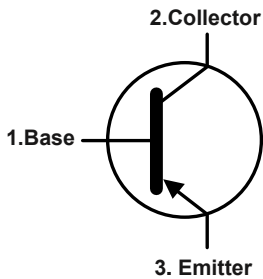


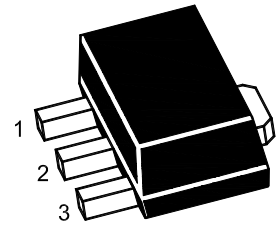
Features

- For AF driver and output stages
- High collector current
- Low collector-emitter saturation voltage

Equivalent Circuit

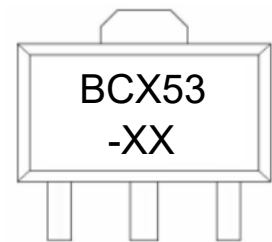


SOT-89



1.Base 2.Collector 3. Emitter

Marking Code :



XX: 10/16

Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	100	V
Collector Emitter Voltage	$-V_{CEO}$	80	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	1	A
Peak Collector Current	$-I_{CM}$	1.5	A
Maximum Power Dissipation	P_D	0.5 ^{Note1} 1.3 ^{Note2}	W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-65 to +150	°C

Note :1.Device mounted on an FR4 Printed-Circuit Board(PCB), single-sided copper, tin-plated and standard footprint.

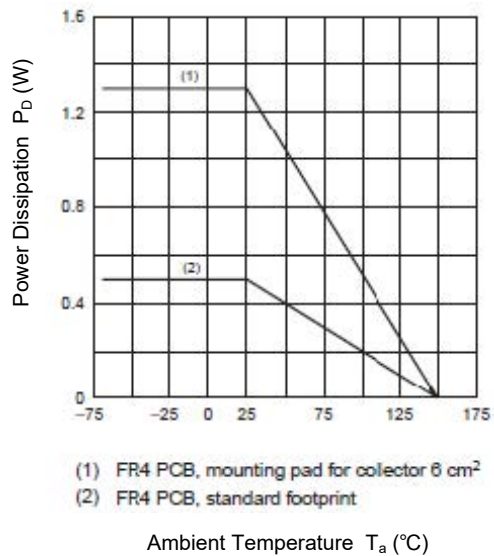
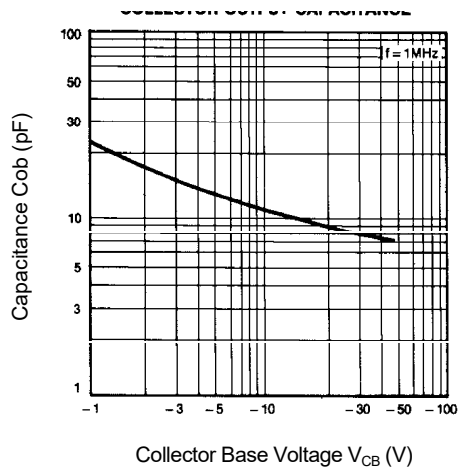
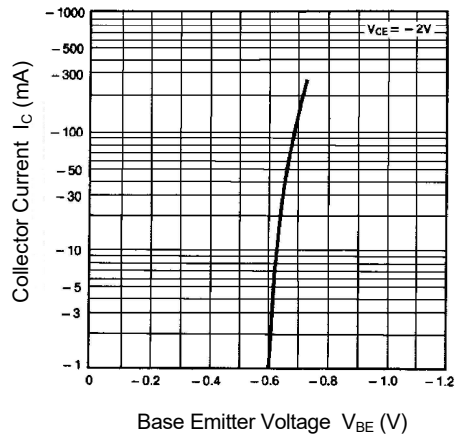
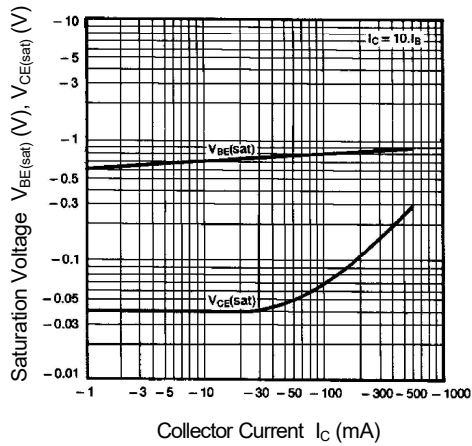
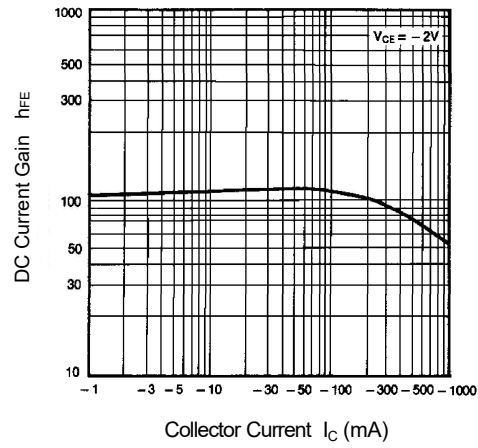
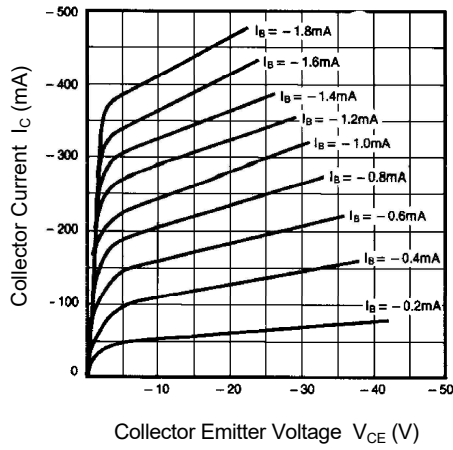
2. Device mounted on an FR4 PCB, single-sided copper, tin-plated, mounting pad for col



