

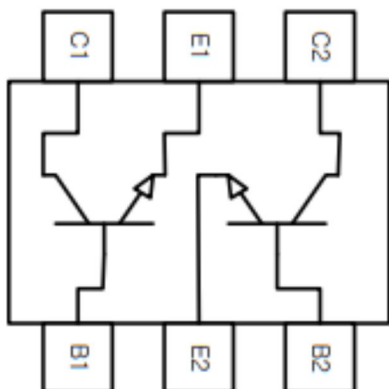
MMDT5551SG

Double NPN Transistors

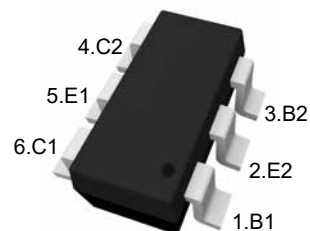
Features

- For switching and amplifier applications

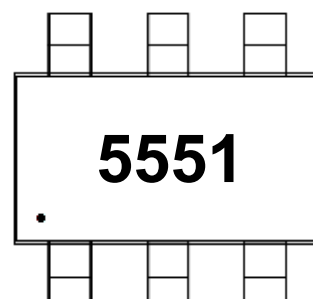
Equivalent Circuit



SOT-23-6



Marking Code



Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

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	I_C	600	mA
Maximum Power Dissipation	P_D	1000	mW
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C



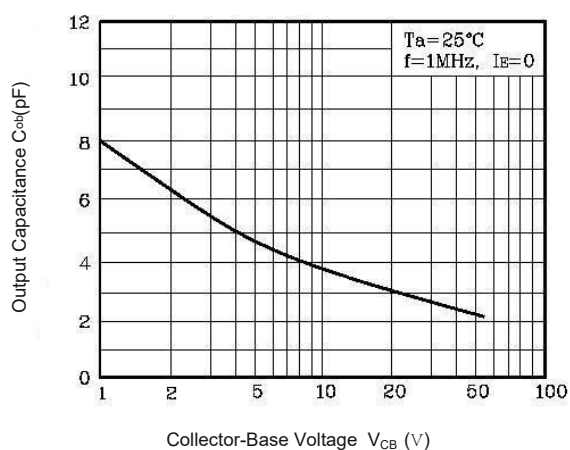
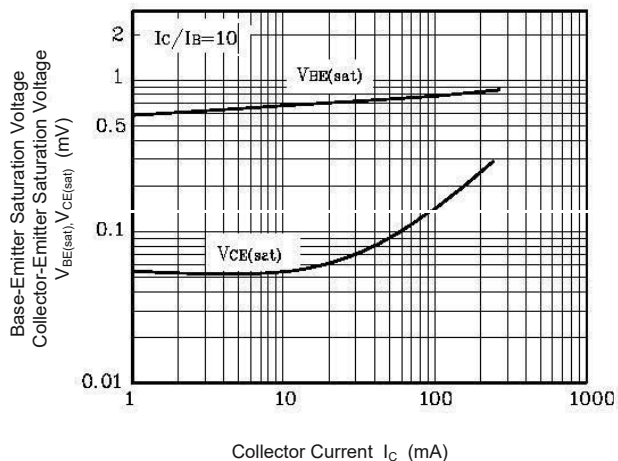
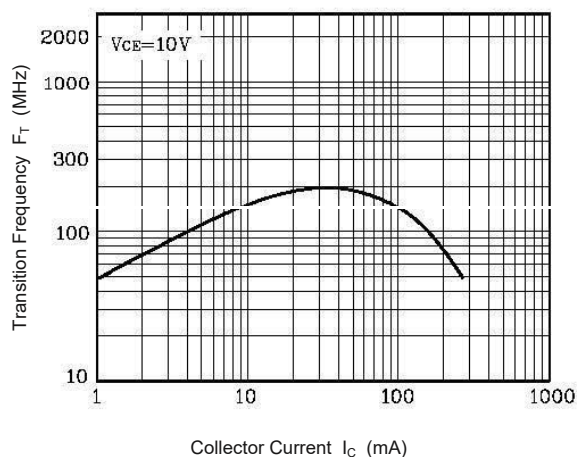
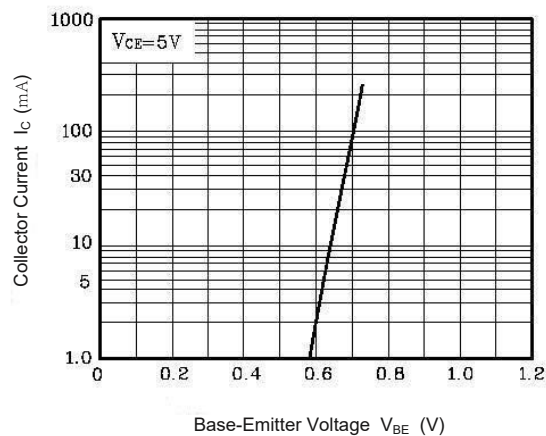
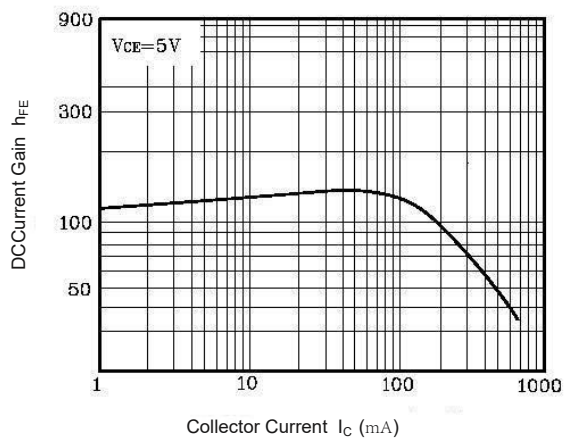
MMDT5551SG

