

MMBT5551-AU

NPN HIGH VOLTAGE TRANSISTOR

VOLTAGE 160 Volt **POWER** 250 mWatt

FEATURES

- NPN Silicon, planar design
- Collector-emitter voltage $V_{CE} = 160V$
- Collector current $I_C = 600mA$
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

MECHANICAL DATA

- Case : SOT-23, Plastic
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0084 grams

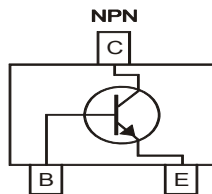
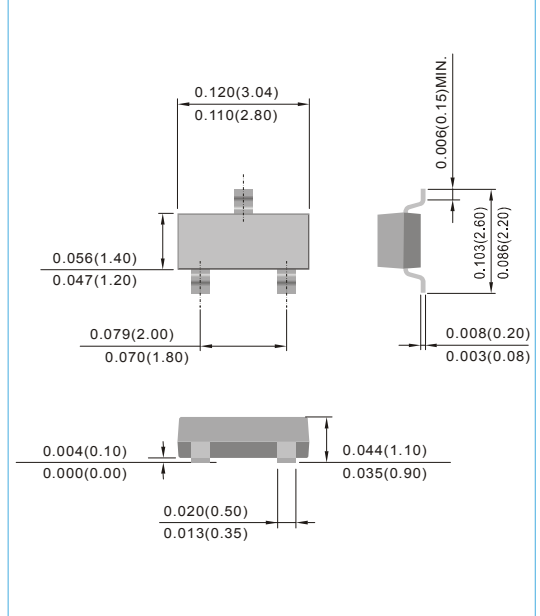


Fig.34(TOP VIEW)

SOT-23

Unit : inch(mm)



ABSOLUTE MAXIMUM RATINGS ($T_A=25^{\circ}C$ unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNITS
Collector - Emitter Voltage	V_{CEO}	160	V
Collector - Base Voltage	V_{CBO}	180	V
Emitter - Base Voltage	V_{EBO}	6	V
Collector Current Continuous	I_C	600	mA

THERMAL CHARACTERISTICS ($T_A=25^{\circ}C$ unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNITS
Max Power Dissipation (Note 1)	P_D	250	mW
Thermal Resistance ,Junction to Ambient (Note 1)	$R_{\theta JA}$	325	$^{\circ}C/W$
Operating Junction Temperature and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^{\circ}C$

NOTES :

1. Mounted on FR-4 PCB, single sided copper, mini pad.

MMBT5551-AU

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Collector - Emitter Breakdown Voltage	V _{(BR)CEO}	I _C =1mA, I _B =0A	160	-	-	V
Collector - Base Breakdown Voltage	V _{(BR)CBO}	I _C =100uA, I _E =0A	180	-	-	V
Emitter - Base Breakdown Voltage	V _{(BR)EBO}	I _E =10uA, I _C =0A	6	-	-	V
Collector - Base Cut-off Current	I _{CBO}	V _{CB} =120V, I _E =0A	-	-	50	nA
Emitter - Base Cut-off Current	I _{EBO}	V _{EB} =4V, I _C =0A	-	-	50	nA
DC Current Gain	h _{FE}	V _{CE} =5V, I _C =1mA V _{CE} =5V, I _C =10mA V _{CE} =5V, I _C =50mA	80 80 30	- - -	- 250 -	-
Collector - Emitter Saturation Voltage	V _{CE(SAT)}	I _C =10mA, I _B =1mA I _C =50mA, I _B =5mA	- -	- -	150 200	mV
Base - Emitter Satruation Voltage	V _{BE(SAT)}	I _C =10mA, I _B =1mA I _C =50mA, I _B =5mA	- -	- -	1 1	V
Collector-Base Capacitance	C _{CBO}	V _{CB} =10V, I _E =0A, f=1MHz	-	-	6	pF
Emitter-Base Capacitance	C _{EBO}	V _{EB} =500mV, I _C =0A, f=1MHz	-	-	30	pF
Transition frequency	F _T	I _C =10mA, V _{CE} =10V, f=100MHz	100	-	300	MHz

