

# SOT-23 Plastic-Encapsulate Transistors

## MMBT5551 TRANSISTOR (NPN)

# Formosa MS

### FEATURES

- Complementary to MMBT5401
- Ideal for medium power amplification and switching

### MARKING: G1

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

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	180	V
$V_{CEO}$	Collector-Emitter Voltage	160	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current -Continuous	0.6	A
$P_C$	Collector Power Dissipation	300	mW
$T_j$	Junction Temperature	150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature	-55-150	$^{\circ}\text{C}$

### SOT-23

1. BASE
2. EMITTER
3. COLLECTOR



### ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	180			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}^*$	$I_C=1\text{mA}, I_B=0$	160			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}, I_C=0$	6			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=120\text{V}, I_E=0$			50	nA
Emitter cut-off current	$I_{EBO}$	$V_{EB}=4\text{V}, I_C=0$			50	nA
DC current gain	$h_{FE1}^*$	$V_{CE}=5\text{V}, I_C=1\text{mA}$	80			
	$h_{FE2}^*$	$V_{CE}=5\text{V}, I_C=10\text{mA}$	100		300	
	$h_{FE3}^*$	$V_{CE}=5\text{V}, I_C=50\text{mA}$	50			
Collector-emitter saturation voltage	$V_{CEsat}^*$	$I_C=10\text{mA}, I_B=1\text{mA}$			0.15	V
		$I_C=50\text{mA}, I_B=5\text{mA}$			0.2	
Base-emitter saturation voltage	$V_{BEsat}^*$	$I_C=10\text{mA}, I_B=1\text{mA}$			1	V
		$I_C=50\text{mA}, I_B=5\text{mA}$			1	
Transition frequency	$f_T$	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	100		300	MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$			6	pF
Input capacitance	$C_{ib}$	$V_{BE}=0.5\text{V}, I_C=0, f=1\text{MHz}$			20	pF
Noise figure	NF	$V_{CE}=5\text{V}, I_C=0.25\text{mA}, f=10\text{Hz to }15.7\text{KHz}, R_s=1\text{k}\Omega$			8	dB

\*Pulse test



Typical Characteristics MMBT5551

