

MMBT5551

NPN TRANSISTOR

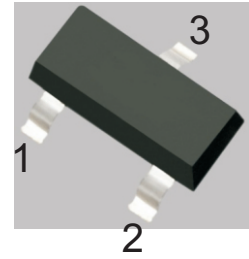
FEATURES

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

MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector–Base Voltage	V_{CB0}	180	V
Collector–Emitter Voltage	V_{CE0}	160	V
Emitter–Base Voltage	V_{EB0}	6	V
Collector Current — Continuous	I_C	600	mA
Collector Power Dissipation	P_C	300	mW
Thermal Resistance From Junction To Ambient	R_{thJA}	416	°C/W
Operation Junction and Storage Temperature Range	T_J, T_{stg}	-55~+150	°C

SOT-23



1.BASE
2.EMITTER
3.COLLECTOR

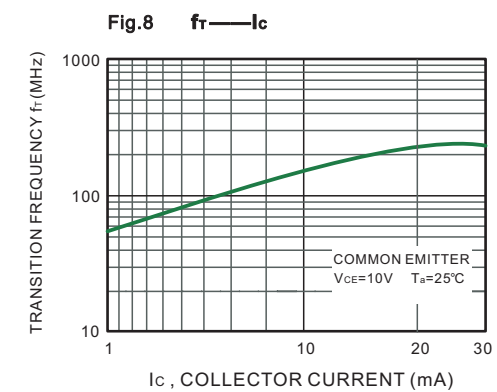
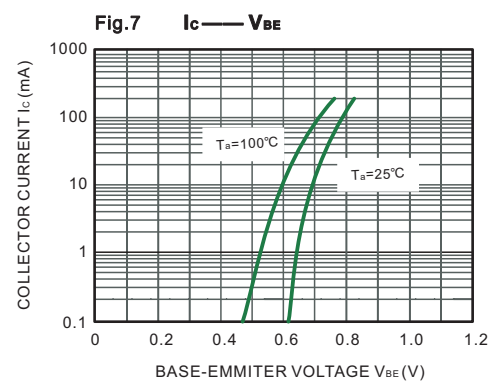
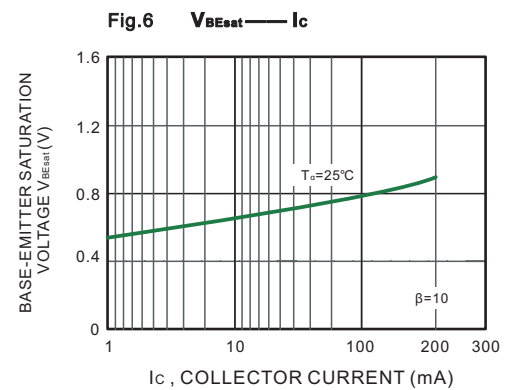
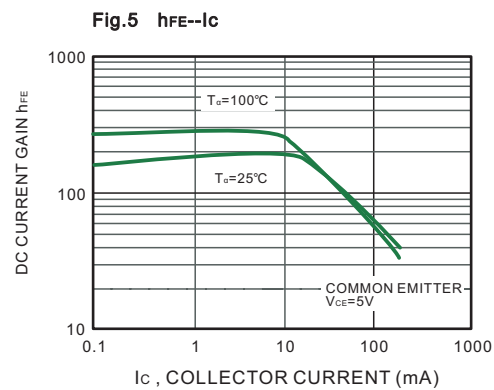
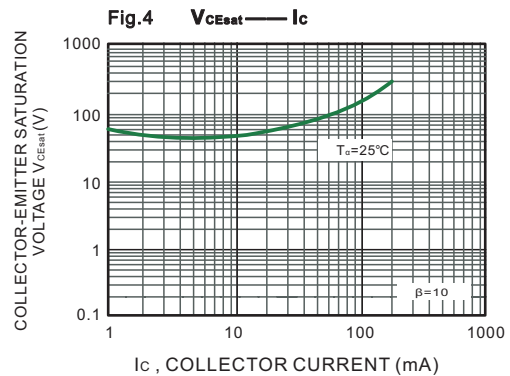
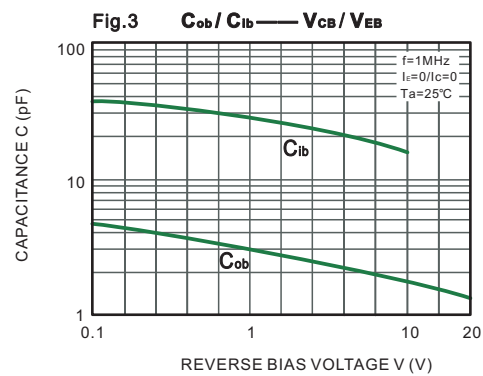
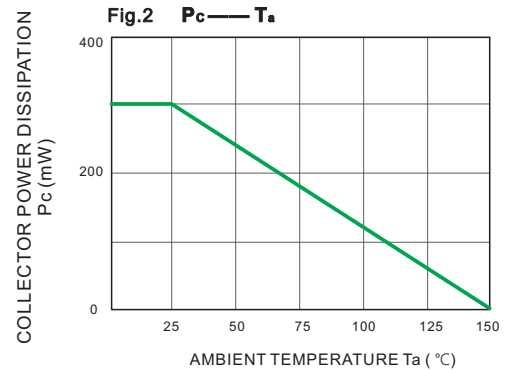
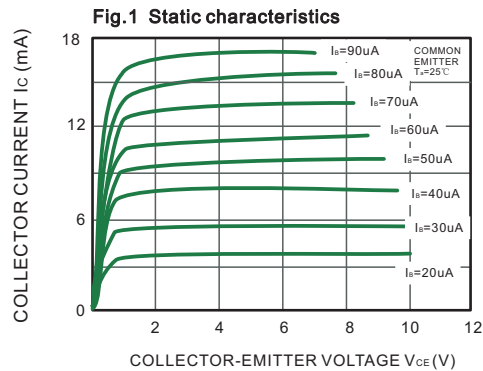
CLASSIFICATION OF h_{FE}

