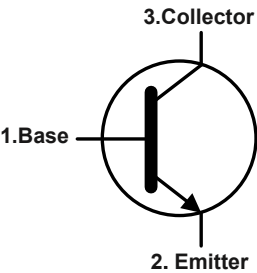


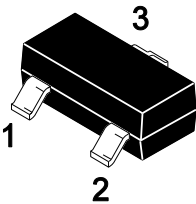
Features

- For Switching and AF Amplifier Applications.

Equivalent Circuit



SOT-23



1.Base 2.Emitter 3.Collector

Marking Code :

BC846A : 1A BC846B : 1B BC846C : 2C
 BC847A : 2E BC847B : 1F BC847C : 1G
 BC848A : 1J BC848B : 1K BC848C : 1L
 BC849A : 1M BC849B : 1N BC849C : 1R
 BC850A : 1S BC850B : 1T BC850C : 2G

Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	BC846 80	V
BC847 BC850 50			
BC848 BC849 30			
Collector Emitter Voltage	V_{CEO}	BC846 65	V
BC847 BC850 45			
BC848 BC849 30			
Emitter Base Voltage	V_{EBO}	BC846 BC847 6	V
BC848 BC849 BC850 5			
Collector Current	I_C	100	mA
Peak Collector Current	I_{CM}	200	mA
Maximum Power Dissipation	P_D	300	mW
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-65 to +150	°C



