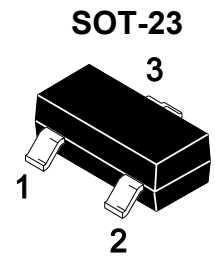


Features

- For Switching and AF Amplifier Applications.



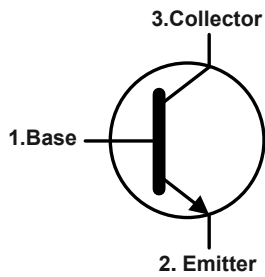
1.Base 2.Emitter 3.Collector

Marking Code:

MMBT2222 : M1B

MMBT2222A : 1P

Equivalent Circuit



Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CB0}	MMBT2222 60	V
MMBT2222A 75			
Collector Emitter Voltage	V_{CEO}	MMBT2222 30	V
MMBT2222A 40			
Emitter Base Voltage	V_{EBO}	MMBT2222 5	V
MMBT2222A 6			
Collector Current	I_C	600	mA
Maximum Power Dissipation	P_D	350	mW
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C



MMBT2222/MMBT2222A

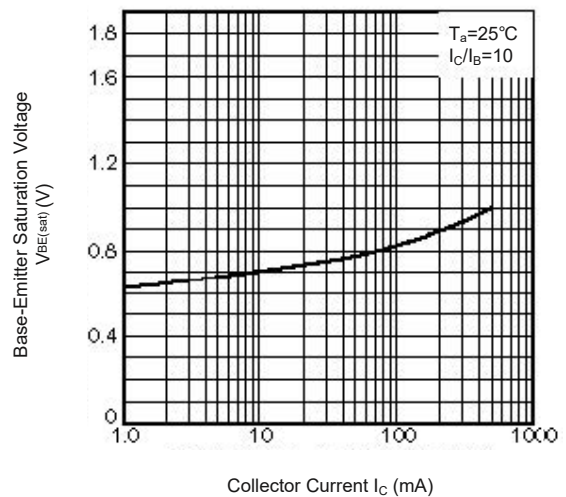
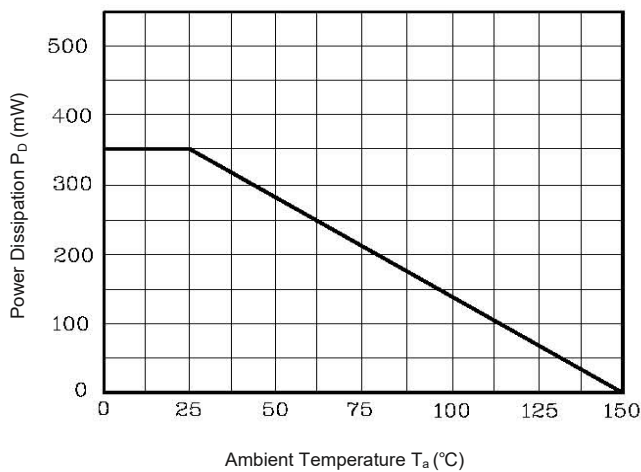
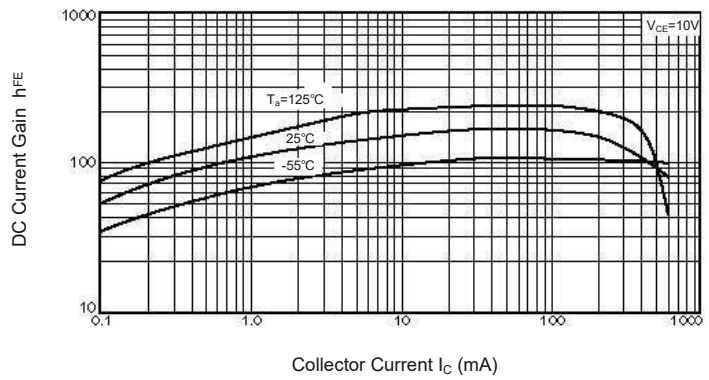
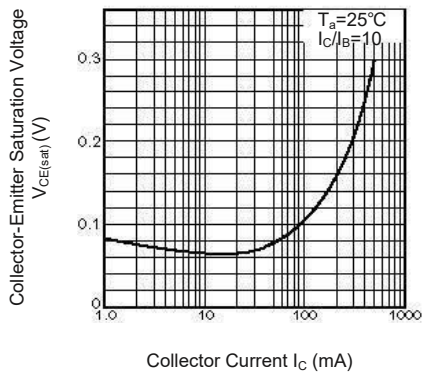
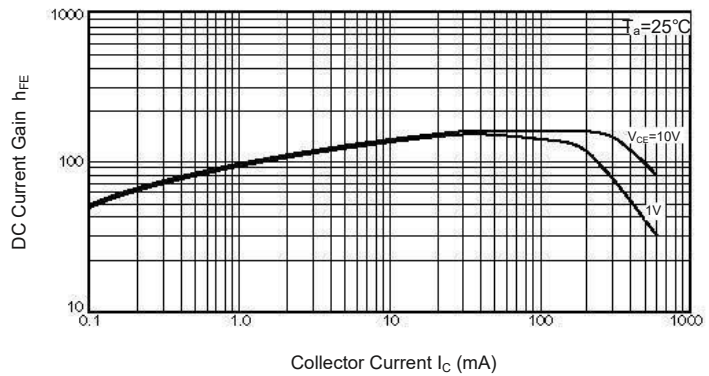
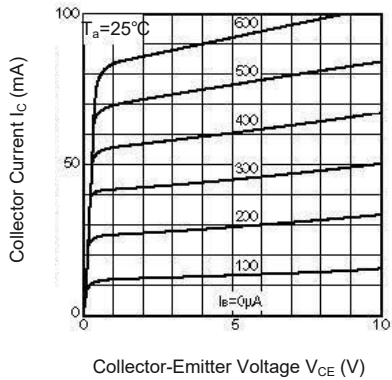
NPN Transistor