Rank	L	H
Range	100-200	200-300

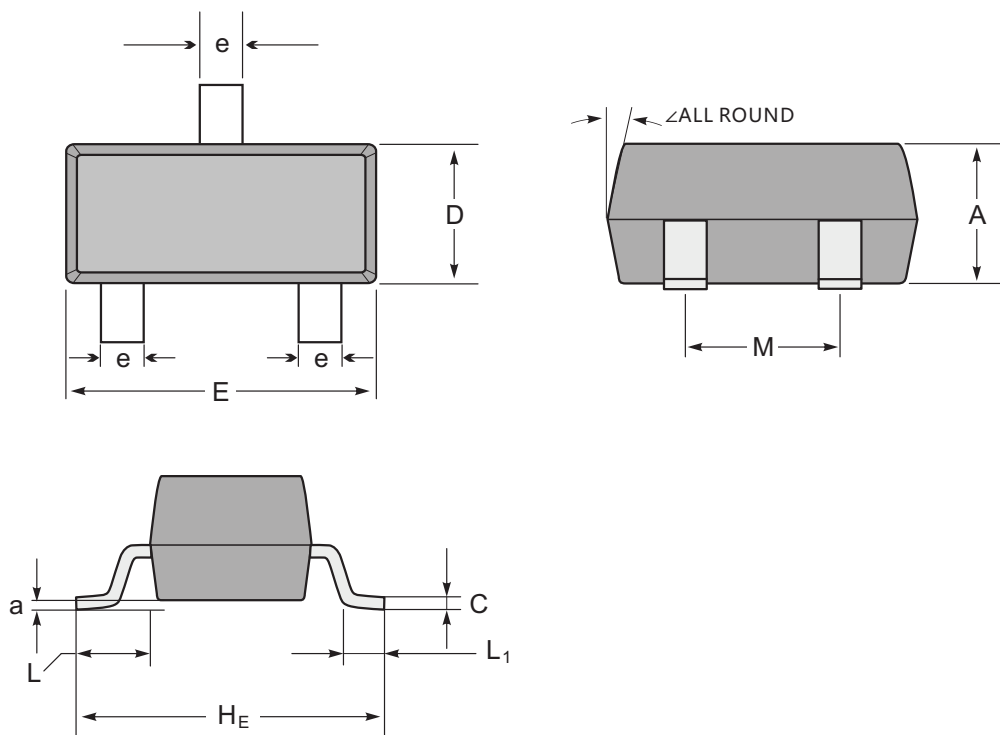
ELECTRICAL CHARACTERISTICS (TA = 25°C unless otherwise noted.)

