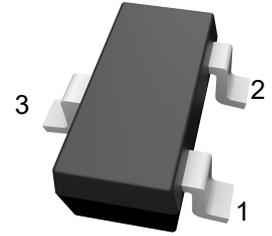


Features

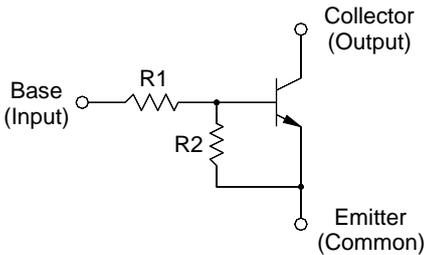
- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process

SOT-23-3



1.Base 2.Emitter 3.Collector

Equivalent Circuit



Resistor Values/Marking Code

Type	R1 (K Ω)	R2 (K Ω)	Marking Code
DTC114ESC	10	10	CE

Absolute Maximum Ratings (T_A=25°C)

Parameter	Symbol	Value	Unit
Output Voltage	V _O	50	V
Input Voltage	V _I	30,-10	V
Output Current	I _O	100	mA
Maximum Power Dissipation	P _D	200	mW
Junction Temperature	T _J	150	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C



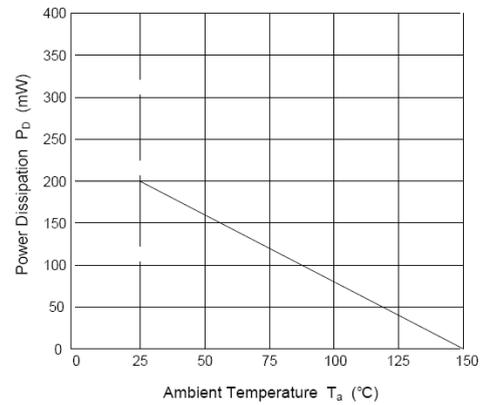
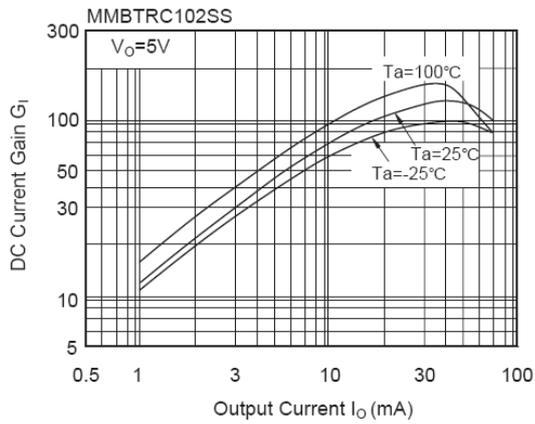
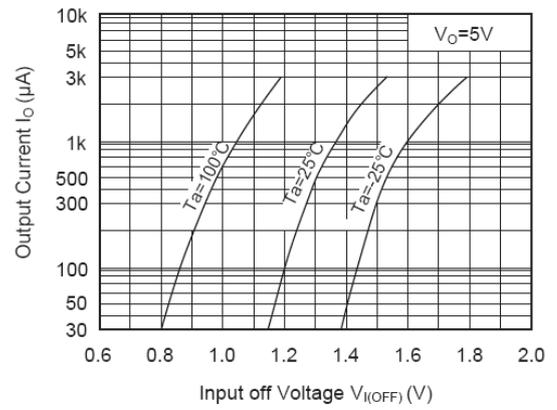
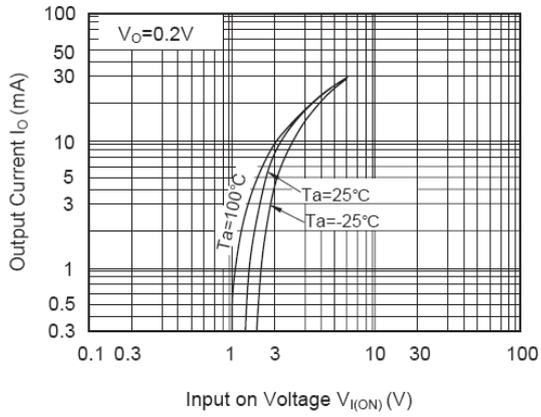
DTC114ESC

NPN Digital Transistor

Electrical Characteristics (T_A=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at V _O = 5 V, I _O = 10 mA	G _I	50	--	--	--
Output Cutoff Current at V _O = 50 V	I _{O(OFF)}	--	--	500	nA
Input Current at V _I = 5 V	I _I	--	--	0.88	mA
Output Voltage (ON) at I _O = 10 mA, I _I = 0.5 mA	V _{O(ON)}	--	--	0.3	V
Input Voltage (ON) at V _O = 0.2 V, I _O = 5 mA	V _{I(ON)}	--	--	2.4	V
Input Voltage (OFF) at V _O = 5 V, I _O = 0.1 mA	V _{I(OFF)}	1	--	--	V
Transition Frequency at V _O = -10 V, I _O = -5 mA	f _T	--	200	--	MHz