Electrical Characteristics (T_A=25°C)

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at V _{CE} = 10 V, I _C = 0.1 mA at V _{CE} = 10 V, I _C = 1 mA at V _{CE} = 10 V, I _C = 10 mA at V _{CE} = 1 V, I _C = 150 mA at V _{CE} = 10 V, I _C = 150 mA at V _{CE} = 10 V, I _C = 500 mA	H _{FE}	35 50 75 50 100 30 40	-- -- -- -- 300. -- --	--
Collector Base Cutoff Current at V _{CB} = 50 V at V _{CB} = 60 V	I _{CB0}	-- --	10 10	nA
Emitter Base Cutoff Current at V _{EB} = 3 V	I _{EBO}	--	100	nA
Collector Base Breakdown Voltage at I _C = 10 μA	V _{(BR)CBO}	60 75	-- --	V
Collector Emitter Breakdown Voltage at I _C = 10 mA	V _{(BR)CEO}	30 40	-- --	V
Emitter Base Breakdown Voltage at I _E = 10 μA	V _{(BR)EBO}	5 6	-- --	V
Collector Emitter Saturation Voltage at I _C = 150 mA, I _B = 15 mA at I _C = 500 mA, I _B = 50 mA	V _{CE(sat)}	-- -- -- --	0.4 0.3 1.6 1	V
Base Emitter Saturation Voltage at I _C = 150 mA, I _B = 15 mA at I _C = 500 mA, I _B = 50 mA	V _{BE(sat)}	-- 0.6 -- --	1.3 1.2 2.6 2	V
Transition Frequency at V _{CE} = 20 V, I _E = -20 mA, f = 100 MHz	F _T	300	--	MHz
Output Capacitance at V _{CB} = 10 V, f = 100 KHz	C _{ob}	--	8	pF



