



### MMBT5551 Transistor(NPN)

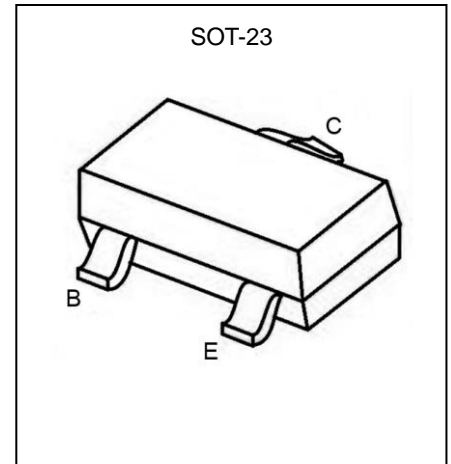
#### Feature

- Switching Transistor

Marking: G1

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

Parameter	Symbol	Value	Unit
Collector-Base Voltage	$V_{CBO}$	180	V
Collector-Emitter Voltage	$V_{CEO}$	160	V
Emitter-Base Voltage	$V_{EBO}$	6	V
Collector Current -Continuous	$I_C$	0.6	A
Power Dissipation	$P_d$	0.3	W
Junction Temperature	$T_J$	150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55~ +150	$^{\circ}\text{C}$



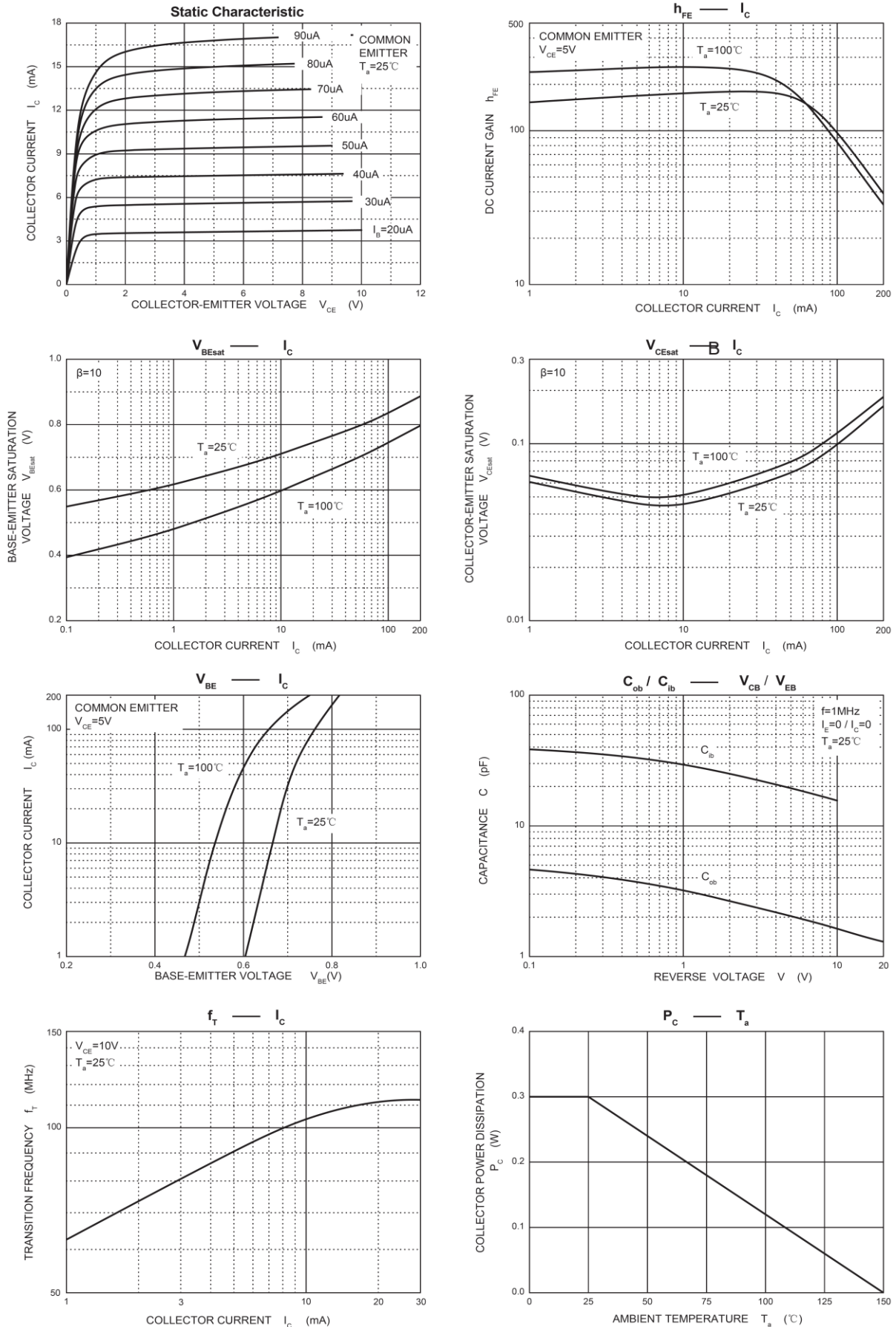
#### Classification of $h_{FE3}$

Rank	L	H
Range	100-200	200-300

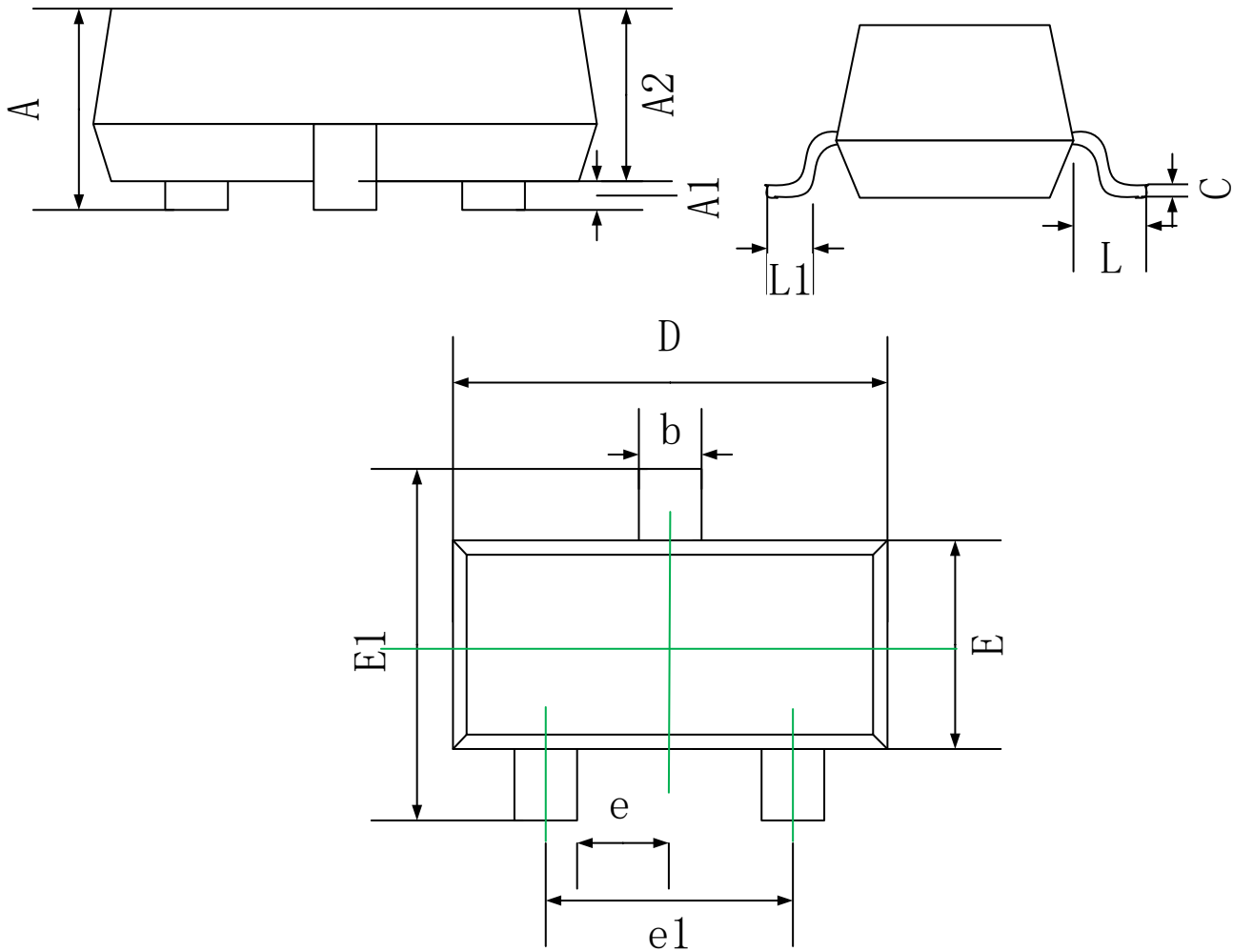
#### ELECTRICAL CHARACTERISTICS( $T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	180		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	160		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5		V
Collector cut-off current	$I_{CBO}$	$V_{CB}=150\text{V}, I_E=0$		0.1	$\mu\text{A}$
Collector cut-off current	$I_{CEO}$	$V_{CE}=150\text{V}, I_B=0$		0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=4\text{V}, I_C=0$		0.1	$\mu\text{A}$
