

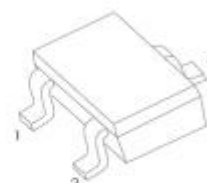
## MMBT5551T TRANSISTOR (NPN)

SOT - 523

### FEATURES

Complementary to MMBT5401

Ideal for medium power amplification and switching



1. BASE
2. EMITTER
3. COLLECTOR

MARKING: G1

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

Symbol	Parameter	Value	Units
$V_{CB0}$	Collector-Base Voltage	180	V
$V_{CE0}$	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	200	mW
$T_j$	Junction Temperature	150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature	-55-150	$^{\circ}\text{C}$

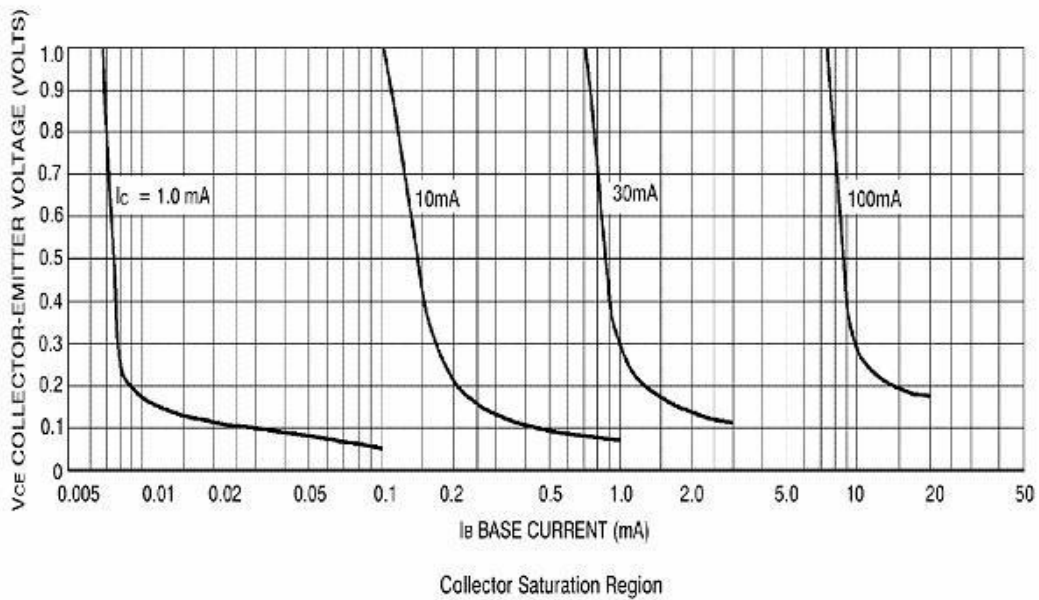
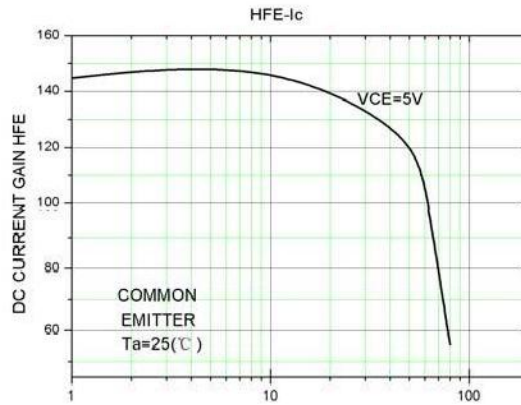
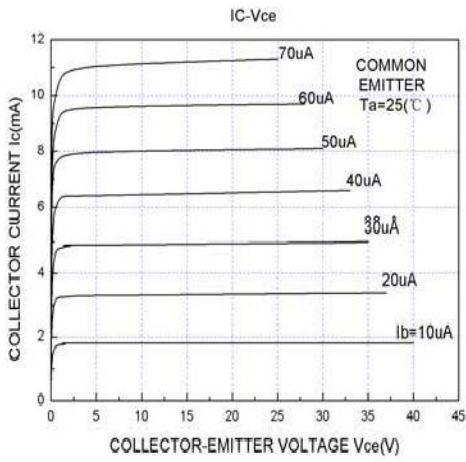
### ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

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



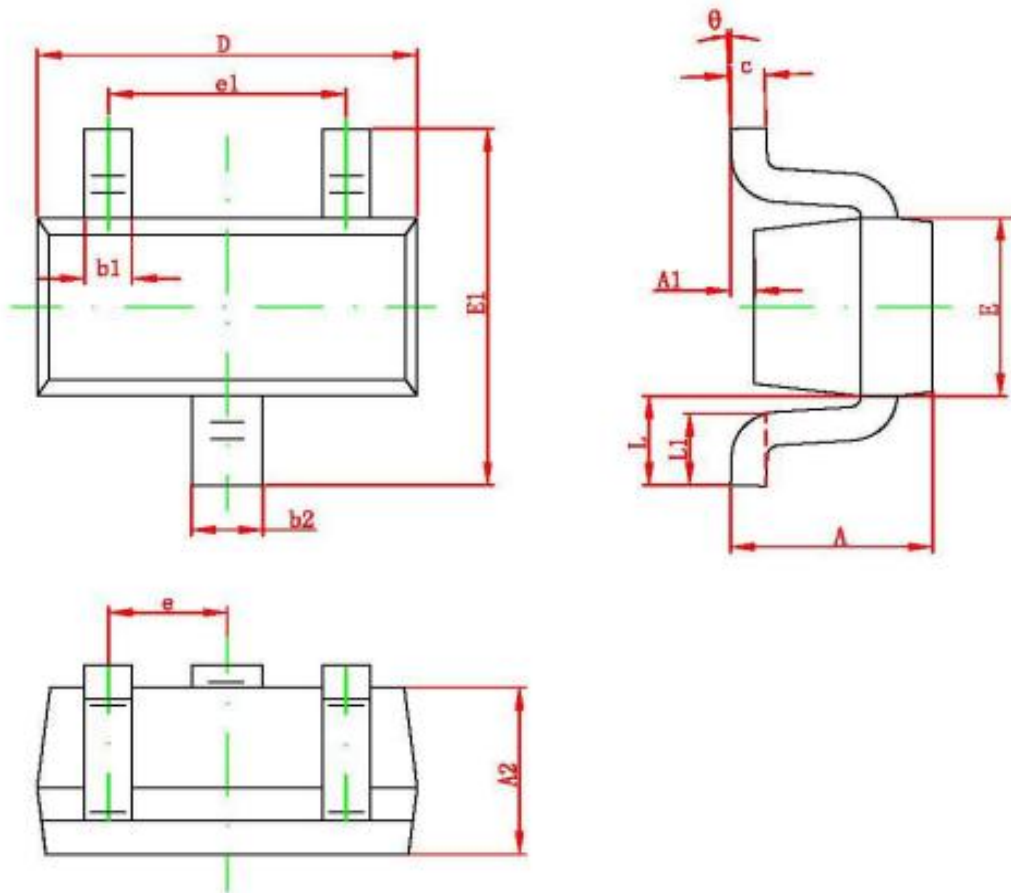
# Typical Characteristics

# MMBT5551





### SOT-523 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.400 REF.		0.016 REF.	
L1	0.260	0.460	0.010	0.018
$\theta$	0°	8°	0°	8°

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