MMBT5551W-AU

NPN HIGH VOLTAGE TRANSISTOR

VOLTAGE 160 Volts **POWER** 200 mWatts

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-323, Plastic
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.005 grams

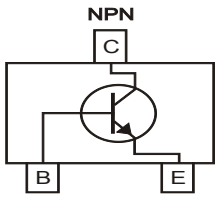
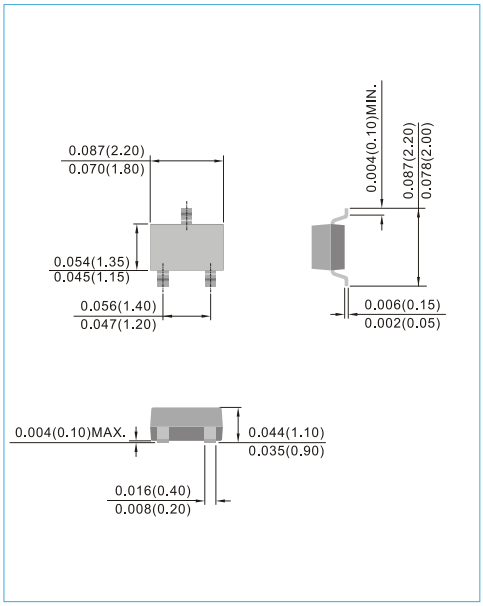


Fig.34(TOP VIEW)

SOT-323 Unit : inch(mm)



ABSOLUTE MAXIMUM RATINGS (T_A=25°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°C unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNITS
Max Power Dissipation (Note 1)	P_D	200	mW
Thermal Resistance ,Junction to Ambient (Note 1)	$R_{\theta JA}$	625	°C/W
Operating Junction Temperature and Storage Temperature Range	T_J,T_{STG}	-55 to +150	°C

NOTES:

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

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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

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RATING AND CHARACTERISTIC CURVES