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	$V_{(BR)CEO}$	$I_C = 1\text{ mA}, I_B = 0$	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_{FE1}	$V_{CE} = 5V, I_C = 1\text{ mA}$	80			
	h_{FE2}	$V_{CE} = 5V, I_C = 10\text{ mA}$	100		300	
	h_{FE3}	$V_{CE} = 5V, I_C = 50\text{ mA}$	50			
Collector-emitter saturation voltage	$V_{CE(sat)1}$	$I_C = 10\text{ mA}, I_B = 1\text{ mA}$			0.15	V
	$V_{CE(sat)2}$	$I_C = 50\text{ mA}, I_B = 5\text{ mA}$			0.2	V
Base-emitter saturation voltage	$V_{BE(sat)1}$	$I_C = 10\text{ mA}, I_B = 1\text{ mA}$			1	V
	$V_{BE(sat)2}$	$I_C = 50\text{ mA}, I_B = 5\text{ mA}$			1	V
Transition frequency	f_T	$V_{CE} = 10V, I_C = 10\text{ mA}, f = 100\text{ MHz}$	100		300	MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1\text{ MHz}$			6	pF

TYPICAL CHARACTERISTICS



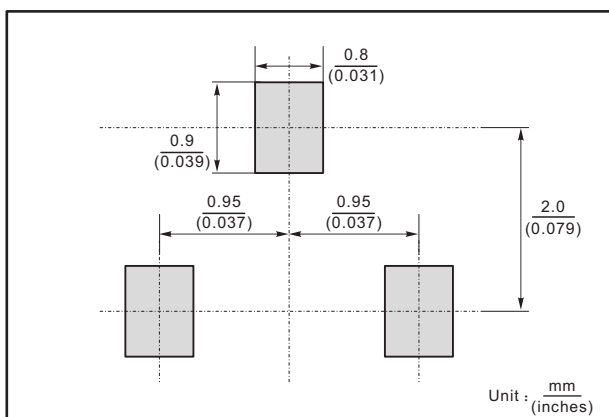
SOT-23 Package Outline Dimensions



SOT-23 mechanical data

UNIT		A	C	D	E	HE	e	M	L	L ₁	a	∠
mm	max	1.1	0.15	1.4	3.0	2.6	0.5	1.95	0.55 (ref)	0.36 (ref)	0.0	12°
	min	0.9	0.08	1.2	2.8	2.2	0.3	1.7			0.15	
mil	max	43	6	55	118	102	20	77	22 (ref)	14 (ref)	0.0	
	min	35	3	47	110	87	12	67			6	

