

RoHS Compliant Product  
A suffix of "-C" specifies halogen and lead free

## FEATURES

- Ideal for Medium Power Amplification and Switching
- Complementary to MMBT5401

## MARKING

G1

## CLASSIFICATION OF $h_{FE}$

Product-Rank	MMBT5551-L	MMBT5551-H
Range	100~200	200~300

## PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-23	3K	7 inch

## ORDER INFORMATION

Part Number	Type
MMBT5551-□	Lead (Pb)-free
MMBT5551-□-C	Lead (Pb)-free and Halogen-free

\*□= $h_{FE}$  Rank

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

Parameter	Symbol	Ratings	Unit
Collector-Base Voltage	$V_{CBO}$	180	V
Collector-Emitter Voltage	$V_{CEO}$	160	V
Emitter-Base Voltage	$V_{EBO}$	6	V
Collector Current	$I_C$	0.6	A
Collector Power Dissipation	$P_C$	300	mW
Thermal Resistance from Junction-Ambient	$R_{\theta JA}$	416	$^\circ\text{C/W}$
Junction, Storage Temperature Range	$T_J, T_{STG}$	150, -55~150	$^\circ\text{C}$

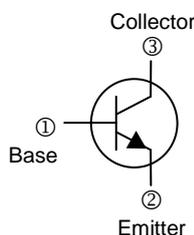
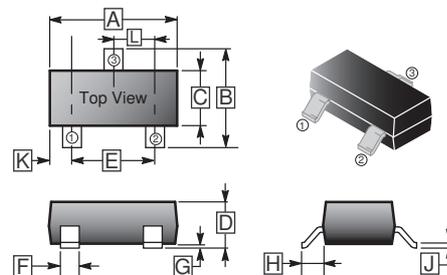
## ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	180	-	-	V	$I_C=100\mu\text{A}, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	160	-	-	V	$I_C=1\text{mA}, I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	6	-	-	V	$I_E=10\mu\text{A}, I_C=0$
Collector Cut-off Current	$I_{CBO}$	-	-	50	nA	$V_{CB}=120\text{V}, I_E=0$
Emitter Cut-off Current	$I_{EBO}$	-	-	50	nA	$V_{EB}=4\text{V}, I_C=0$
DC Current Gain <sup>1</sup>	$h_{FE}$	80	-	-		$V_{CE}=5\text{V}, I_C=1\text{mA}$
		100	-	300		$V_{CE}=5\text{V}, I_C=10\text{mA}$
		50	-	-		$V_{CE}=5\text{V}, I_C=50\text{mA}$
Collector-Emitter Saturation Voltage <sup>1</sup>	$V_{CE(sat)}$	-	-	0.15	V	$I_C=10\text{mA}, I_B=1\text{mA}$
		-	-	0.2		$I_C=50\text{mA}, I_B=5\text{mA}$
Base-Emitter Saturation Voltage <sup>1</sup>	$V_{BE(sat)}$	-	-	1	V	$I_C=10\text{mA}, I_B=1\text{mA}$
		-	-	1		$I_C=50\text{mA}, I_B=5\text{mA}$
Transition Frequency	$f_T$	100	-	300	MHz	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=100\text{MHz}$
Collector Output Capacitance	$C_{ob}$	-	-	6	pF	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$

Note:

1. Pulse test: pulse width  $\leq 300\mu\text{s}$ , duty cycle  $\leq 2\%$ .

## SOT-23



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.10	G	0	0.18
B	2.10	3.00	H	0.55	REF.
C	1.20	1.80	J	0.08	0.26
D	0.89	1.3	K	0.6	REF.
E	1.70	2.3	L	0.95	BSC.
F	0.30	0.50			

**TYPICAL CHARACTERISTICS**