Typical Characteristic Curves





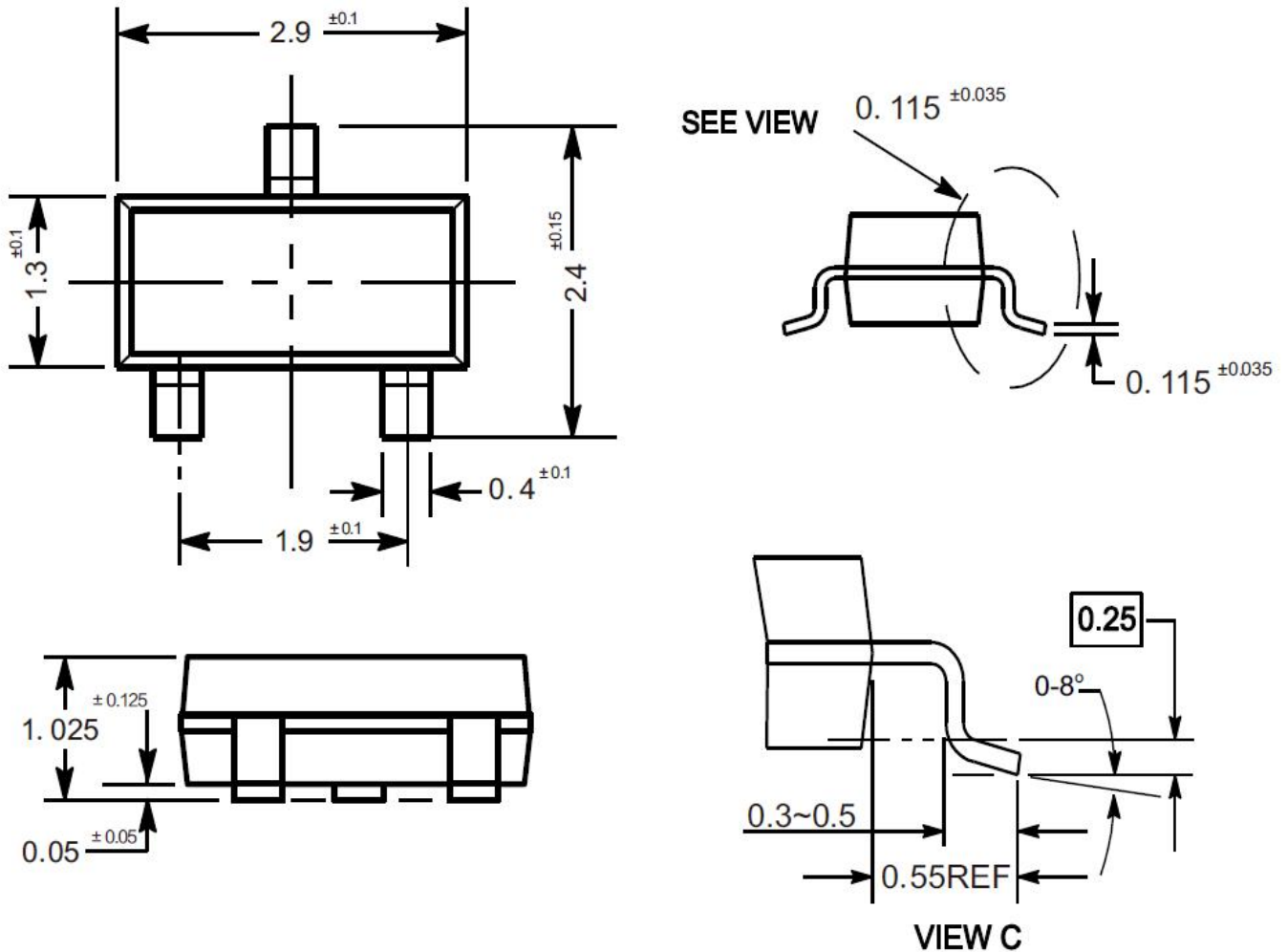
MMBT2222/MMBT2222A

NPN Transistor

Package Outline

SOT-23

Dimensions in mm



Ordering Information

Device	Package	Shipping
MMBT2222/MMBT2222A	SOT-23	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