MMBT5551-AU

RATING AND CHARACTERISTIC CURVES

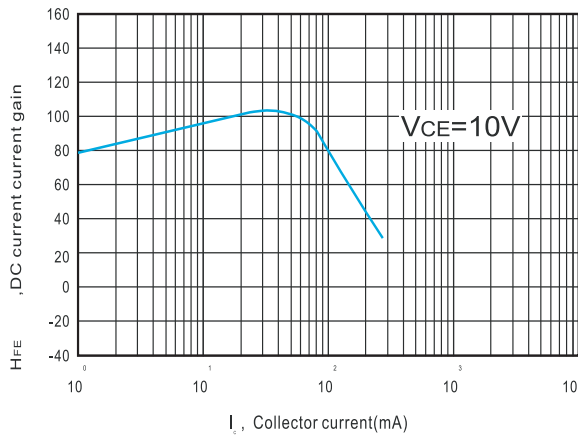


Fig.1 DC current gain

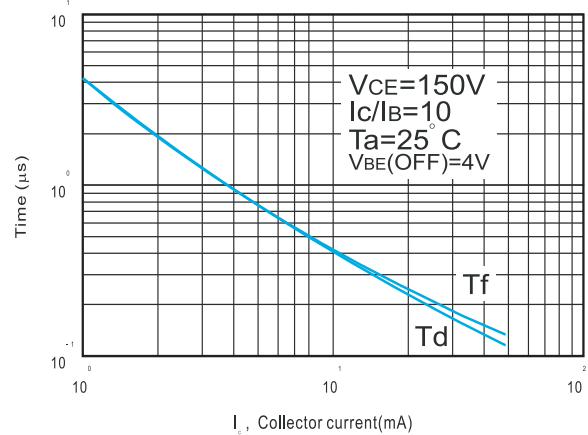


Fig.2 Turn-on switching time

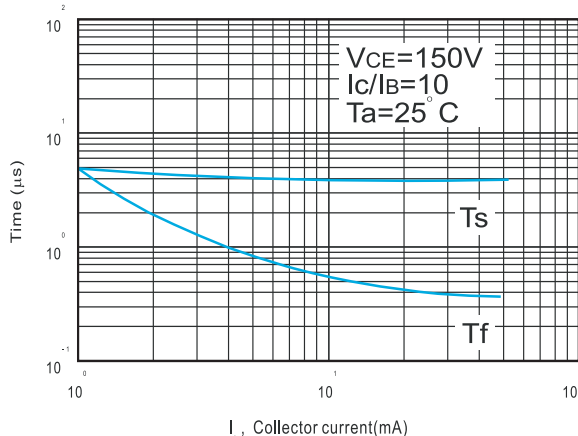


Fig.3 Turn-off switching time

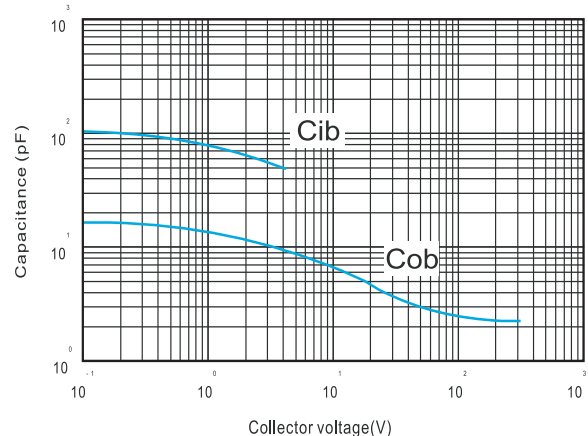


Fig.4 Capacitance

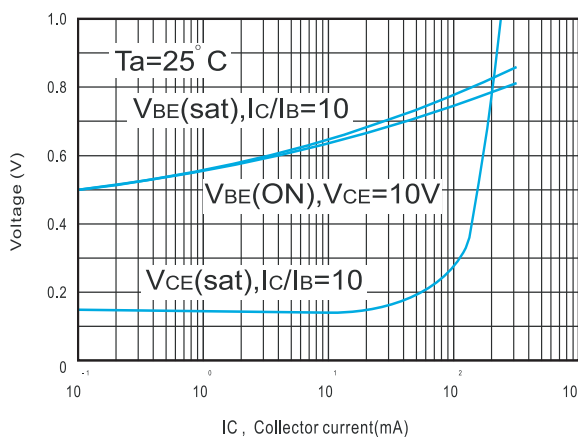


Fig.5 ON Voltage

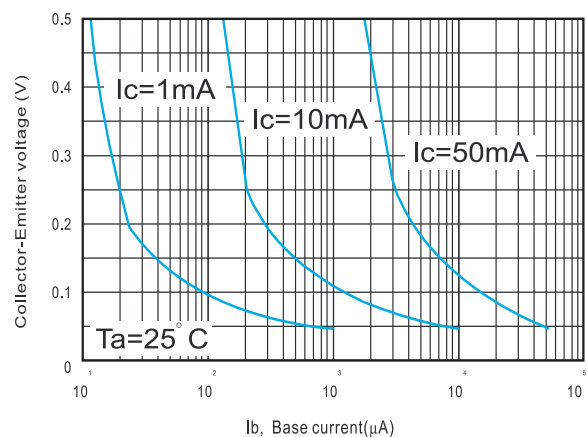


Fig.6 Collector saturation region

MMBT5551-AU

