HIGH DIODE

MMBT5551T

RoHS COMPLIANT

SOT-523 Plastic-Encapsulate Transistors

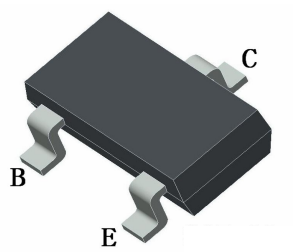
TRANSISTOR(NPN)

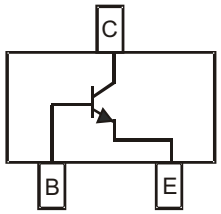
Features

- Complementary to MMBT5401T
- Ideal for Medium Power Amplification and Switching

Marking: G1

SOT- 523





Limiting Values (Absolute Maximum Rating)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	180	V
V_{CEO}	Collector-Emitter Voltage	160	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	600	mA
P_C	Collector Power Dissipation	150	mW
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	833	℃/W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55～+150	℃

Electrical Characteristics (Ta=25℃ Unless otherwise specified)

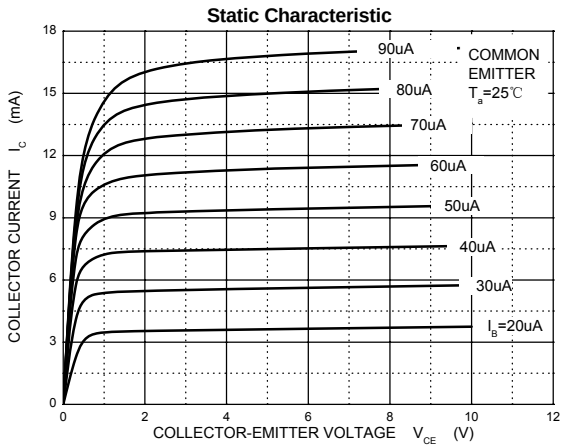
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100μA, I_E=0	180			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$*	I_C=1mA, I_B=0	160			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=10μA, I_C=0	6			V
Collector cut-off current	I_{CBO}	V_{CB}=120V, I_E=0			50	nA
Emitter cut-off current	I_{EBO}	V_{EB}=4V, I_C=0			50	nA
DC current gain	$h_{FE(1)}$*	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

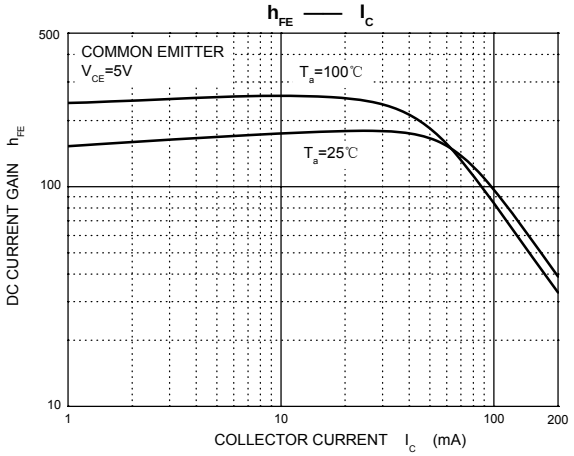
*Pulse test: pulse width ≤300μs, duty cycle≤ 2.0%.

