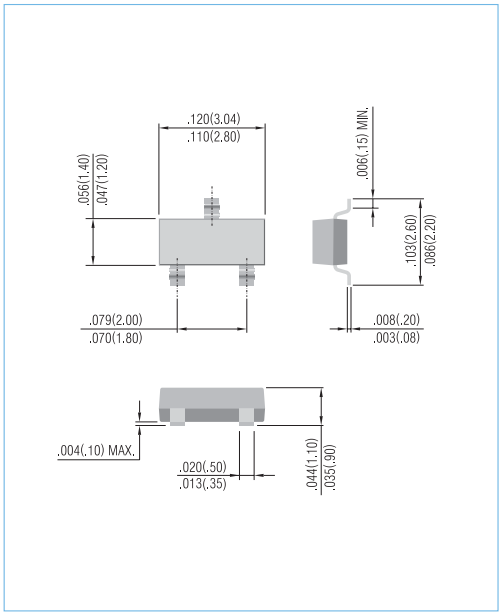
MMBTA44

NPN HIGH VOLTAGE TRANSISTOR

VOLTAGE 400 Volts **POWER** 225 mWatts

SOT-23 Unit: inch (mm)



FEATURES

- Silicon, planar design
- Collector-emitter voltage V_{CE} = 400V
- Collector current I_C = 300mA
- In compliance with EU RoHS 2002/95/EC directives

MECHANICAL DATA

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

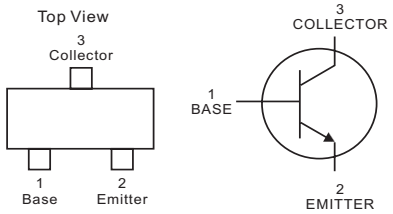
ABSOLUTE MAXIMUM RATINGS

PARAMETER	Symbol	Value	Units
Collector - Emitter Voltage	V_{CEO}	400	V
Collector - Base Voltage	V_{CBO}	400	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	^{O}C/W
Junction Temperature	T_J	-55 to 150	^{O}C
Storage Temperature	T_{STG}	-55 to 150	^{O}C

Note 1: Transistor mounted on FR-5 board 1.0 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=-1.0mA,I_B=0	500	-	-	V
Collector - Base Breakdown Voltage	$V_{(BR)}CBO$	I_C=-100μA,I_E=0	400	-	-	V
Emitter - Base Breakdown Voltage	$V_{(BR)}EBO$	I_E=-10μA,I_C=0	6.0	-	-	V
Collector Cut-off Current	I_{CBO}	V_{CB}=400V,I_E=0A	-	-	0.1	μA
Emitter Cut-off Current	I_{EBO}	V_{EB}=6.0V,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