BC846~BC850

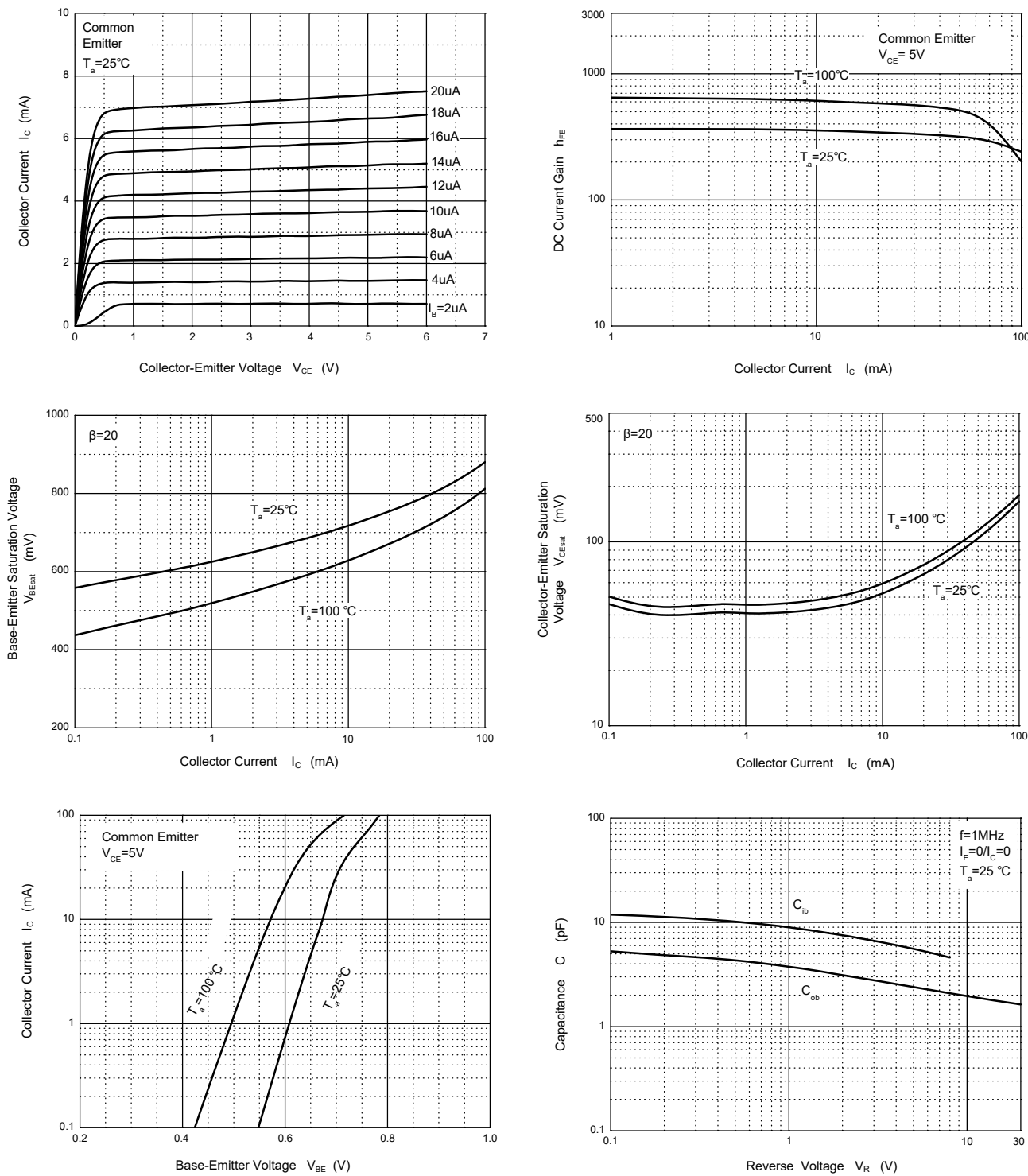
NPN Transistor

Electrical Characteristics (T_A=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at V _{CE} = 5 V, I _C = 2 mA	Gain Group A H _{FE} B C	110 200 420	-- -- --	220 450 800	--
Collector Base Cutoff Current at V _{CB} = 30V	I _{CBO}	--	--	15	nA
Collector Base Breakdown Voltage at I _C = 100 μA	BC846 BC847 BC850 BC848 BC849	80 50 30	-- -- --	-- -- --	V
Collector Emitter Breakdown Voltage at I _C = 2 mA	BC846 BC847 BC850 BC848 BC849	65 45 30	-- -- --	-- -- --	V
Emitter Base Breakdown Voltage at I _E = 100 μA	BC846 BC847 BC848 BC849 BC850	6 5	-- --	-- --	V
Collector Emitter Saturation Voltage at I _C = 10 mA, I _B = 0.5 mA at I _C = 100 mA, I _B = 5 mA	V _{CE(sat)}	-- --	-- --	250 600	mV
Base Emitter On Voltage at V _{CE} = 5 V, I _C = 2 mA at V _{CE} = 5 V, I _C = 10 mA	V _{BE(on)}	-- --	-- --	700 720	mV
Transition Frequency at V _{CE} = 5 V, I _C = 10 mA, f = 100 MHz	F _T	--	300	--	MHz
Output Capacitance at V _{CB} = 10 V, f = 1 MHz	C _{ob}	--	--	6	pF
Input Capacitance at V _{EB} = 0.5 V, f = 1 MHz	C _{ib}	--	9	--	pF
Noise Figure at V _{CE} = -5 V, I _C = -200 μA, f = 1 KHz, R _G = 2KΩ BC846 BC847 BC848 BC849 BC850 at V _{CE} = -5 V, I _C = -200 μA, f = 30~15000Hz, R _G = 2KΩ, BC849 BC850	NF	-- -- -- --	-- -- -- --	10 4 4 3	dB