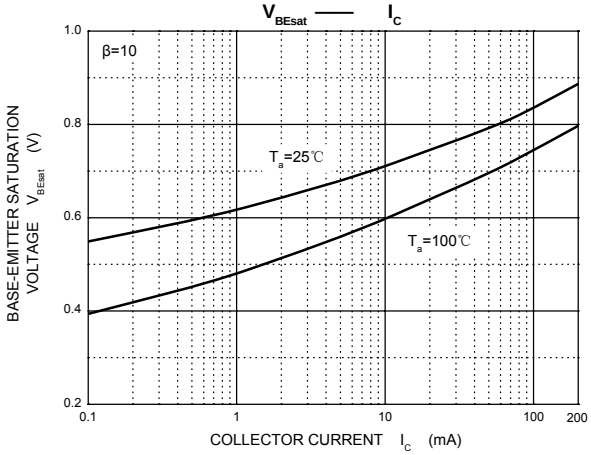
CLASSIFICATION OF h_{FE}

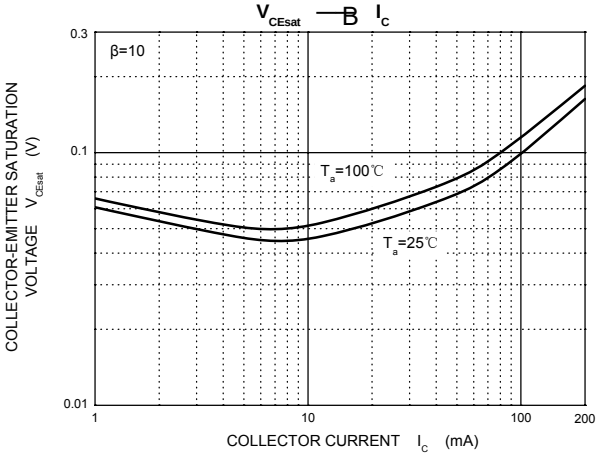
RANK	L	H
RANGE	100-200	200-300

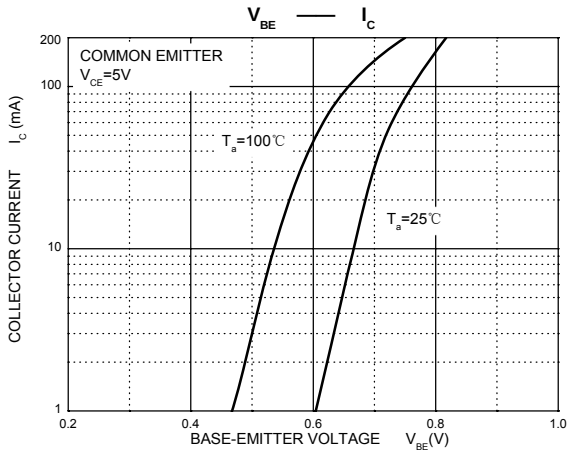
Typical Characteristics

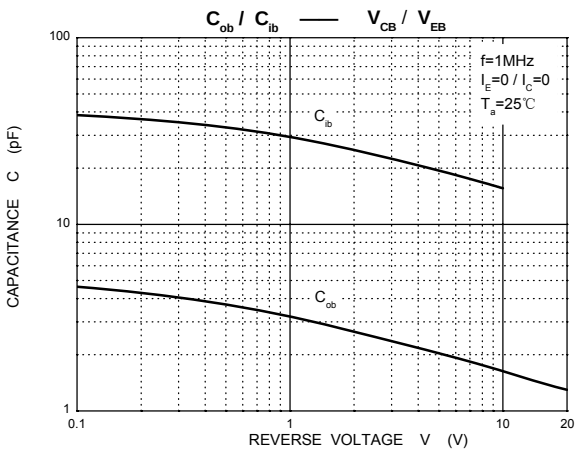


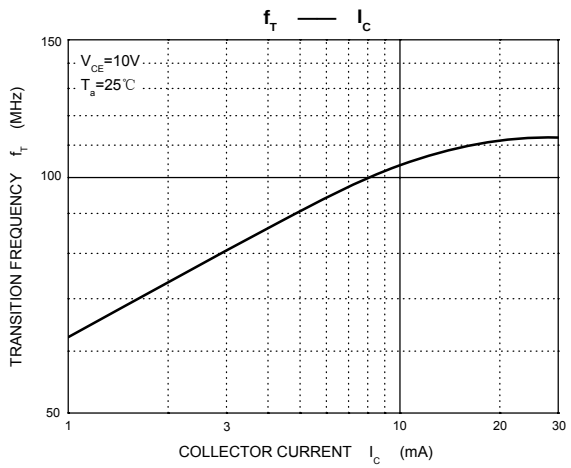


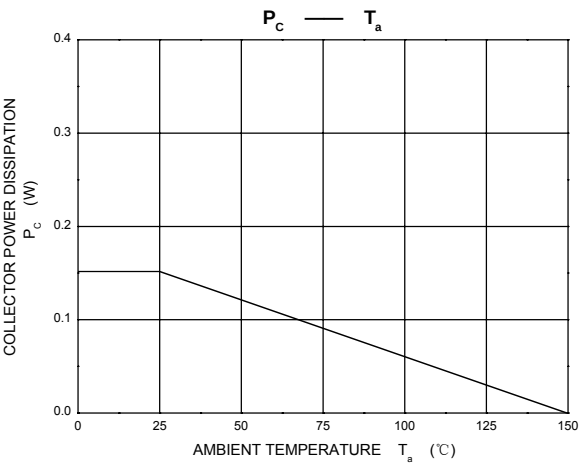




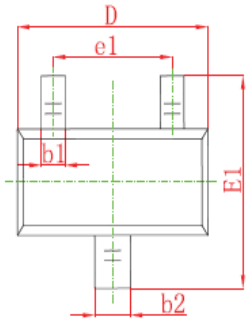


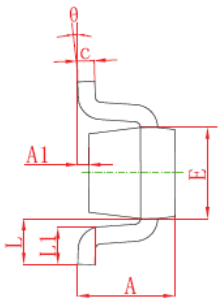


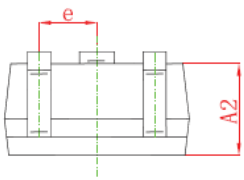




SOT-523 Package Outline Dimensions

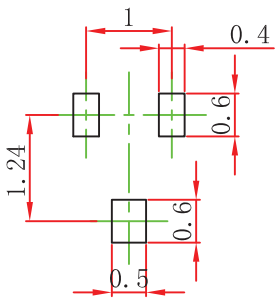






Symbol	Dimensions In Millimeters	
	Min	Max
A	0.700	0.900
A1	0.000	0.100
A2	0.700	0.800
b1	0.150	0.250
b2	0.250	0.350
C	0.100	0.200
D	1.500	1.700
E	0.700	0.900
E1	1.450	1.750
e	0.500 TYP	
e1	0.900	1.100
L	0.400 REF	
L1	0.260	0.460
θ	0°	8°

SOT-523 Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.