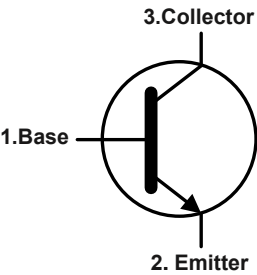


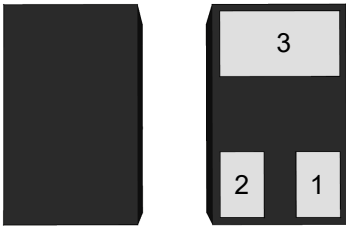
Features

- For Switching and AF Amplifier Applications
- Halogen and Antimony Free
- Moisture Sensitivity Level 1

Equivalent Circuit



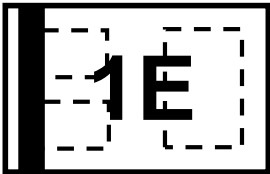
DFN1x0.6-3L



(Top View) (Bottom View)

1.Base 2.Emitter 3.Collector

Marking Code :



Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

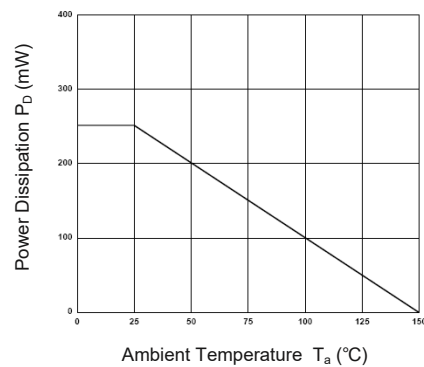
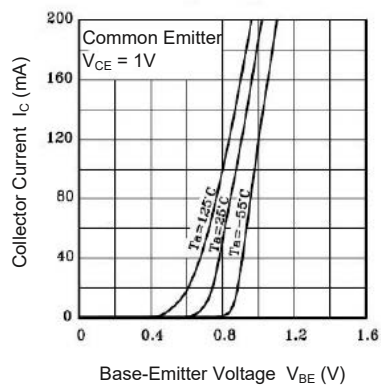
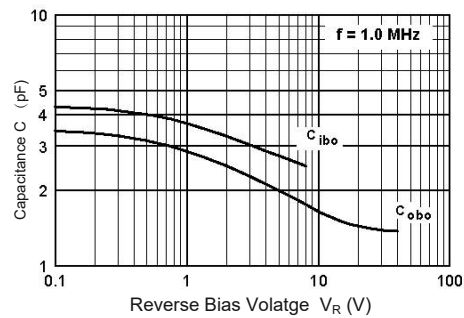
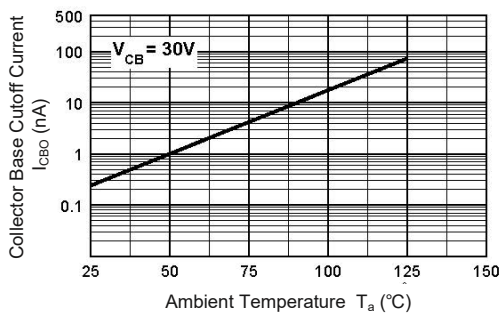
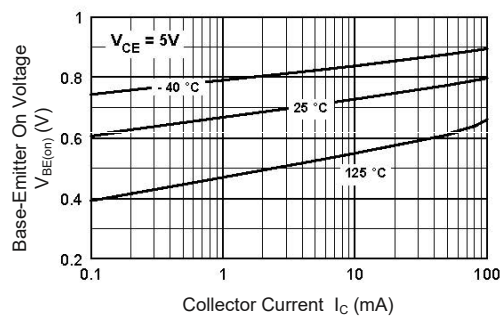
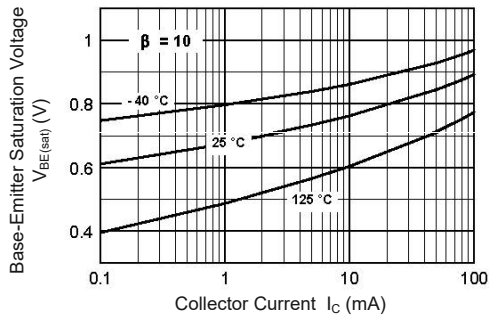
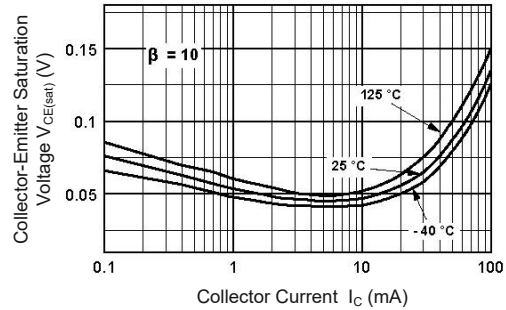
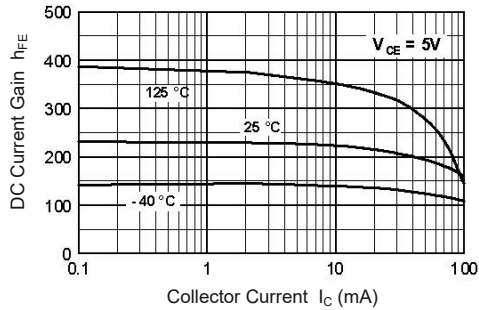
Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	60	V
Collector Emitter Voltage	V_{CEO}	40	V
Emitter Base Voltage	V_{EBO}	6	V
Collector Current	I_C	200	mA
Maximum Power Dissipation	P_D	250	mW
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C



