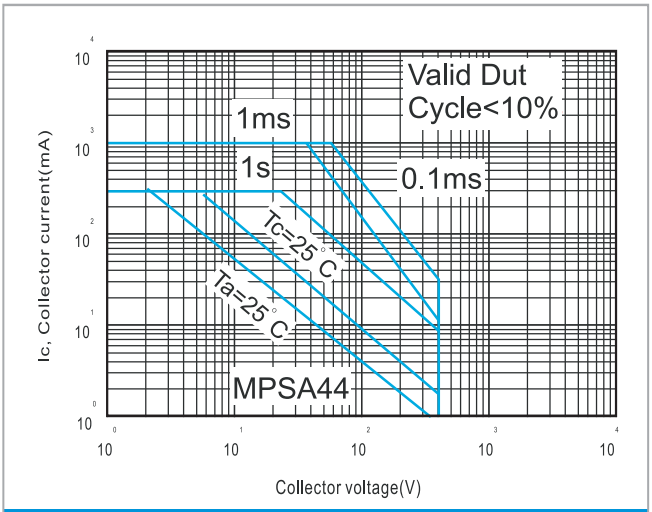

Fig.8 Safe operating area

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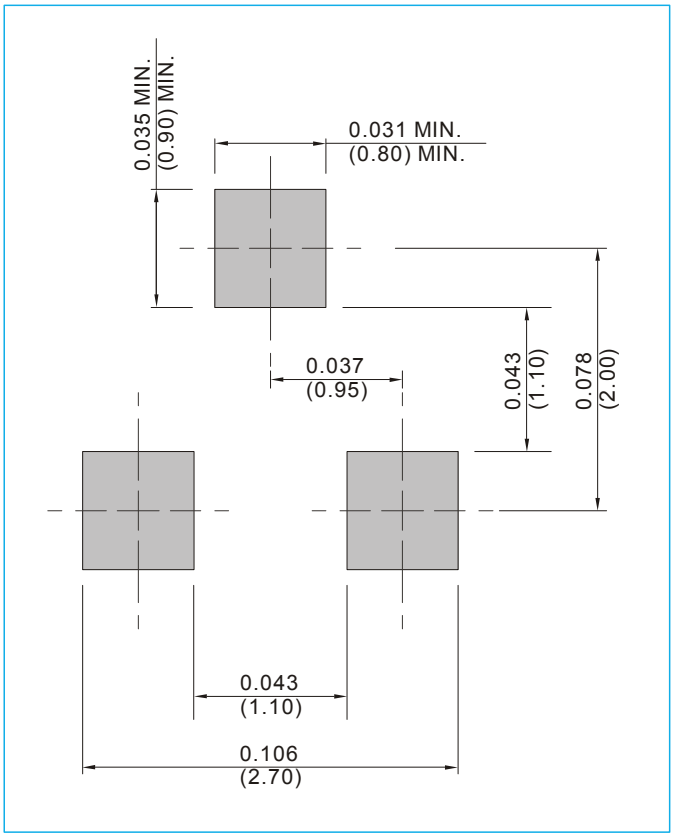
MOUNTING PAD LAYOUT

SOT-23 Unit : inch(mm)



ORDER INFORMATION

- Packing information

  T/R - 12K per 13" plastic Reel

  T/R - 3K per 7" plastic Reel

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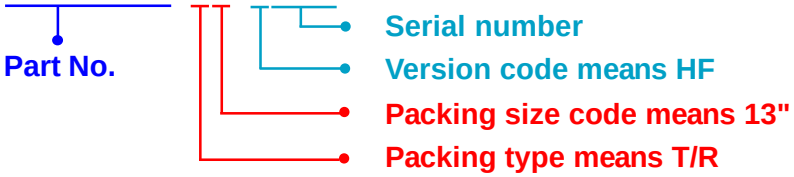
Part No_packing code_Version

MMBTA44_R1_00001

MMBTA44_R2_00001

For example :

RB500V-40_R2_00001



Packing Code XX				Version Code XXXXX		
Packing type	1st Code	Packing size code	2nd Code	HF or RoHS	1st Code	2nd~5th Code
Tape and Ammunition Box (T/B)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			

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