Electrical Characteristics (T_A=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at V _{CE} = -2 V, I _C = -5 mA at V _{CE} = -2 V, I _C = -150 mA at V _{CE} = -2 V, I _C = -500 mA	BCX53SQ-10 BCX53SQ-16 H _{FE}	40 63 100 25	-- -- -- --	-- 160 250 --	--
Collector Base Cutoff Current at V _{CB} = -30V	-I _{CBO}	--	--	100	nA
Emitter Base Cutoff Current at V _{EB} = -5 V	-I _{EBO}	--	--	100	nA
Collector Base Breakdown Voltage at I _C = -100 μA	-V _{(BR)CBO}	100	--	--	V
Collector Emitter Breakdown Voltage at I _C = -1 mA	-V _{(BR)CEO}	80	--	--	V
Emitter Base Breakdown Voltage at I _E = -100 μA	-V _{(BR)EBO}	5	--	--	V
Collector Emitter Saturation Voltage at I _C = -500 mA, I _B = -50 mA	-V _{CE(sat)}	--	--	0.5	V
Base Emitter On Voltage at V _{CE} = -2 V, I _C = -500 mA	-V _{BE}	--	--	1	V
Transition Frequency at V _{CE} = -5 V, I _C = -50 mA, f = -100 MHz	F _T	--	145	--	MHz
Output Capacitance at V _{CB} = -15 V, f = 1 MHz	C _{ob}	--	15	--	pF