DC current gain	$h_{FE1}$	$V_{CE}=5\text{V}, I_C=0.1\text{mA}$	10		
	$h_{FE2}$	$V_{CE}=5\text{V}, I_C=1\text{mA}$	10		
	$h_{FE3}$	$V_{CE}=5\text{V}, I_C=10\text{mA}$	100	300	
	$h_{FE4}$	$V_{CE}=5\text{V}, I_C=50\text{mA}$	40		
	$h_{FE5}$	$V_{CE}=5\text{V}, I_C=100\text{mA}$	30		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=10\text{mA}, I_B=1\text{mA}$		0.2	V
		$I_C=50\text{mA}, I_B=5\text{mA}$		0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=10\text{mA}, I_B=1\text{mA}$		1.1	V
		$I_C=50\text{mA}, I_B=5\text{mA}$		1.2	V
Transition frequency	$f_T$	$V_{CE}=6\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	100		MHZ
Input capacitance	$C_{IB}$	$V_{CB}=6\text{V}, I_E=0, f=1\text{MHz}$		4.0	pF
Out capacitance	$C_{OB}$	$V_{EB}=0.5\text{V}, I_C=0, f=1\text{MHz}$		8.0	pF

**Typical Characteristics**



## SOT-23 Package Information



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.90	1.15
A1	0.00	0.10
A2	0.90	1.05
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E	1.20	1.40
E1	2.25	2.55
e	0.95 REF.	
e1	1.80	2.00
L	0.55 REF.	
L1	0.30	0.50