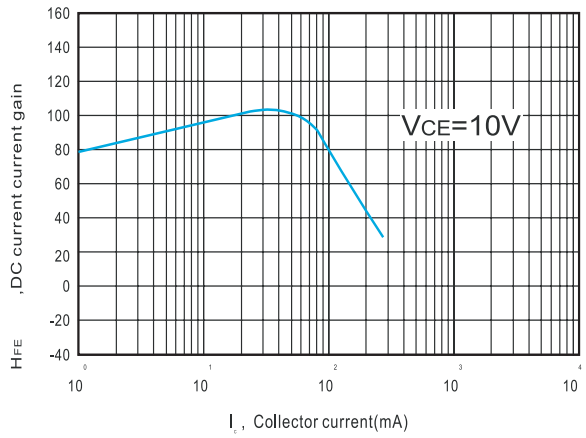

Fig.1 DC current gain

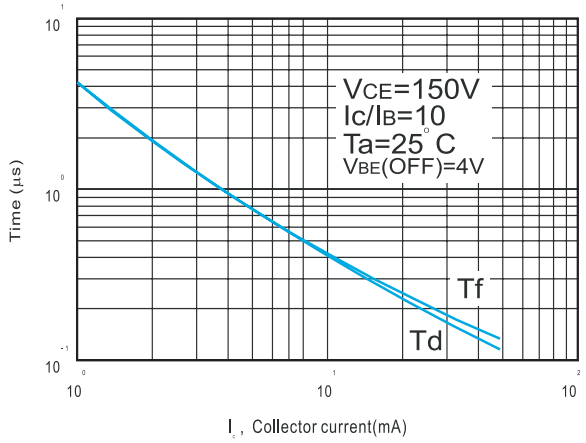

Fig.2 Turn-on switching time

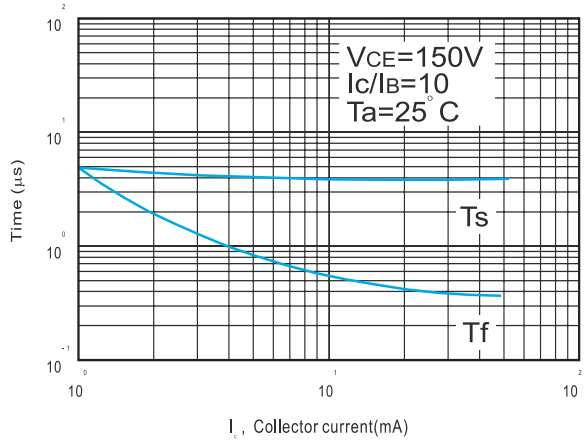

Fig.3 Turn-off switching time

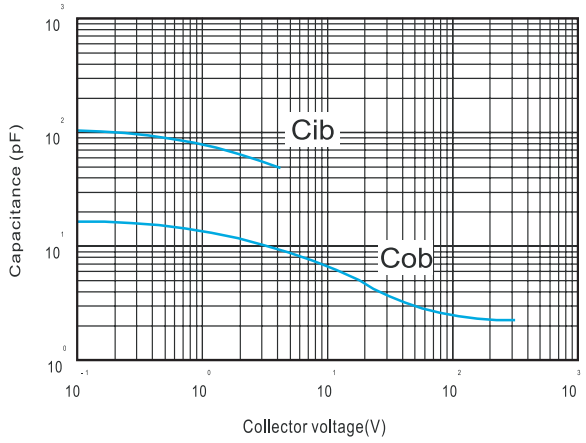

Fig.4 Capacitance

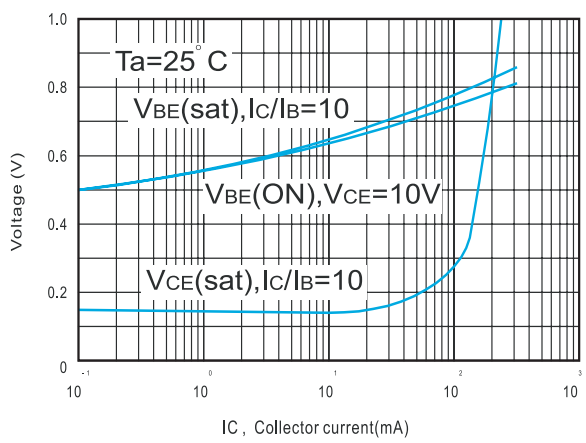

Fig.5 ON Voltage

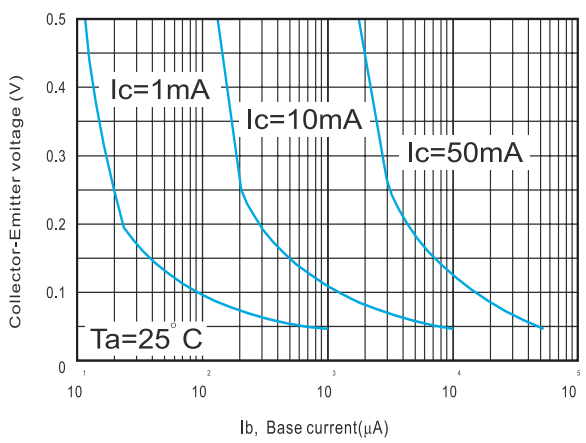

Fig.6 Collector saturation region

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RATING AND CHARACTERISTIC CURVES

