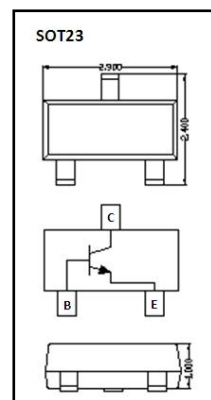


DATA SHEET

MMBT5551

- ◇ Capable of 300mWatts of Power Dissipation
- ◇ Operating and Storage Junction Temperatures: -55°C to 150°C
- ◇ Surface Mount SOT-23 Package
- ◇ RoHS compliant / Green EMC

Device Marking Code	
MMBT5551	G1



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

Symbol	Parameter	Value	Unit
V_{CB0}	Collector-Base Voltage	180	V
V_{CE0}	Collector-Emitter Voltage	160	V
V_{EB0}	Emitter-Base Voltage	6	V
I_c	Collector Current	600	mA
P_c	Collector Power Dissipation	300	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	416	$^{\circ}\text{C}/\text{W}$
T_j	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	$-55 \sim +150$	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS @ 25°C Unless Otherwise Specified

Symbol	Parameter	Test Conditions	Min	Max	Units
V_{CE0}	Collector-emitter breakdown voltage	$I_c=1.0\text{mA}$, $I_B=0$	160		V
V_{CB0}	Collector-base breakdown voltage	$I_c=100\mu\text{A}$, $I_E=0$	180		V
V_{EB0}	Emitter-base breakdown voltage	$I_E=10\mu\text{A}$, $I_c=0$	6.0		V
I_{CB0}	Collector cutoff current	$V_{CB}=120\text{V}$, $I_E=0\text{V}$		50	nA
I_{EB0}	Emitter cut-off current	$V_{EB}=4\text{V}$, $I_c=0\text{V}$		50	nA

h_{FE}	DC current gain	$I_C=1mA, V_{CE}=5V$ $I_C=10mA, V_{CE}=5V$ $I_C=50mA, V_{CE}=5V$	80 100 50	300	
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C=10mA, I_B=1.0mA$ $I_C=50mA, I_B=5.0mA$		0.15 0.2	V
$V_{BE(sat)}$	Base-emitter saturation voltage	$I_C=10mA, I_B=1.0mA$ $I_C=50mA, I_B=5.0mA$		1.0 1.0	
f_T	Current gain-bandwidth Product	$I_C=10mA,$ $V_{CE}=10V, f=100MHz$	100	300	MHZ
C_{ob}	Collector output capacitance	$V_{CB}=10V, I_E=0, f=1MHz$		6	pF

ORDERING INFORMATION

Device	Package	Shipping	Tape wide	Emboss pitch	Tape specification	Notes
MMBT5551	SOT23	Tape & Reel 3000pcs /7" Reel	8mm	4mm	Conductive	

PACKAGE DIMENSIONS

Package Outline : SOT23

The diagram illustrates the SOT23 package outline in three views: top, side, and cross-sectional. The top view shows a rectangular package with a central body and two side leads. Dimensions A, B, C, D, E, F, and G are indicated. The side view shows the package height and lead thickness. The cross-sectional view shows the internal structure and lead attachment. Dimensions H, J, and K are indicated in the cross-sectional view.

SOT23 Package Outline

Symbol	Dimensions in mm	
	Min.	Max.
A	2.800	3.040
B	2.100	2.640
C	1.200	1.400
D	0.890	1.030
E	1.780	2.050
F	0.450	0.600
G	0.013	0.100
H	0.900	1.110
J	0.090	0.180
K	0.370	0.510

Note:

1. Halogen free ,EMC
2. Pb free solder
3. Lead thickness solder plating
4. Lead frame CAC-5
5. Other Tolerance ± 0.05
6. Dimensions are exclusive of Burrs Mold Flash and Tie Bar extrusions
7. Unit : mm

SOT23 Package Outline

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