Double NPN Transistors

Electrical Characteristics ($T_A=25^\circ\text{C}$)

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $V_{CE} = 5\text{ V}$, $I_C = 1\text{ mA}$ at $V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$ at $V_{CE} = 5\text{ V}$, $I_C = 50\text{ mA}$	H_{FE}	80 80 30	-- 250 --	--
Collector Base Cutoff Current at $V_{CB} = 120\text{ V}$	I_{CBO}	--	50	nA
Emitter Base Cutoff Current at $V_{EB} = 4\text{ V}$	I_{EBO}	--	50	nA
Collector Base Breakdown Voltage at $I_C = 100\text{ }\mu\text{A}$	$V_{(BR)CBO}$	180	--	V
Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$	$V_{(BR)CEO}$	160	--	V
Emitter Base Breakdown Voltage at $I_E = 10\text{ }\mu\text{A}$	$V_{(BR)EBO}$	6	--	V
Collector Emitter Saturation Voltage at $I_C = 10\text{ mA}$, $I_B = 1\text{ mA}$ at $I_C = 50\text{ mA}$, $I_B = 5\text{ mA}$	$V_{CE(sat)}$	-- --	0.15 0.2	V
Base Emitter Saturation Voltage at $I_C = 10\text{ mA}$, $I_B = 1\text{ mA}$ at $I_C = 50\text{ mA}$, $I_B = 5\text{ mA}$	$V_{BE(sat)}$	-- --	1 1	V
Transition Frequency at $V_{CE} = 10\text{ V}$, $I_C = 10\text{ mA}$, $f = 100\text{ MHz}$	F_T	100	300	MHz
Output Capacitance at $V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	--	6	pF