Typical Characteristic Curves



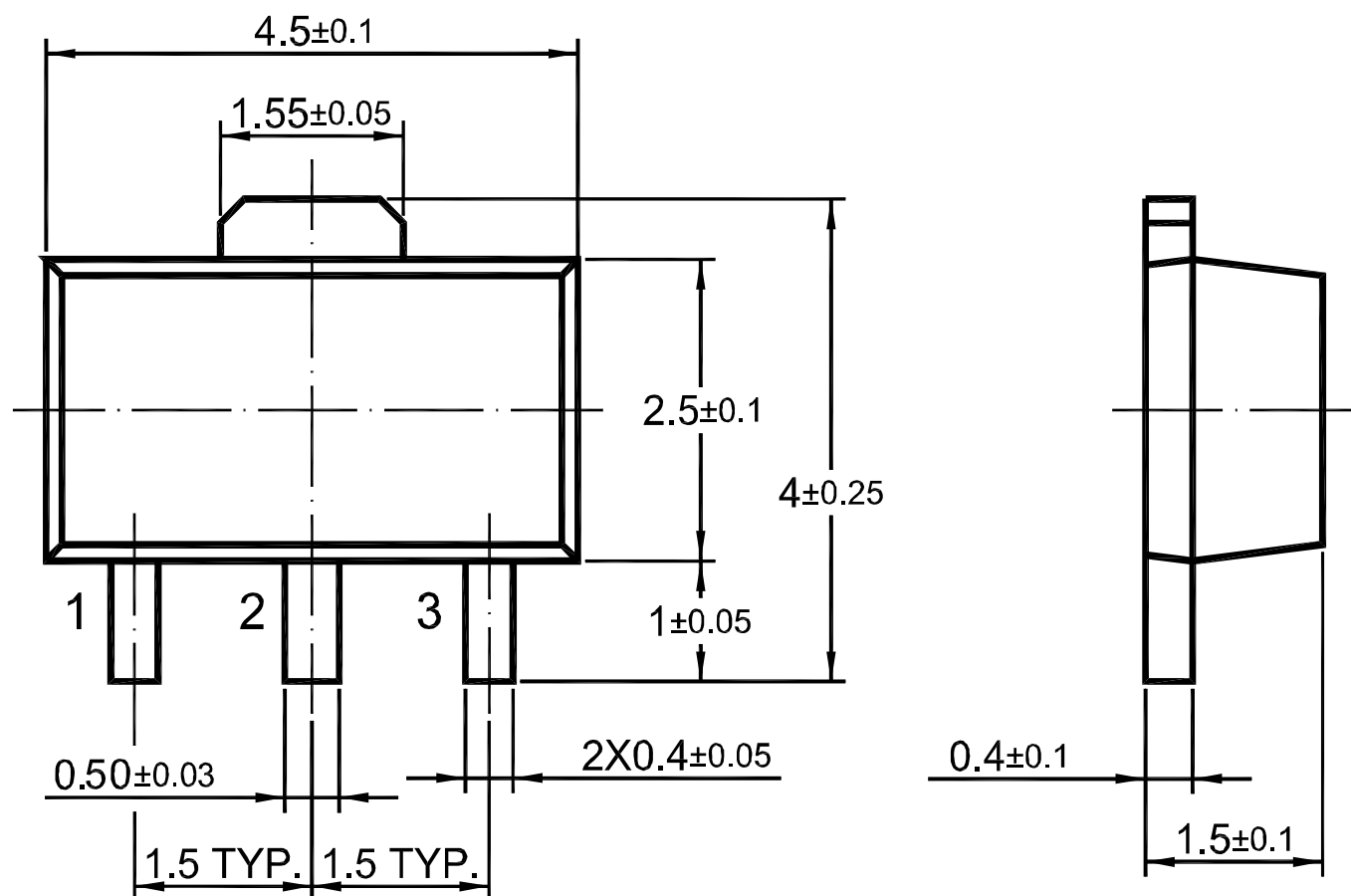
- (1) FR4 PCB, mounting pad for collector 8 cm²
- (2) FR4 PCB, standard footprint

Ambient Temperature T_a (°C)

Package Outline

SOT-89

Dimensions in mm



Ordering Information

Device	Package	Shipping
BCX53SQ	SOT-89	1,000PCS/Reel&7inches
		3,000PCS/Reel&13inches

