

### JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

### **SOT-23 Plastic-Encapsulate Transistors**

### MMBT5551 TRANSISTOR (NPN)

#### **FEATURES**

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

### **MARKING: G1**

### MAXIMUM RATINGS (T<sub>a</sub>=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	180	V
V <sub>CEO</sub>	Collector-Emitter Voltage	160	V
V <sub>EBO</sub>	Emitter-Base Voltage	6	V
lc	Collector Current	600	mA
Pc	Collector Power Dissipation	300	mW
R <sub>OJA</sub>	Thermal Resistance From Junction To Ambient	416	°C/W
Tj	Junction Temperature	150	$^{\circ}$
T <sub>stg</sub>	Storage Temperature	-55~+150	$^{\circ}$

# SOT - 23 1. BASE 2. EMITTER

3. COLLECTOR

### ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Тур	Max	Unit
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =100μA, I <sub>E</sub> =0	180			٧
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub> *	I <sub>C</sub> =1mA, I <sub>B</sub> =0	160			٧
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I <sub>E</sub> =10μA, I <sub>C</sub> =0	6			٧
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =120V, I <sub>E</sub> =0			50	nA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =4V, I <sub>C</sub> =0			50	nA
	h <sub>FE(1)</sub> *	V <sub>CE</sub> =5V, I <sub>C</sub> =1mA	80			
DC current gain	h <sub>FE(2)</sub> *	V <sub>CE</sub> =5V, I <sub>C</sub> =10mA	100		300	
	h <sub>FE(3)</sub> *	V <sub>CE</sub> =5V, I <sub>C</sub> =50mA	50			
Collector emitter acturation voltage	V <sub>CE(sat)1</sub> *	I <sub>C</sub> =10mA, I <sub>B</sub> =1mA			0.15	V
Collector-emitter saturation voltage	V <sub>CE(sat)2</sub> *	I <sub>C</sub> =50mA, I <sub>B</sub> =5mA			0.2	V
Book amitter acturation valtage	V <sub>BE(sat)1</sub> *	I <sub>C</sub> =10mA, I <sub>B</sub> =1mA			1	V
Base-emitter saturation voltage	V <sub>BE(sat)2</sub> *	I <sub>C</sub> =50mA, I <sub>B</sub> =5mA			1	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =10V,I <sub>C</sub> =10mA, f=100MHz	100		300	MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz			6	pF

<sup>\*</sup>Pulse test: pulse width ≤300µs, duty cycle≤ 2.0%.

### CLASSIFICATION OF hFE (2)

RANK	L	Н	
RANGE	100-200	200-300	

# **Typical Characteristics**

## **MMBT5551**