Typical Characteristic Curves





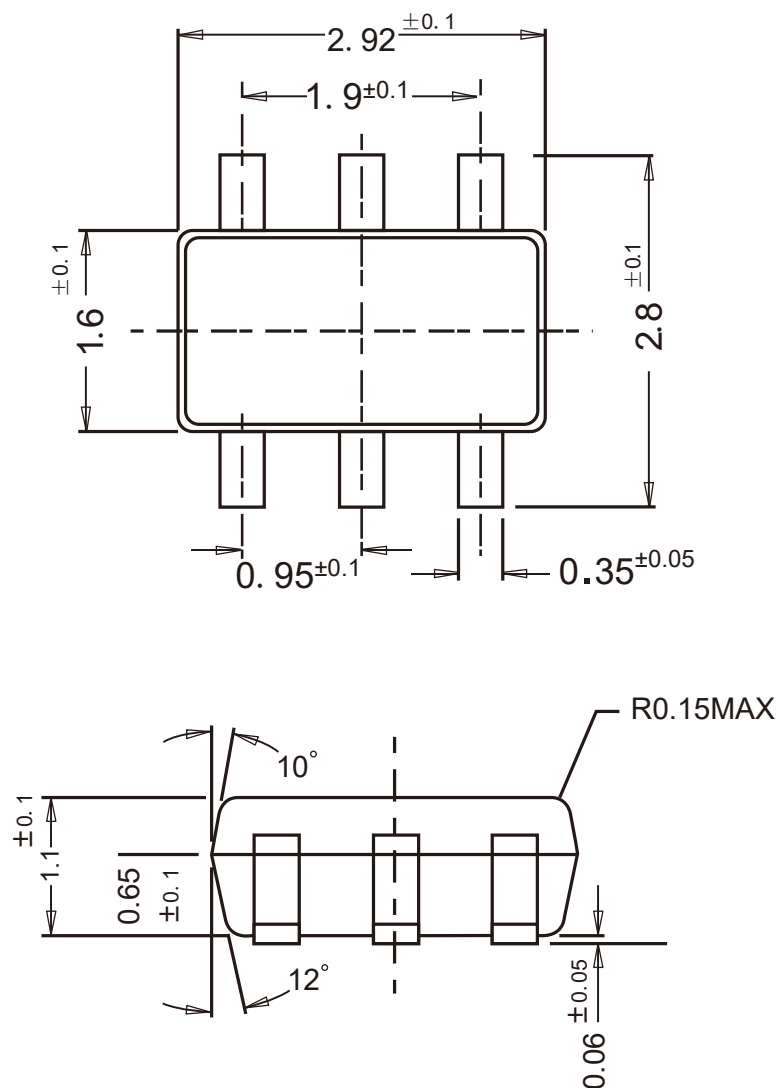
MMDT5551SG

Double NPN Transistors

Package Outline

SOT-23-6

Dimensions in mm

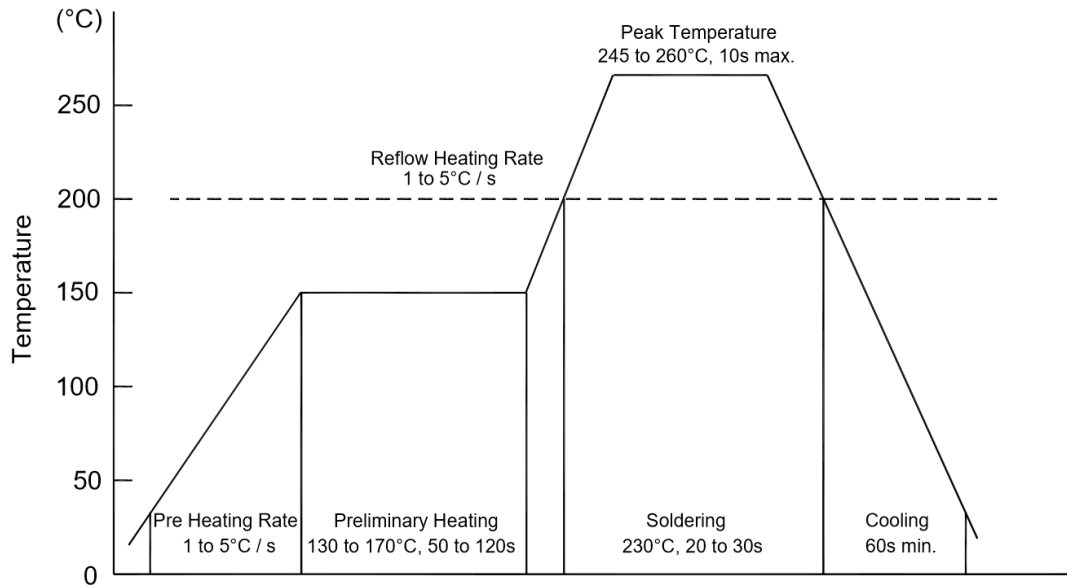


Ordering Information

Device	Package	Shipping
MMDT5551SG	SOT-23-6	3,000PCS/Reel&7inches

Conditions of Soldering and Storage

◆ Recommended condition of reflow soldering



Recommended peak temperature is over 245 °C. If peak temperature is below 245 °C, you may adjust the following parameters:

- Time length of peak temperature (longer)
- Time length of soldering (longer)
- Thickness of solder paste (thicker)