Electrical Characteristics (T_A=25°C)

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at V _{CE} = 1 V, I _C = 0.1 mA at V _{CE} = 1 V, I _C = 1 mA at V _{CE} = 1 V, I _C = 10 mA at V _{CE} = 1 V, I _C = 50 mA at V _{CE} = 1 V, I _C = 100 mA	H _{FE}	40 70 100 60 30	-- -- 300 -- --	--
Collector Base Cutoff Current at V _{CB} = 30V	I _{CBO}	--	50	nA
Emitter Base Cutoff Current at V _{EB} = 6 V	I _{EBO}	--	50	nA
Collector Base Breakdown Voltage at I _C = 10 μA	V _{(BR)CBO}	60	--	V
Collector Emitter Breakdown Voltage at I _C = 1 mA	V _{(BR)CEO}	40	--	V
Emitter Base Breakdown Voltage at I _E = 10 μA	V _{(BR)EBO}	6	--	V
Collector Emitter Saturation Voltage at I _C = 10 mA, I _B = 1 mA at I _C = 50 mA, I _B = 5 mA	V _{CE(sat)}	-- --	0.2 0.3	V
Base Emitter Saturation Voltage at I _C = 10 mA, I _B = 1 mA at I _C = 50 mA, I _B = 5 mA	V _{BE(sat)}	0.65 --	0.85 0.95	V
Transition Frequency at V _{CE} = 20 V, I _C = 10 mA, f = 100 MHz	F _T	300	--	MHz
Output Capacitance at V _{CB} = 5 V, I _E = 0, f = 1 MHz	C _{ob}	--	4	pF

