



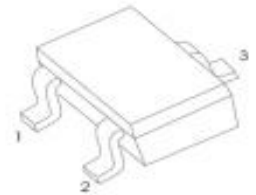
MMBT5551T TRANSISTOR (NPN)

SOT - 523

FEATURES

Complementary to MMBT5401

Ideal for medium power amplification and switching



MARKING: G1

- 1. BASE
- 2. EMITTER
- 3. COLLECTOR

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

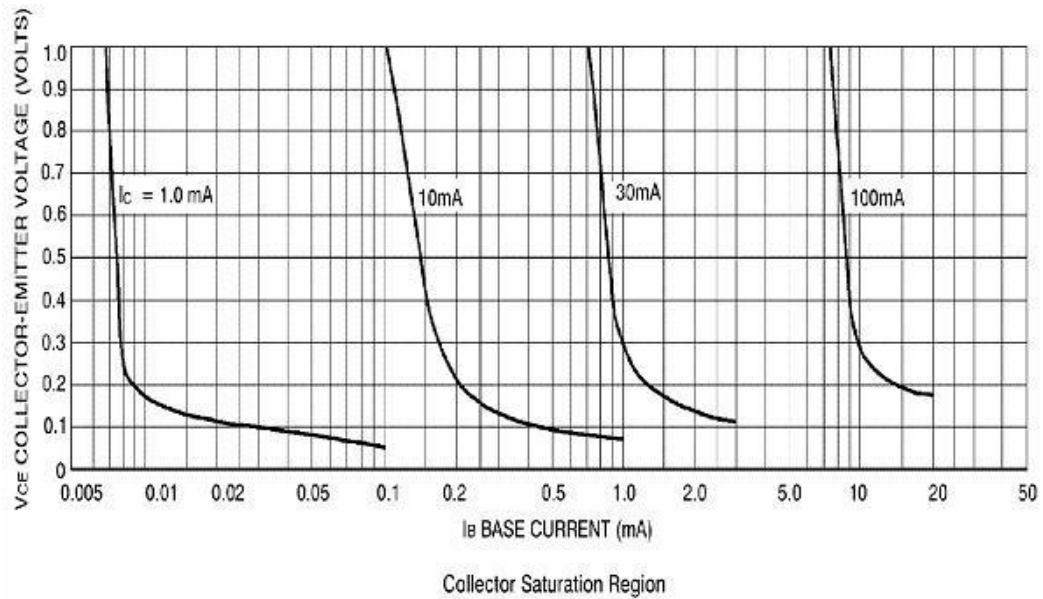
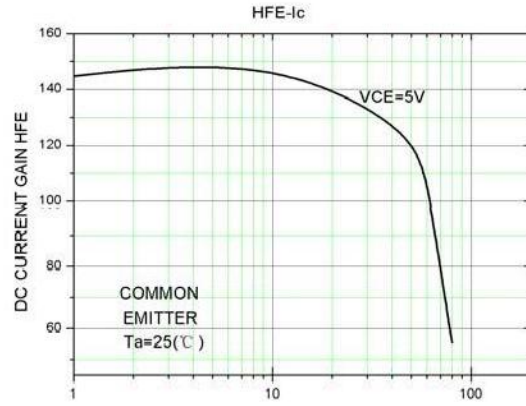
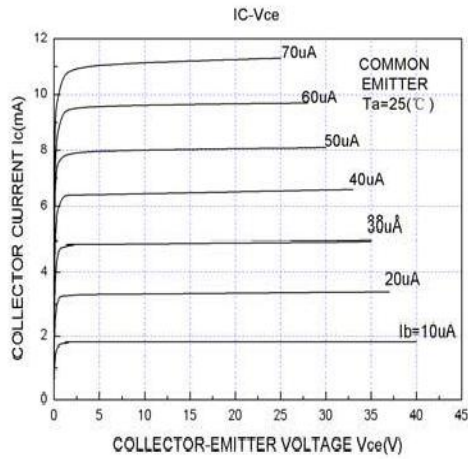
Symbol	Parameter	Value	Units
V _{CB0}	Collector-Base Voltage	180	V
V _{CEO}	Collector-Emitter Voltage	160	V
V _{EBO}	Emitter-Base Voltage	6	V
I _c	Collector Current -Continuous	0.6	A
P _c	Collector Power Dissipation	200	mW
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55-150	°C

ELECTRICAL CHARACTERISTICS (T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	V _{(BR)CBO}	I _c =100μA, 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 = 10μA, 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 =1mA	80			
	h _{FE2} *	V _{CE} =5V, I _c =10mA	100		300	
	h _{FE3} *	V _{CE} =5V, I _c =50mA	50			
Collector-emitter saturation voltage	V _{CEsat} *	I _c =10mA, I _B =1mA			0.15	V
		I _c =50mA, I _B =5mA			0.2	
Base-emitter saturation voltage	V _{BEsat} *	I _c =10mA, I _B = 1mA			1	V
		I _c =50mA, I _B = 5mA			1	
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
Input capacitance	C _{ib}	V _{BE} =0.5V, I _c =0, f=1MHz			20	pF
Noise figure	NF	V _{CE} =5V, I _c =0.25mA, f=10Hz to 15.7KHz, R _s =1kΩ			8	dB

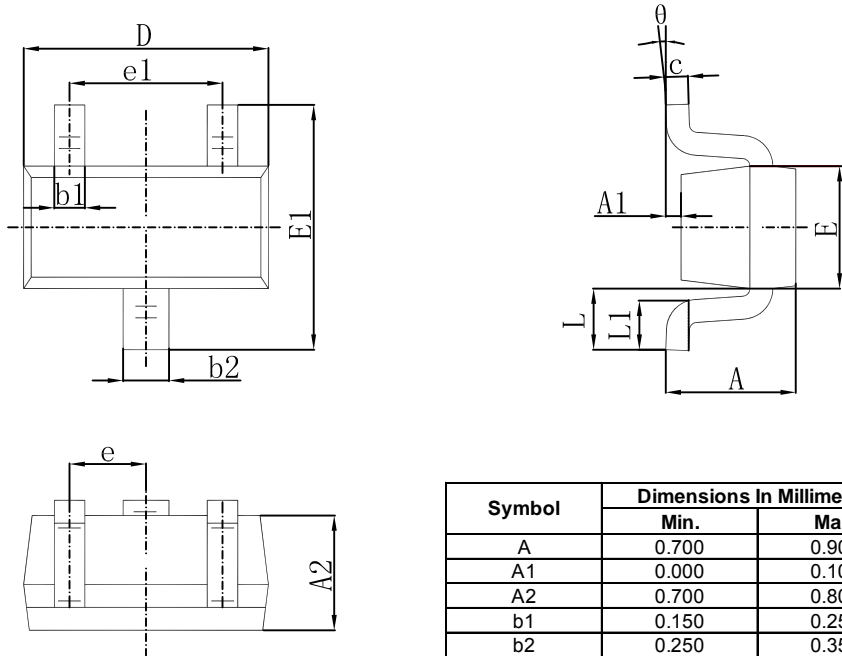


Typical Characteristics



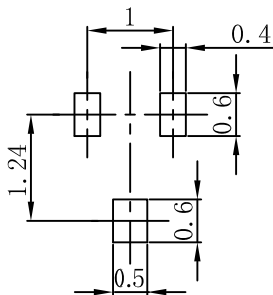


SOT-523 Package Outline Dimensions



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
θ	0°	8°	0°	8°

SOT-523 Suggested Pad Layout



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