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

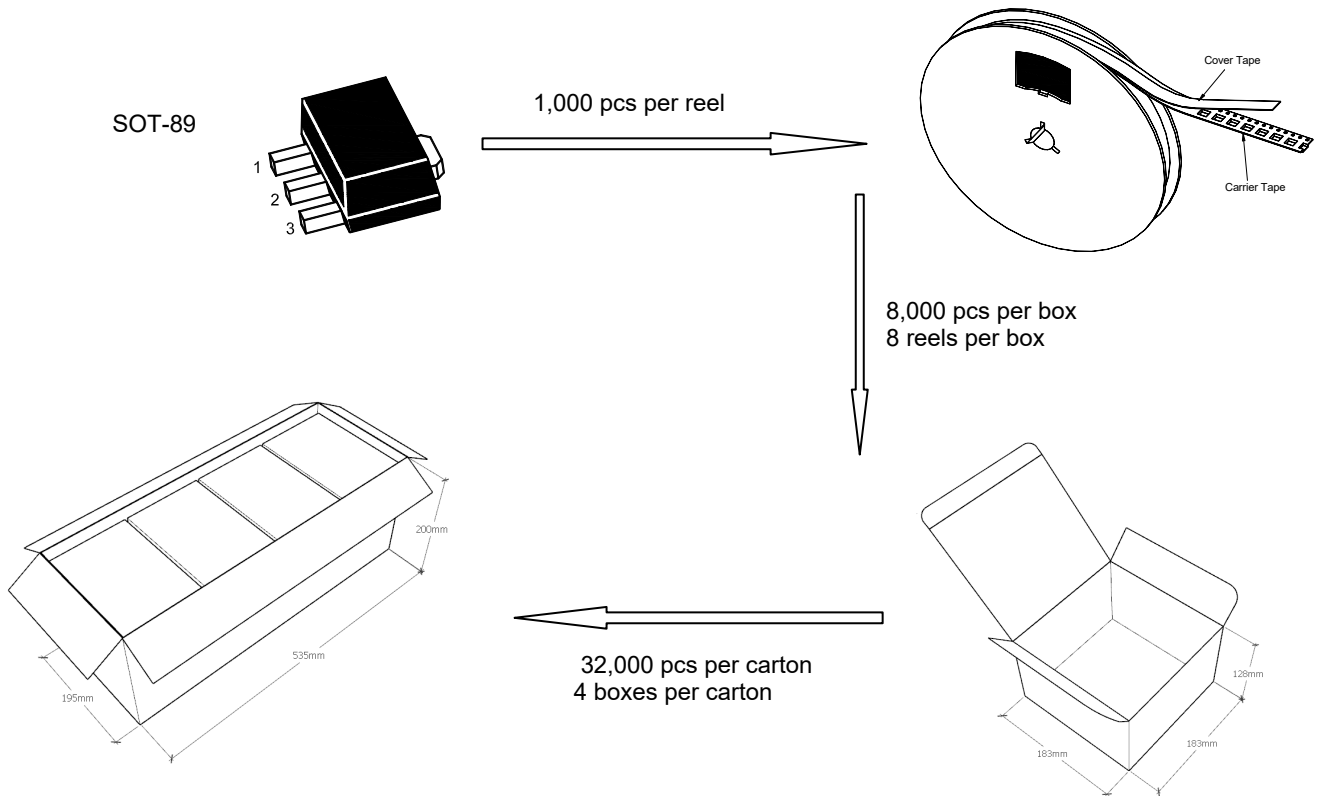
- Temperature: 370 °C
- Time: 3s max.
- Times: one time

◆ Storage conditions

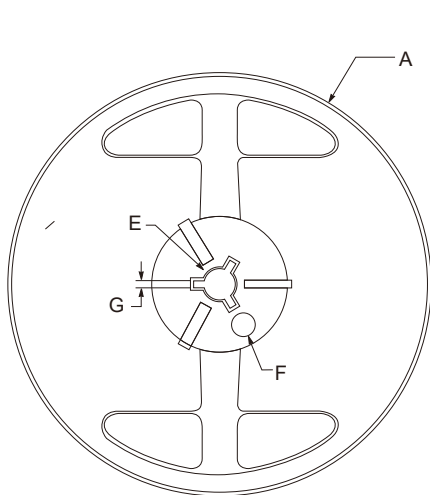
- **Temperature**
5 to 40 °C
- **Humidity**
30 to 80% RH
- **Recommended period**
One year after manufacturing

Package Specifications

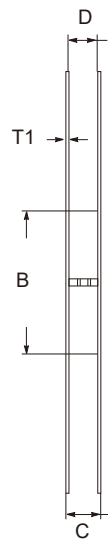
- The method of packaging (1,000PCS/Reel&7inches)



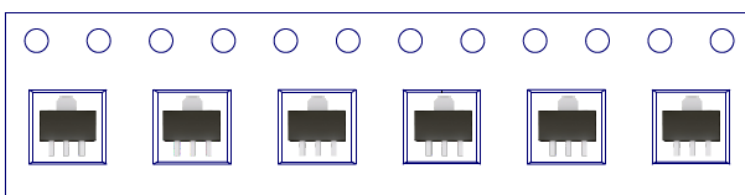
◆ Embossed tape and reel data



Reel (7")