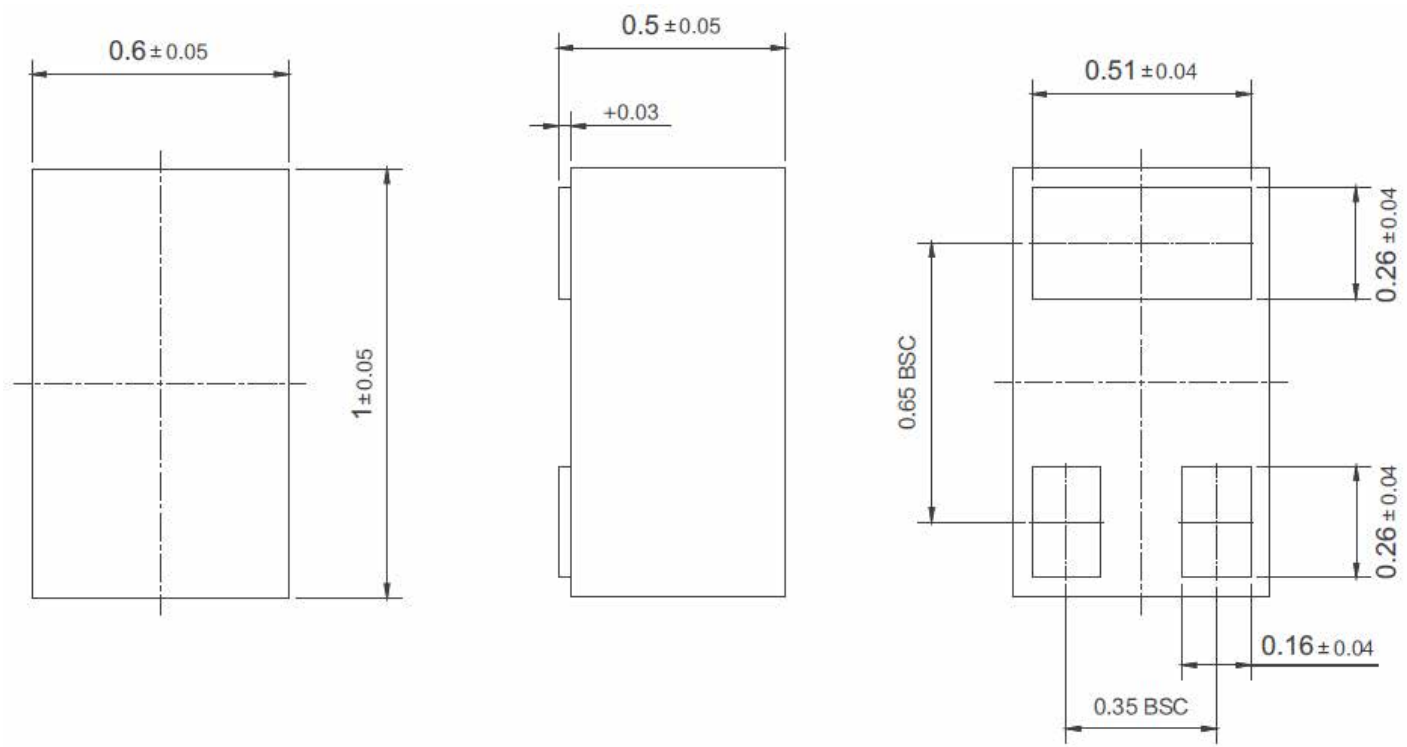
Typical Characteristic Curves





Package Outline

DFN1x0.6-3L-0009
Dimensions in mm

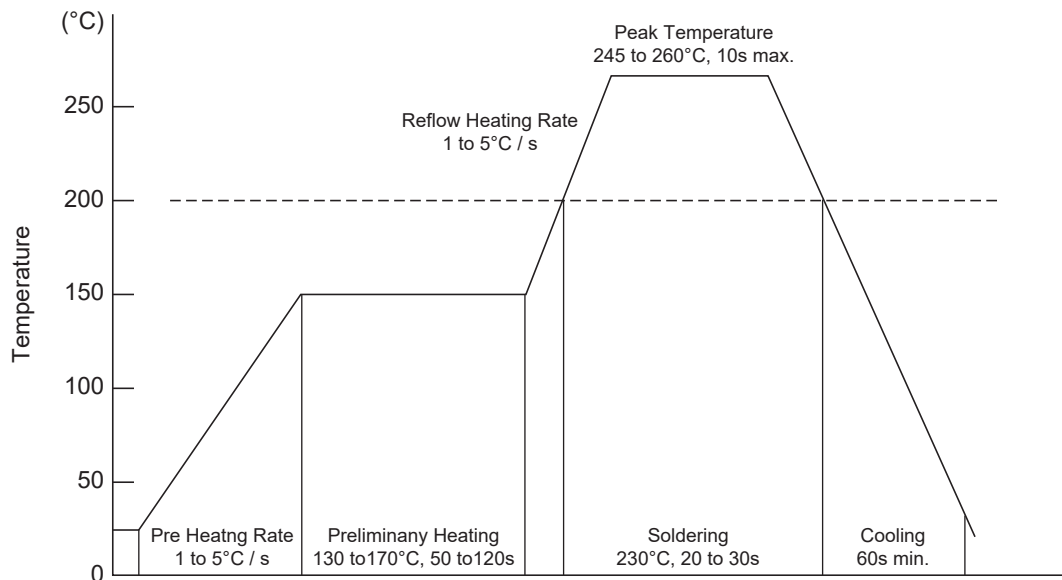


Ordering Information

Device	Package	Shipping
MMBT3904DC	DFN1x0.6-3L	10,000PCS/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