◆ Conditions of hand soldering

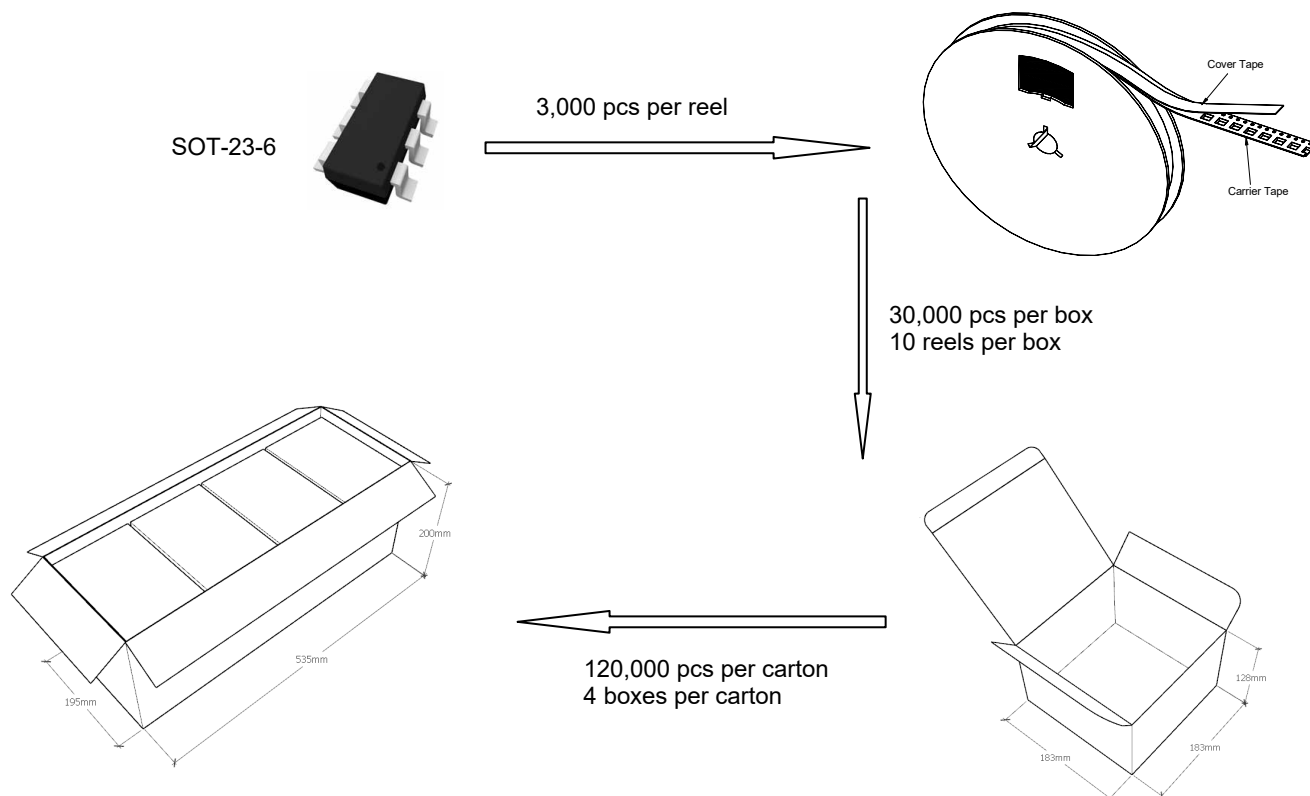
- Temperature: 370 °C
- Time: 3s max.
- Times: one time

◆ Storage conditions

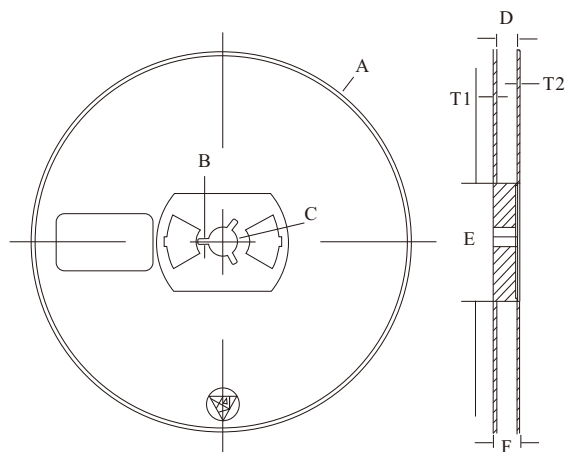
- **Temperature**
5 to 40 °C
- **Humidity**
30 to 80% RH
- **Recommended period**
One year after manufacturing

Package Specifications

- The method of packaging



◆ Embossed tape and reel data



Symbol	Value (unit: mm)
A	Ø 177.8±1
B	2.7±0.2
C	Ø 13.5±0.2
E	Ø 54.5±0.2
F	12.3±0.3
D	9.6+2/-0.3
T1	1.0±0.2
T2	1.2±0.2

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