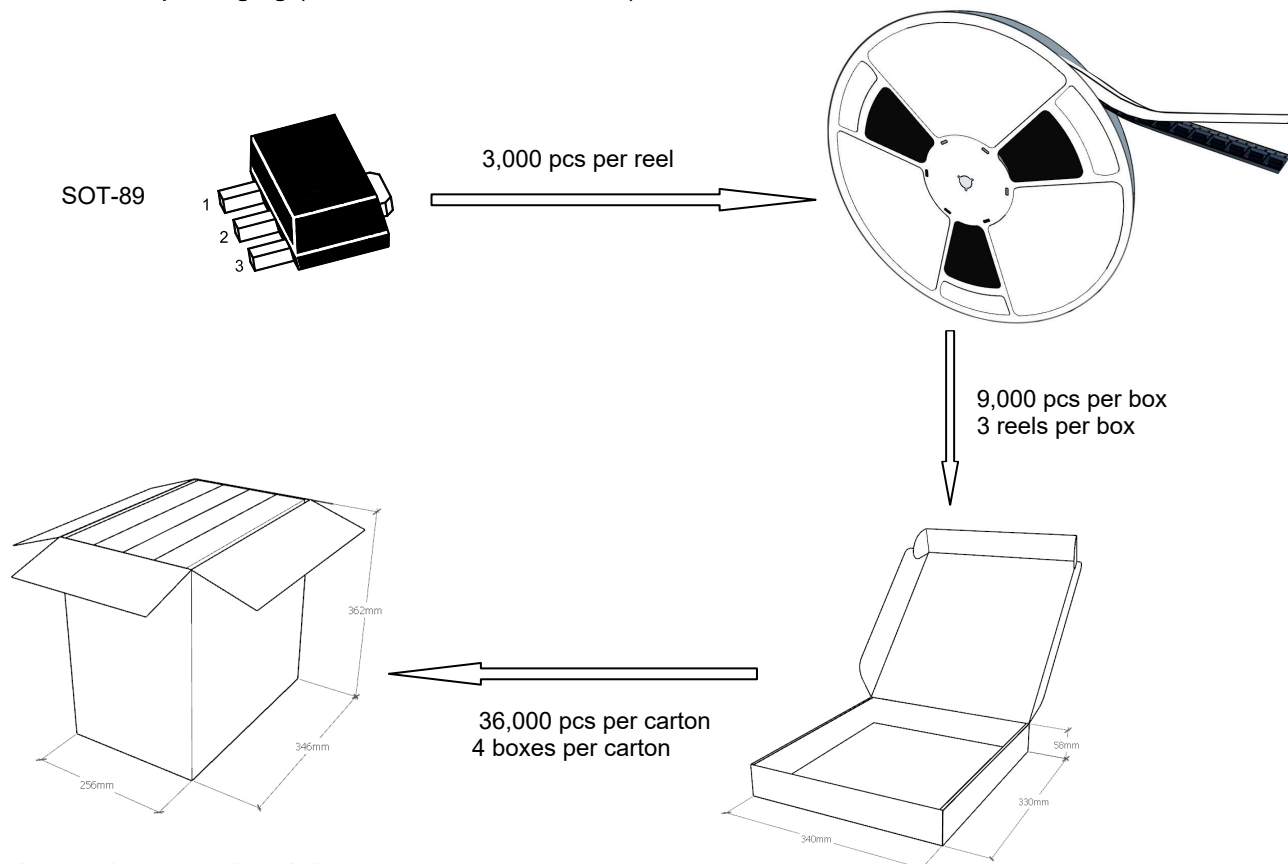


symbol	Value(unit:mm)
A	$\Phi 179 \pm 1$
B	60.5 ± 0.2
C	15.3 ± 0.3
D	12.5~13.7
E	$\Phi 13.5 \pm 0.2$
F	$\Phi 10.0 \pm 0.2$
G	2.7 ± 0.2
T1	1.0 ± 0.2



Package Specifications

- The method of packaging (3,000PCS/Reel&13inches)



◆ Embossed tape and reel data



symbol	Value(unit:mm)
A	$\Phi 330 \pm 1$
B	12.7 ± 0.5
C	16.5 ± 0.3
D	$\Phi 99.5 \pm 0.5$
E	$\Phi 13.6 \pm 0.3$
F	2.8 ± 0.3
T1	1.9 ± 0.2

