

MMBT5551W

NPN HIGH VOLTAGE TRANSISTOR

VOLTAGE 160 Volts **POWER** 200 mWatts

FEATURES

- NPN Silicon, planar design
- Collector-emitter voltage $V_{CE} = 160V$
- Collector current $I_C = 600mA$
- 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

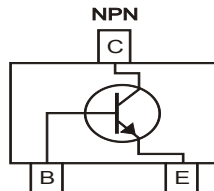
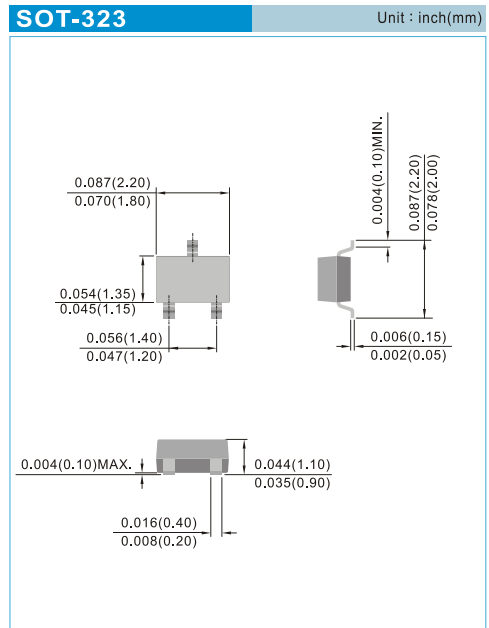


Fig.34(TOP VIEW)



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	200	mW
Thermal Resistance ,Junction to Ambient (Note 1)	$R_{\theta JA}$	625	$^{\circ}C/W$
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.

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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 =100μA, I _E =0A	180	-	-	V
Emitter - Base Breakdown Voltage	V _{(BR)EBO}	I _E =10μA, 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