Typical Characteristic Curves





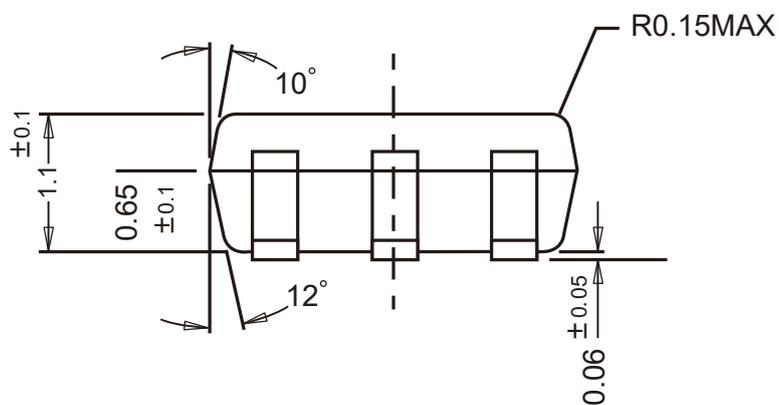
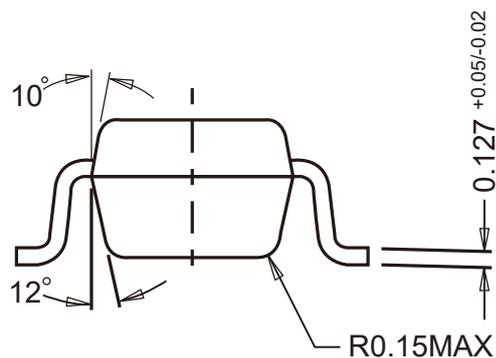
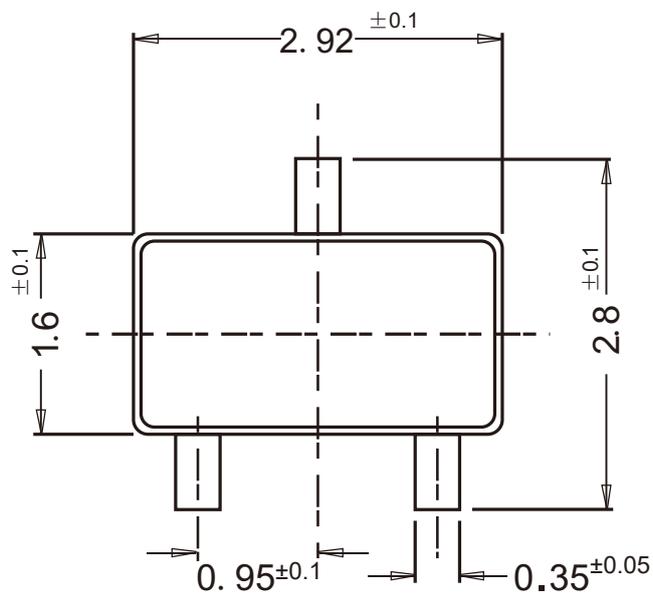
DTC114ESC

NPN Digital Transistor

Package Outline

SOT-23-3

Dimensions in mm

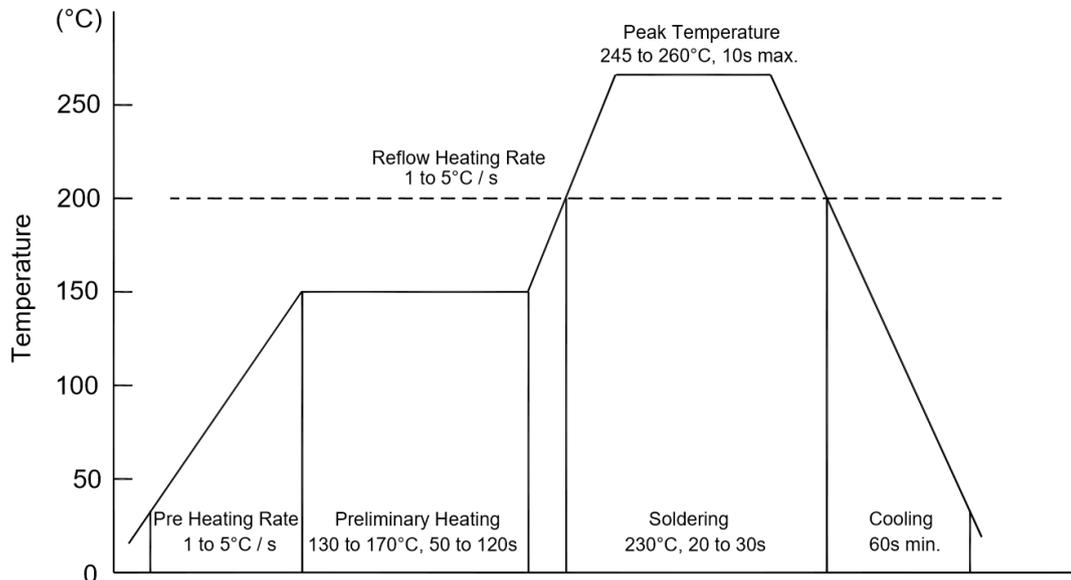


Ordering Information

Device	Package	Shipping
DTC114ESC	SOT-23-3	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