The recommended mounting pad size

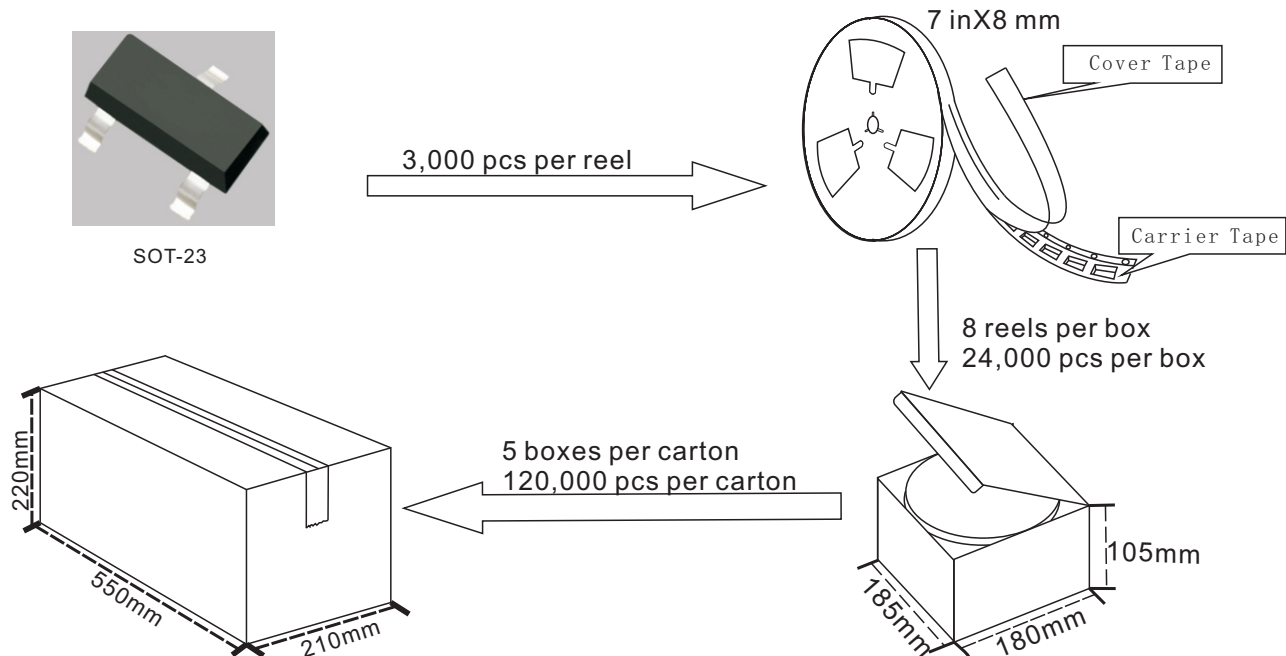


Marking

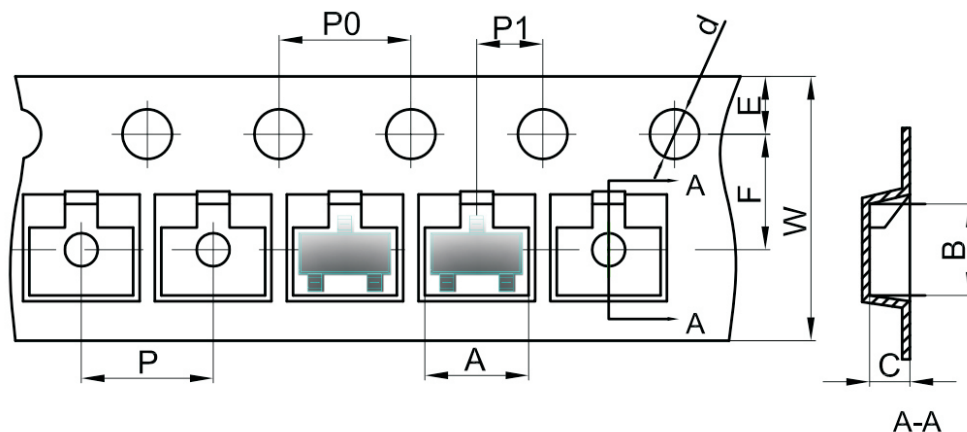
Type number	Marking code
MMBT5551	G1

SOT-23 Packing

1. The method of packaging and dimension are shown as below figure. (Dimension in mm)



SOT-23 Embossed Carrier Tape



Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-23 Tape Leader and Trailer