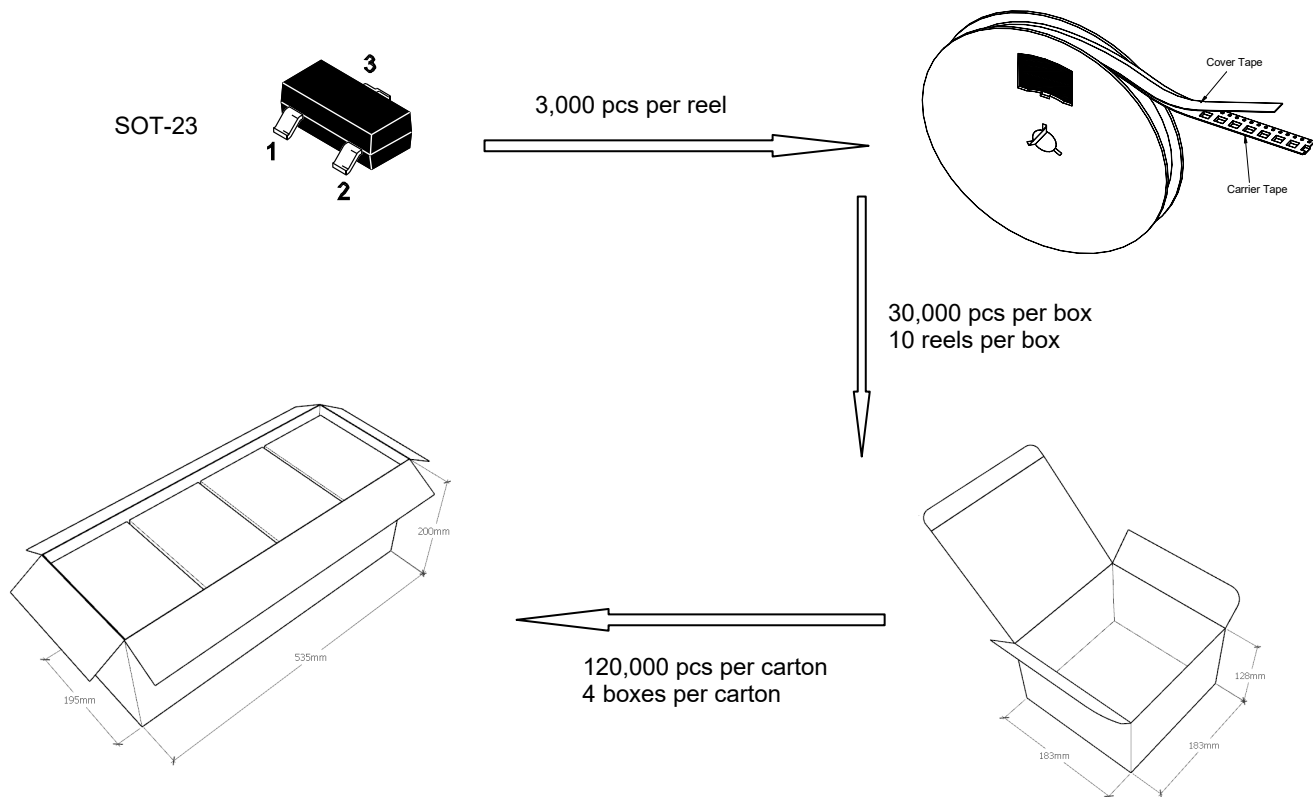
- Temperature: 370 °C
- Time: 3s max.
- Times: one time

◆ Storage conditions

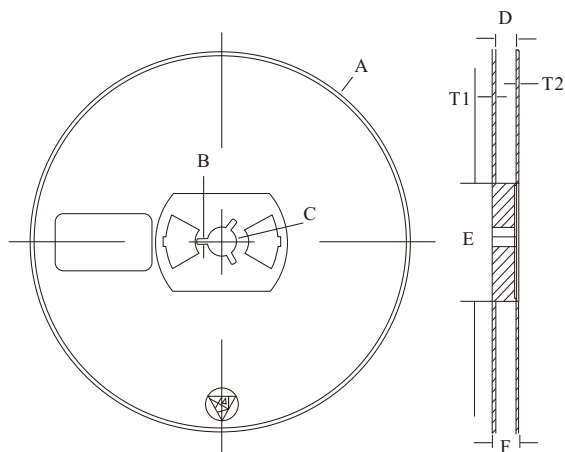
- **Temperature**
5 to 40 °C
- **Humidity**
30 to 80% RH
- **Recommended period**
One year after manufacturing

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

Reel (7")