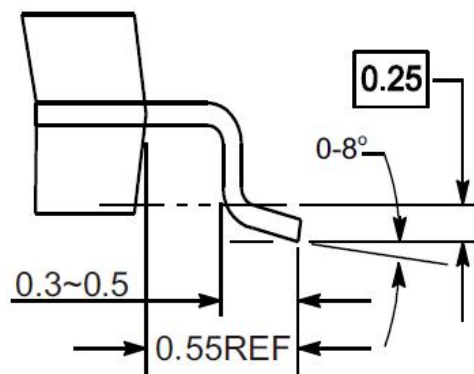
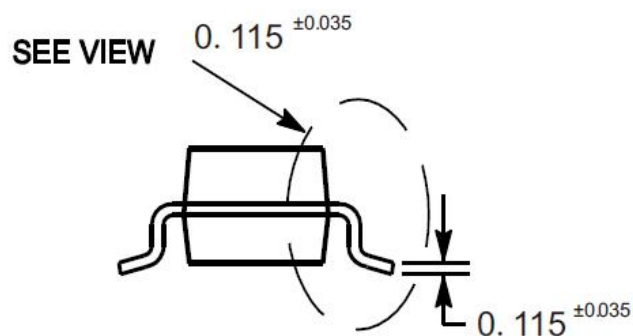
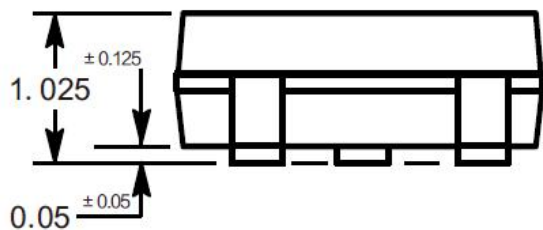
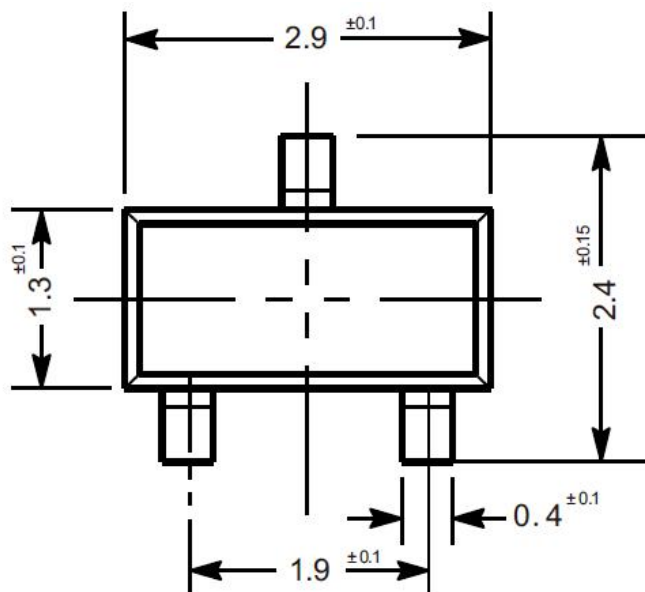
Typical Characteristic Curves



Package Outline

SOT-23

Dimensions in mm



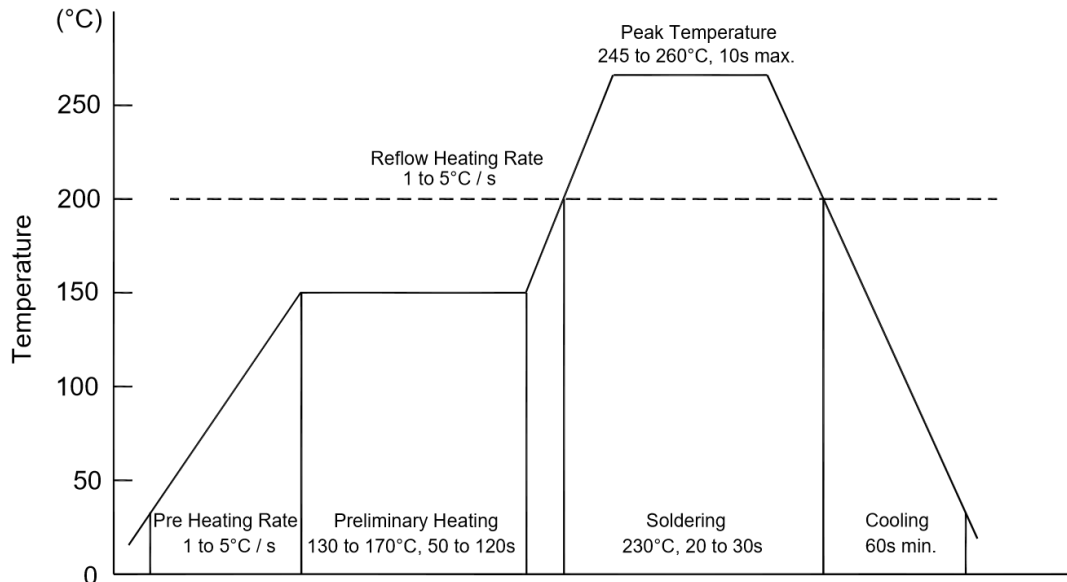
VIEW C

Ordering Information

Device	Package	Shipping
BC846~BC850	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

