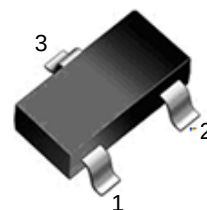


SOT-23 Plastic-Encapsulate Transistors

MMBT5551 TRANSISTOR (NPN)

• Features

- Complimentary to MMBT5401



1. BASE
2. EMITTER
3. COLLECTOR

SOT - 23

• MAXIMUM RATINGS (T_C=25°C)

Parameter	Symbol	Limit	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 To Ambient	$R_{\theta JA}$	416	°C/W
Operation Junction and Storage Temperature Range	T_J, T_{stg}	-55~+150	°C

• ELECTRICAL CHARACTERISTICS (T_a=25°C)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	180			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}^*$	$I_C=1mA, I_B=0$	160			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB}=120V, I_E=0$			50	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=4V, I_C=0$			50	nA
DC current gain	$h_{FE(1)}^*$	$V_{CE}=5V, I_C=1mA$	80			
	$h_{FE(2)}^*$	$V_{CE}=5V, I_C=10mA$	100		300	
	$h_{FE(3)}^*$	$V_{CE}=5V, I_C=50mA$	50			
Collector-emitter saturation voltage	$V_{CE(sat)1}^*$	$I_C=10mA, I_B=1mA$			0.15	V
	$V_{CE(sat)2}^*$	$I_C=50mA, I_B=5mA$			0.2	V
Base-emitter saturation voltage	$V_{BE(sat)1}^*$	$I_C=10mA, I_B=1mA$			1	V
	$V_{BE(sat)2}^*$	$I_C=50mA, I_B=5mA$			1	V
Transition frequency	f_T	$V_{CE}=10V, I_C=10mA, f=100MHz$	100		300	MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$			6	pF

*Pulse test: pulse width $\leq 300\mu s$, duty cycle $\leq 2.0\%$.

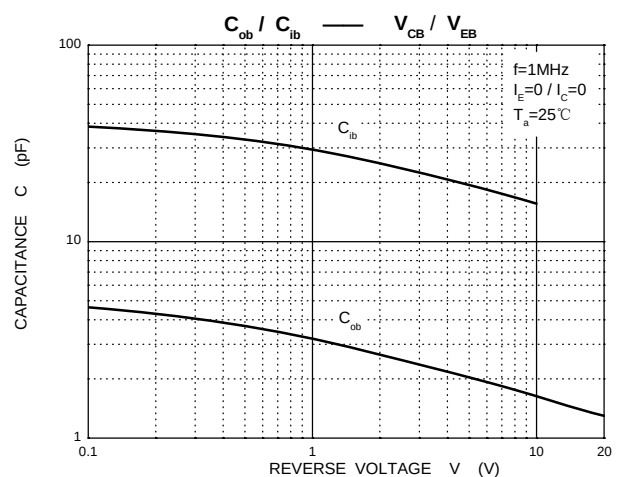
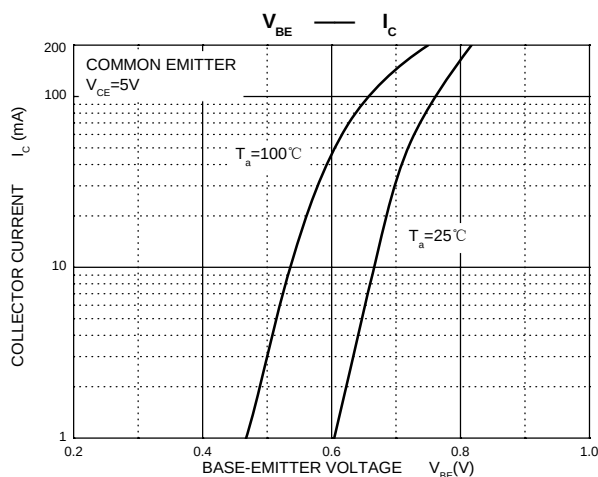
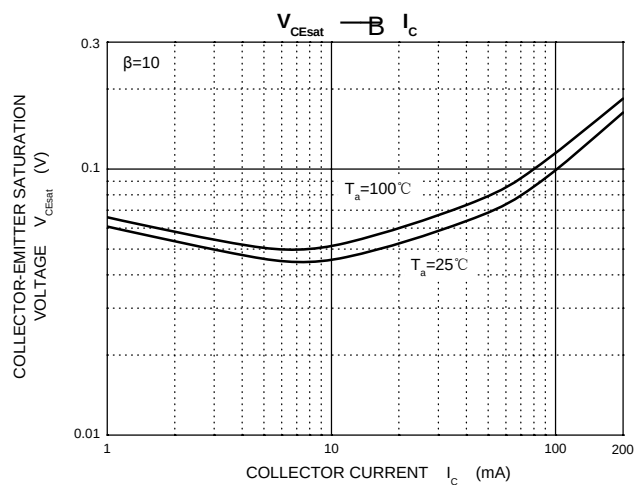
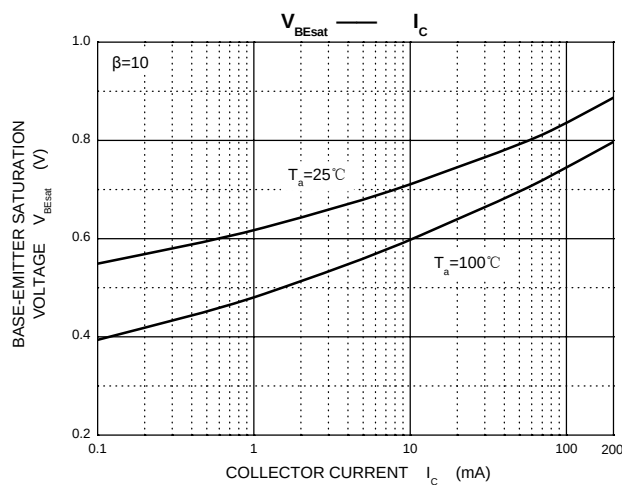
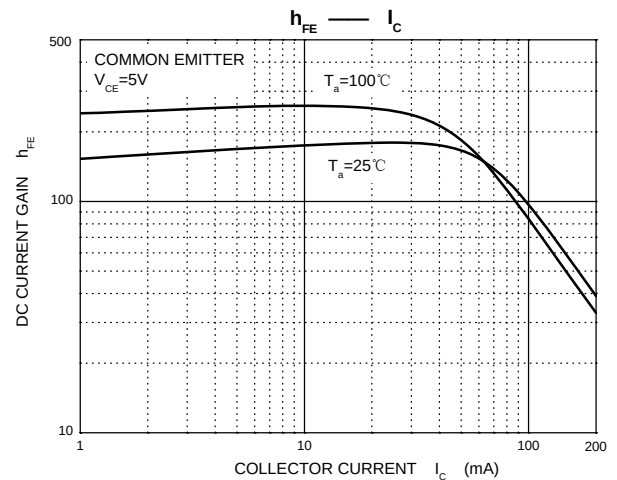
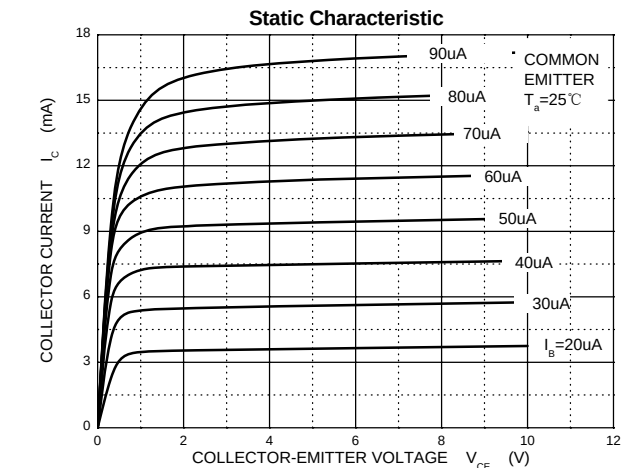
• CLASSIFICATION OF $h_{FE(1)}$