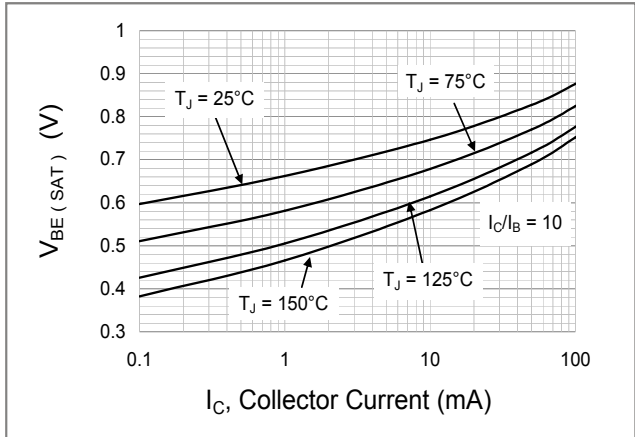


Fig.1 Base-Emitter Saturation Voltage

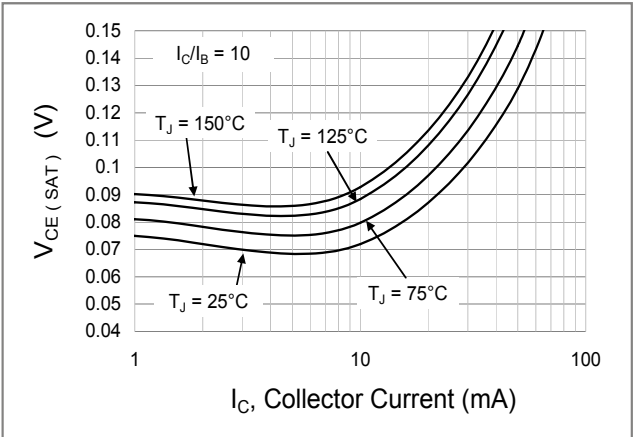


Fig.2 Collector-Emitter Saturation Voltage

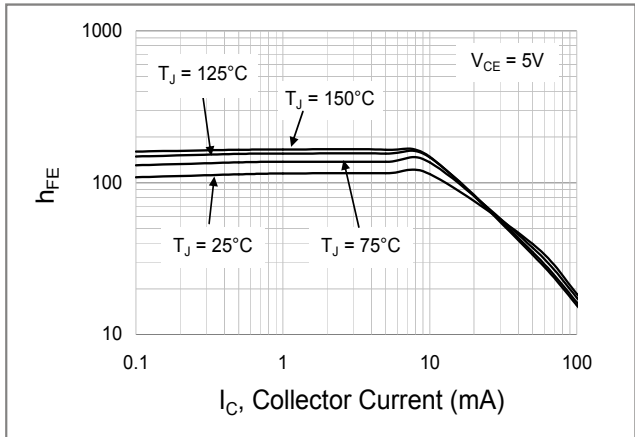


Fig.3 Typical DC Current Gain

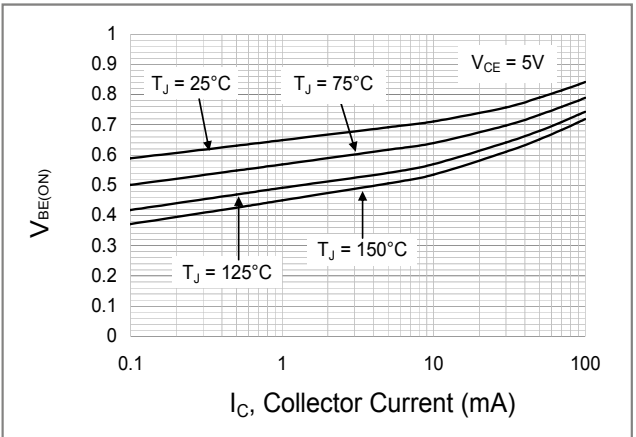


Fig.4 Base-Emitter Voltage vs. Collector Current

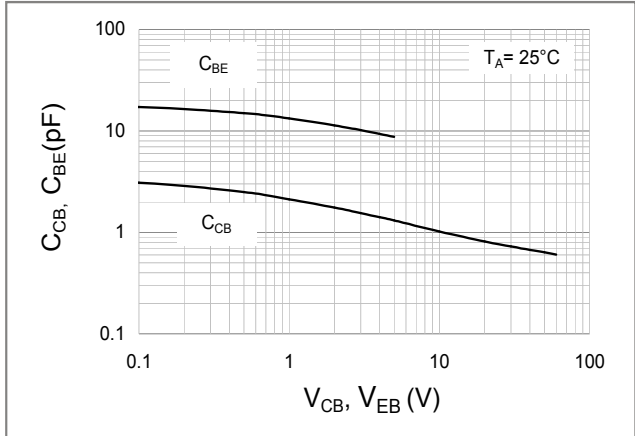


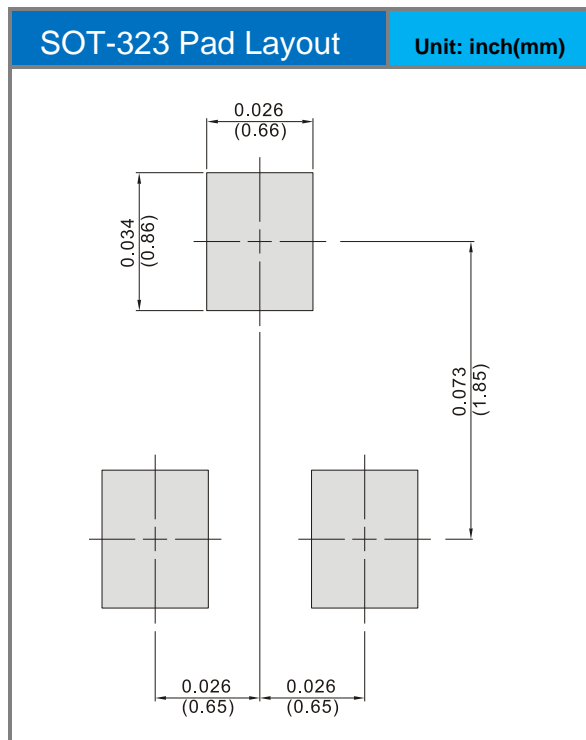
Fig.5 Typical Capacitance

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Part No. Packing Code Version

Part No.	Package Type	Packing Type	Marking	Version
MMBT5551W	SOT-323	3K / 7" reel	M51	Halogen free RoHS compliant

Mounting Pad Layout



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