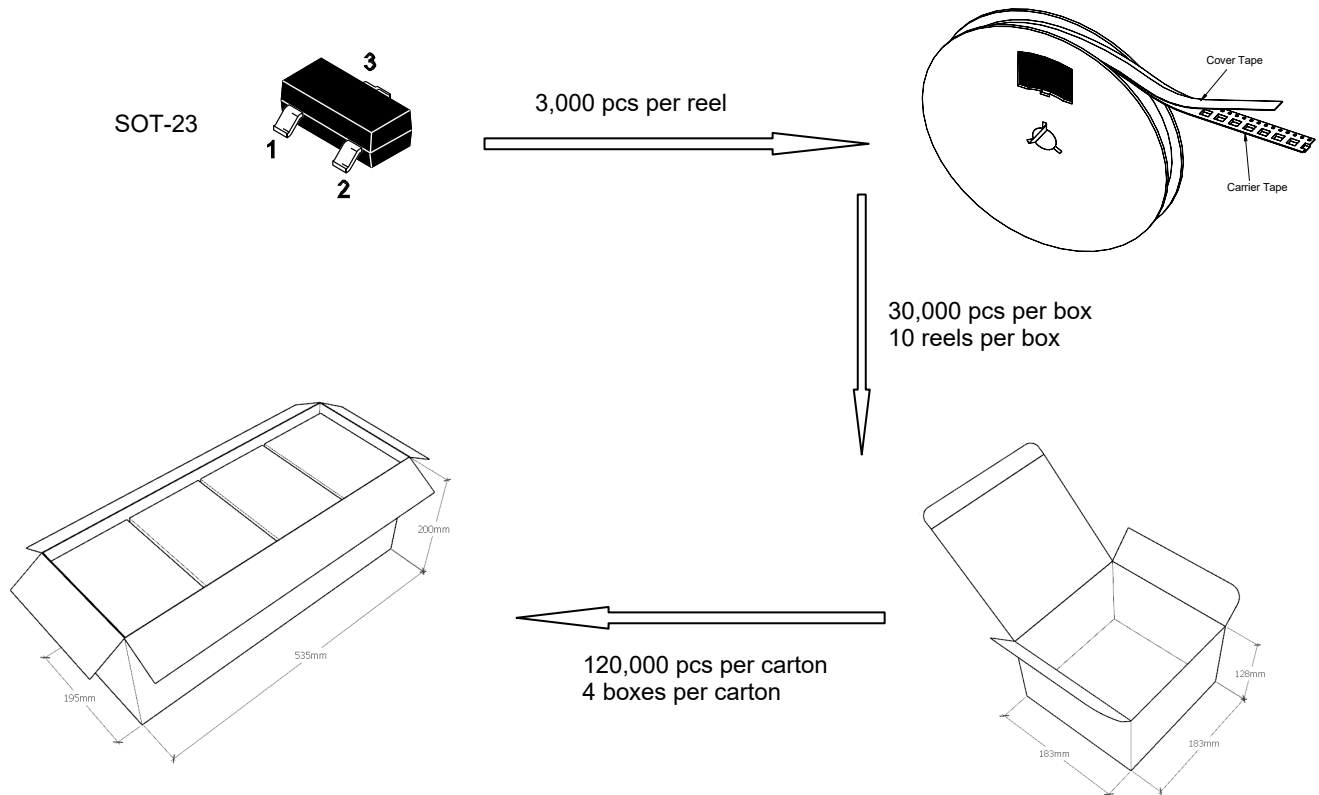
- Temperature: 370 °C
- Time: 3s max.
- Times: one time

◆ Storage conditions

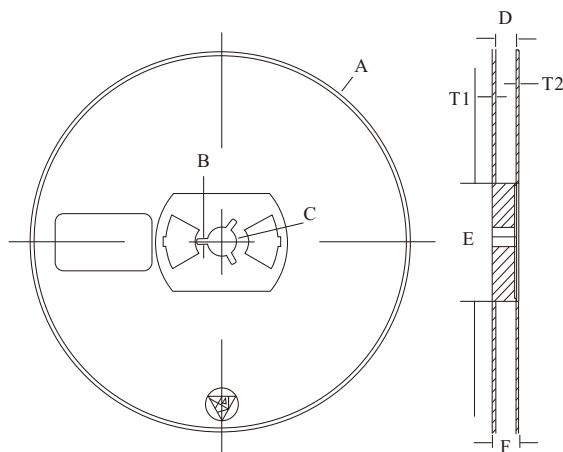
- **Temperature**
5 to 40 °C
- **Humidity**
30 to 80% RH
- **Recommended period**
One year after manufacturing

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")