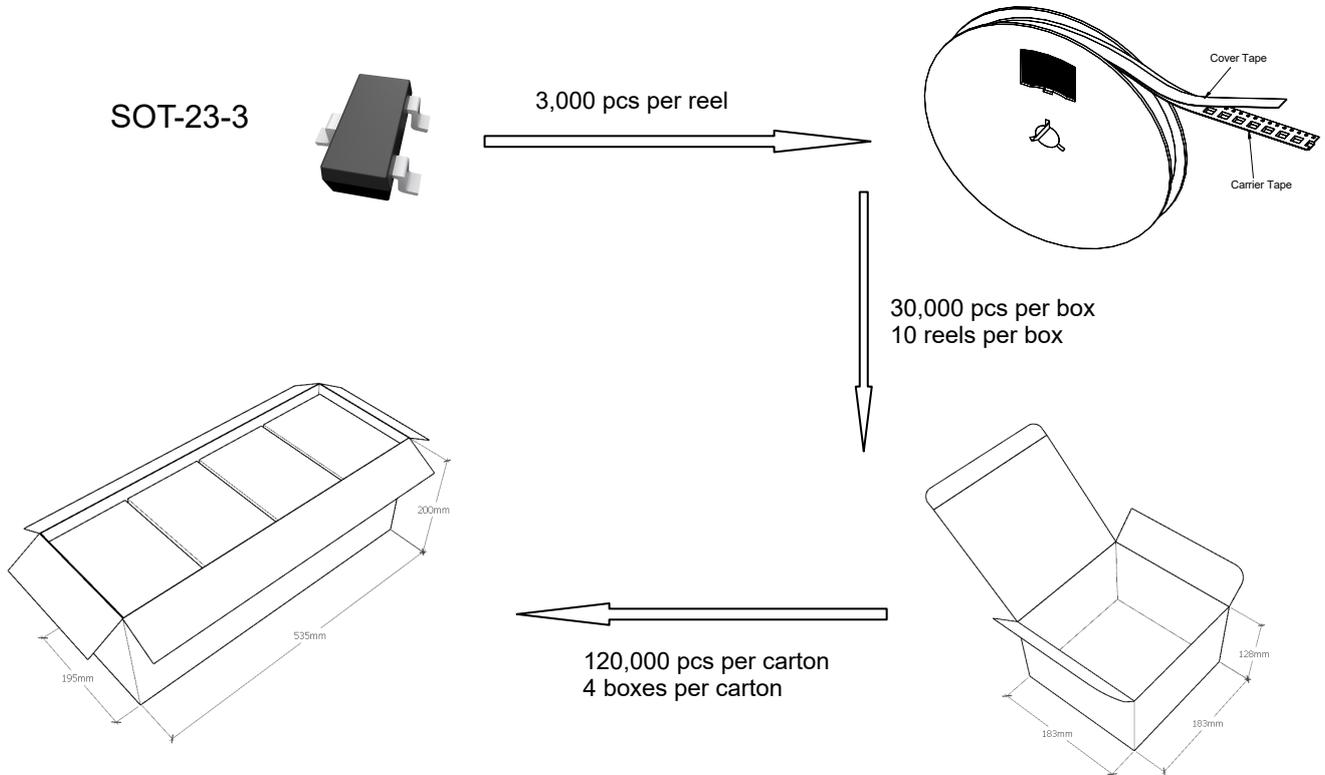
- Temperature: 370 °C
- Time: 3s max.
- Times: one time

◆ Storage conditions

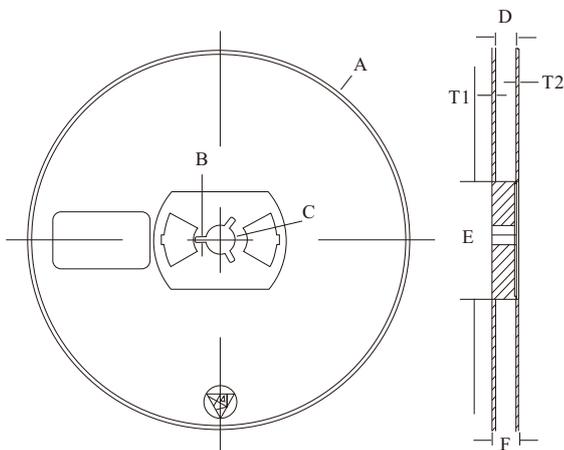
- **Temperature**
5 to 40 °C
- **Humidity**
30 to 80% RH
- **Recommended period**
One year after manufacturing

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")