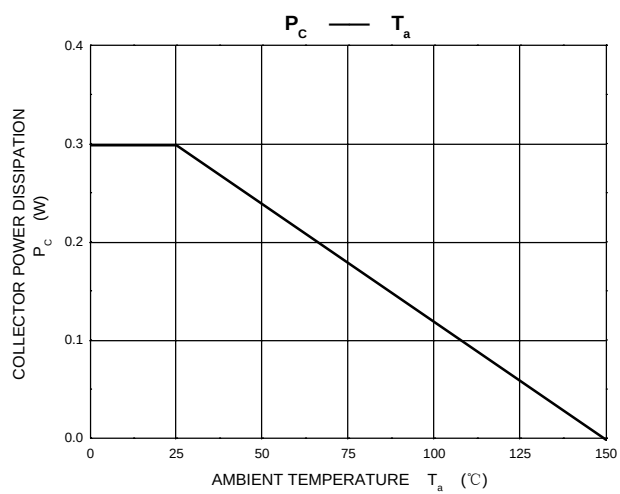
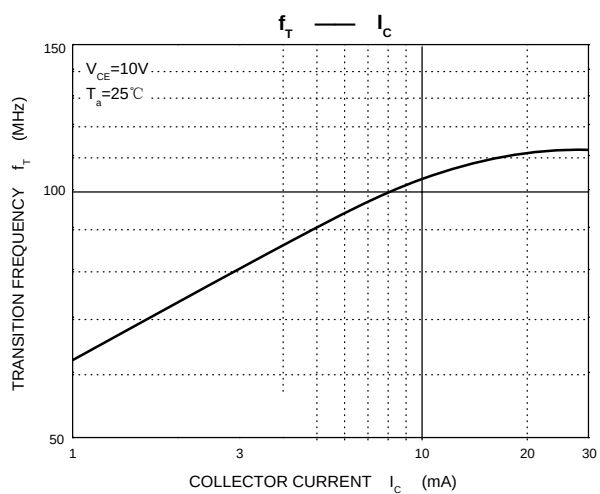
RANK	L	H
RANGE	100-200	200-300

• Ordering Information:

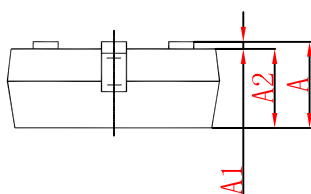
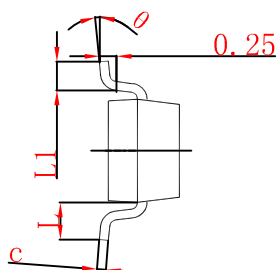
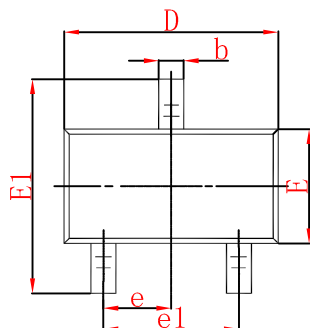
Part NO.	MMBT5551
Marking	G1
Packing Information	REEL TAPE
Basic ordering unit (pcs)	3000

• Typical Characteristics

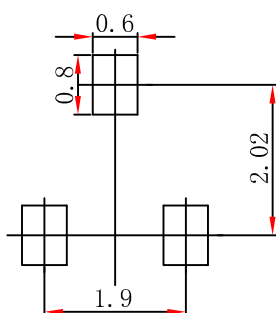




SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.