RATING AND CHARACTERISTIC CURVES

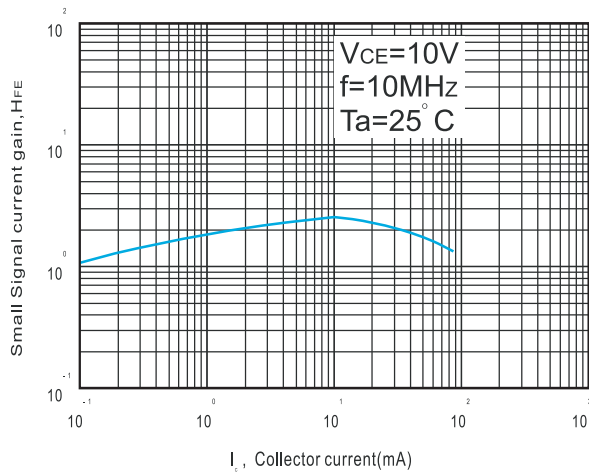


Fig.7 High Frequency current gain

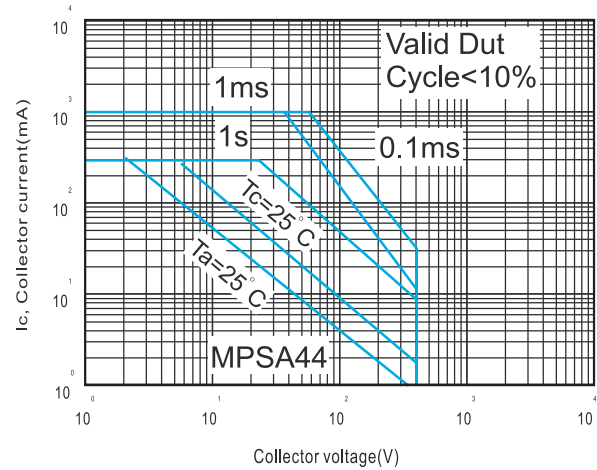


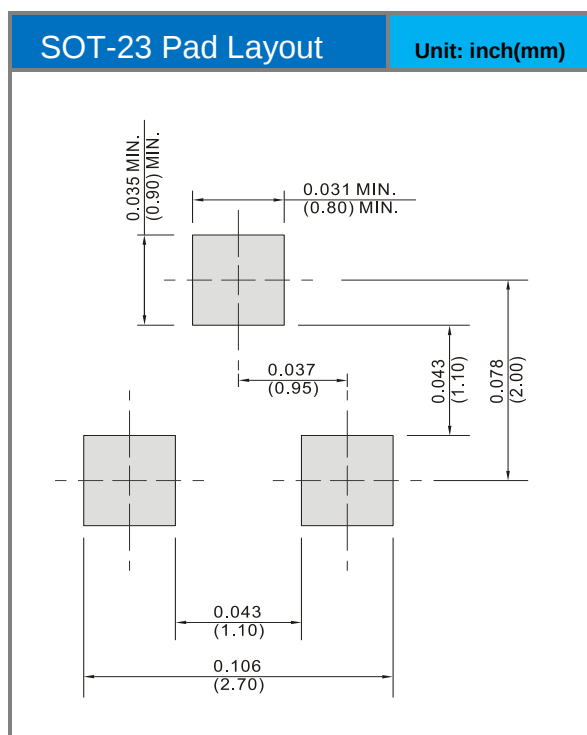
Fig.8 Safe operating area

MMBT5551-AU

Product and Packing Information

Part No.	Package Type	Packing Type	Marking
MMBT5551-AU	SOT-23	3K pcs / 7" reel	M51

Mounting Pad Layout



MMBT5551-AU

Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Panjit:](#)

[MMBT5551-AU_R1_000A2](#)