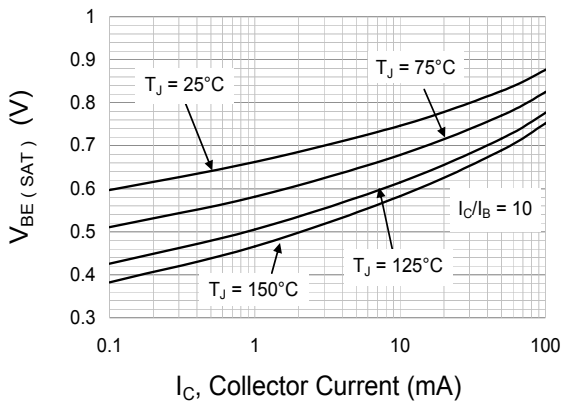


Fig.1 Base-Emitter Saturation Voltage

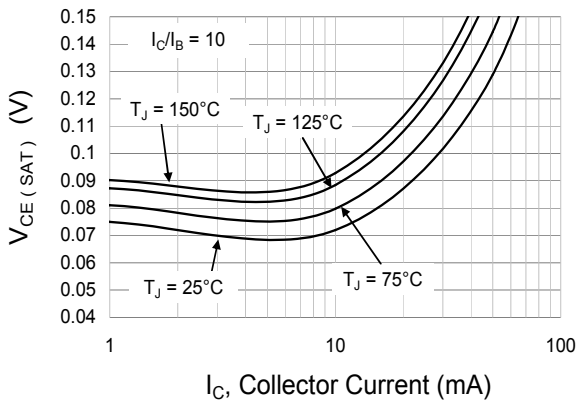


Fig.2 Collector-Emitter Saturation Voltage

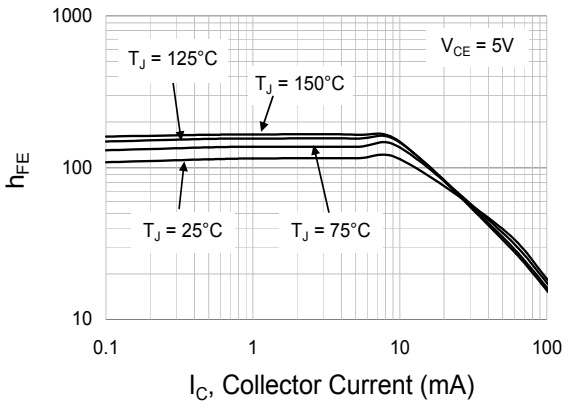


Fig.3 Typical DC Current Gain

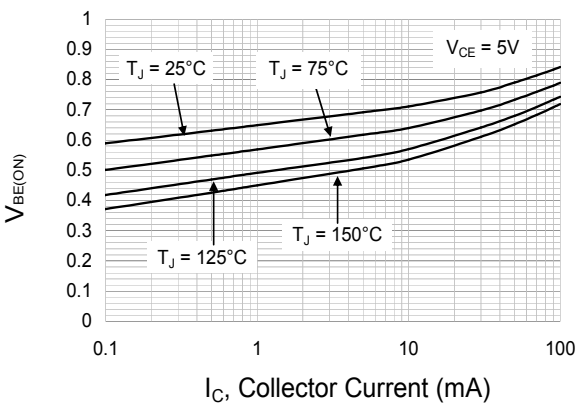


Fig.4 Base-Emitter Voltage vs. Collector Current

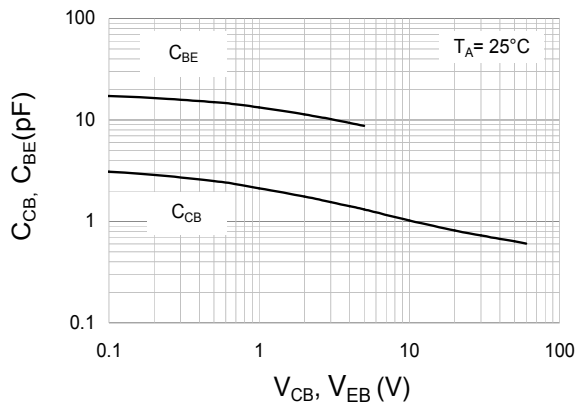


Fig.5 Typical Capacitance

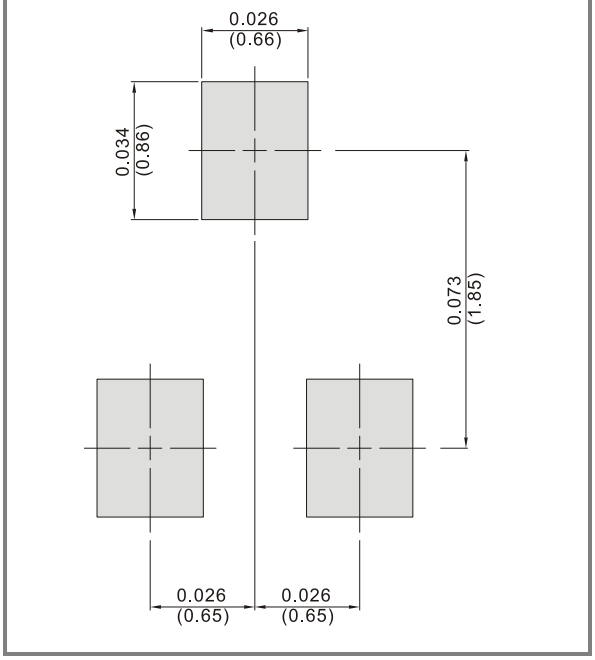
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Product and Packing Information

Part No.	Package Type	Packing Type	Marking
MMBT5551W-AU	SOT-323	3K / 7” reel	M51

Mounting Pad Layout

SOT-323 Pad Layout — Unit: inch(mm)



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