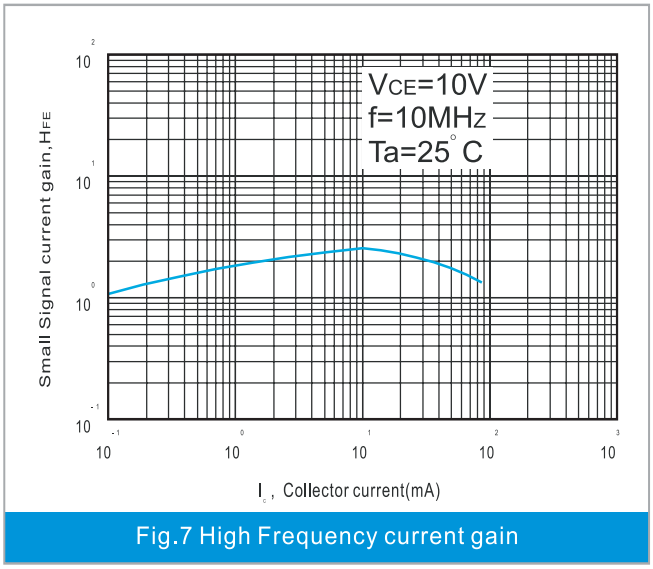

Fig.7 High Frequency current gain

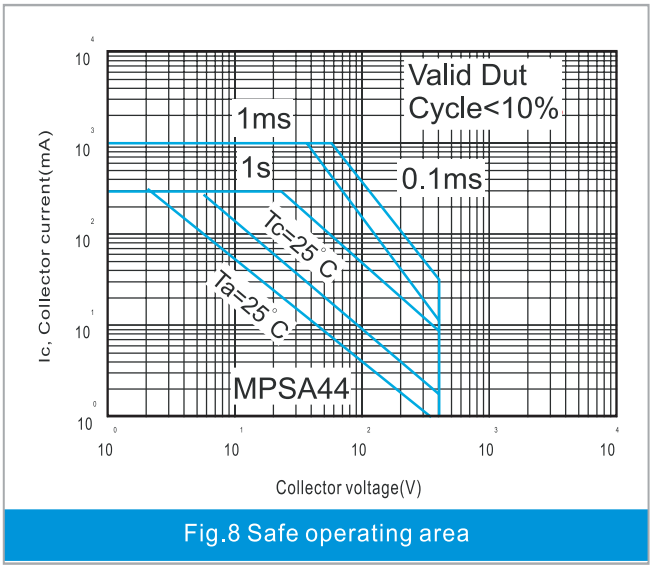

Fig.8 Safe operating area

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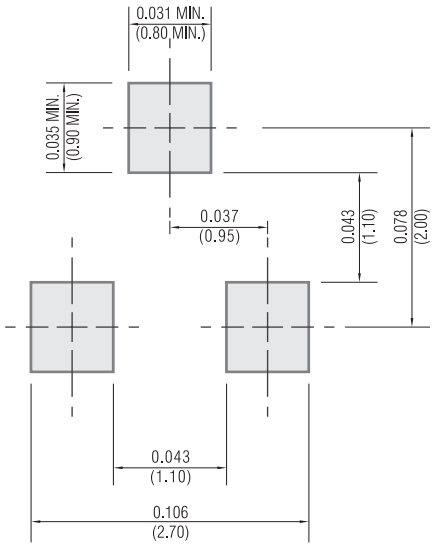
MOUNTING PAD LAYOUT

SOT-23 Unit: inch (mm)



ORDER INFORMATION

- Packing information

  T/R - 12K per 13" plastic Reel

  T/R - 3K per 7” plastic Reel

LEGAL STATEMENT