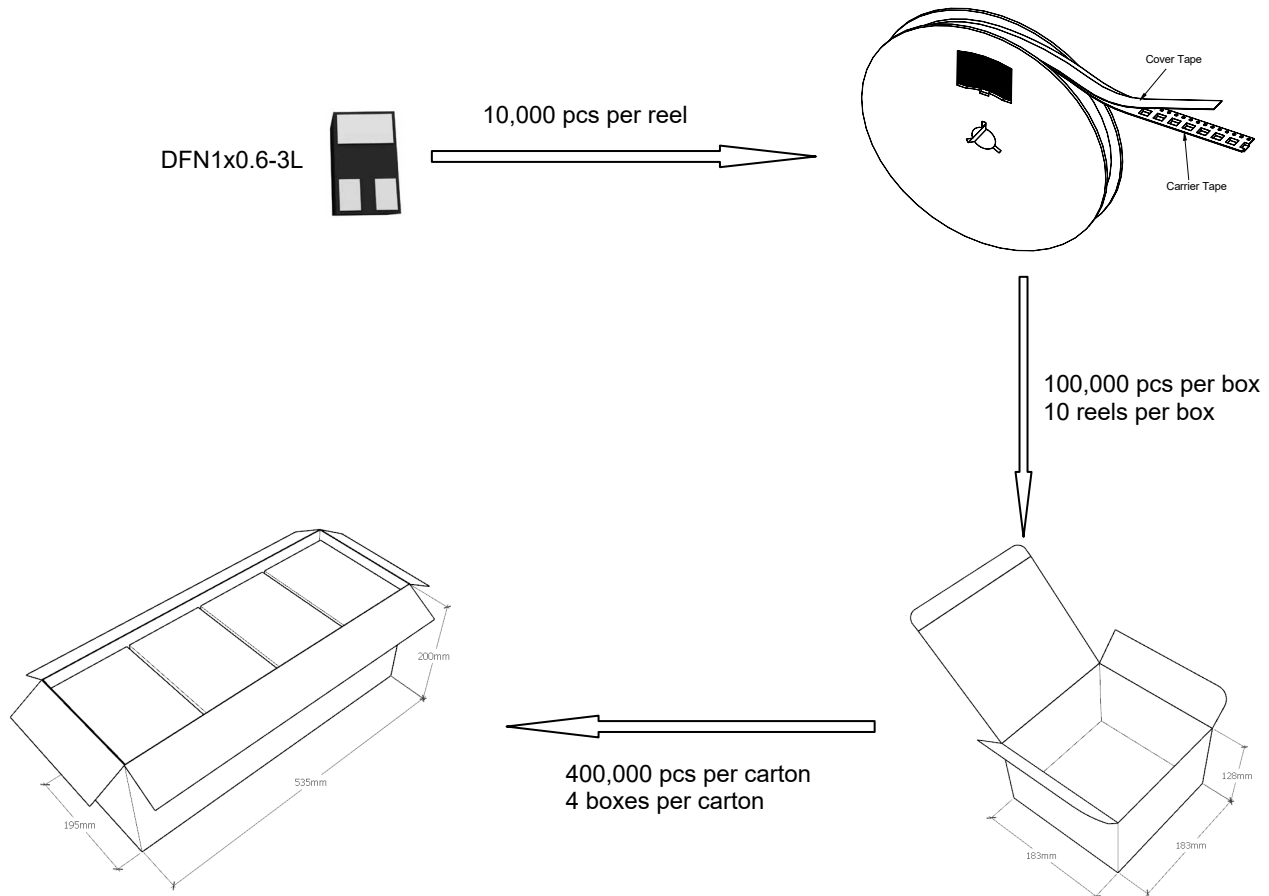
- Temperature: 300°C
- Time: 3s max.
- Times: one time

◆ Storage conditions

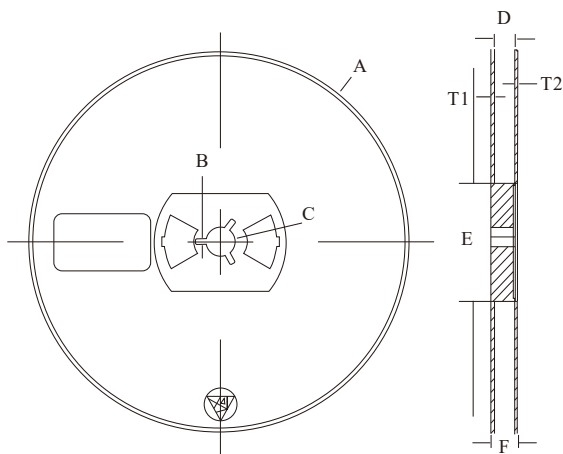
- **Temperature**
5 to 40°C
- **Humidity**
30 to 80% RH
- **Recommended period**
One year after manufacturing

Package Specifications

- The method of packaging



reel data



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



Technical drawing of a rectangular plate with the following dimensions and features:

- Overall width: $8.00^{+0.30}_{-0.10}$
- Overall height: $1.75^{+0.10}_{-0.05}$
- Distance between hole centers: 4.00 ± 0.10
- Distance from hole center to fastener center: 2.00 ± 0.05
- Hole diameter: $\phi 1.55 \pm 0.05$
- Fastener diameter: 3.50 ± 0.05
- Fastener hole diameter: 2.00 ± 0.05