



SANYO Semiconductors

## DATA SHEET

An ON Semiconductor Company

NPN Epitaxial Planar Silicon Transistor

# 15C01SS — Low-Frequency General-Purpose Amplifier Applications

## Applications

- Low-frequency Amplifier, muting circuit

## Features

- Large current capacity
- Low collector-to-emitter saturation voltage (resistance) :  $R_{CE(sat)}$  typ=0.58 $\Omega$  [ $I_C=0.7A$ ,  $I_B=35mA$ ]
- Ultrasmall, slim flat-lead package (1.4mm $\times$ 0.8mm $\times$ 0.6mm)
- Small ON-resistance (Ron)

## Specifications

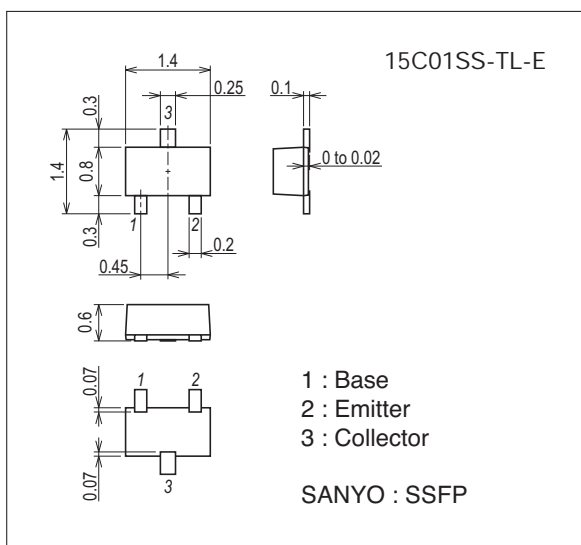
Absolute Maximum Ratings at  $T_a=25^\circ C$ 

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	VCBO		20	V
Collector-to-Emitter Voltage	VCEO		15	V
Emitter-to-Base Voltage	VEBO		5	V
Collector Current	IC		600	mA
Collector Current (Pulse)	ICP		1.2	A
Collector Dissipation	PC	Mounted on a glass epoxy board (20 $\times$ 30 $\times$ 1.6mm)	200	mW
Junction Temperature	Tj		150	$^\circ C$
Storage Temperature	Tstg		-55 to +150	$^\circ C$

## Package Dimensions

unit : mm (typ)

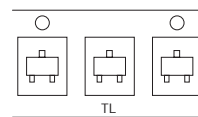
7029A-002



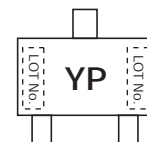
## Product & Package Information

- Package : SSFP
- JEITA, JEDEC : SC-81
- Minimum Packing Quantity : 8,000 pcs./reel

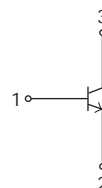
## Packing Type: TL



## Marking



## Electrical Connection

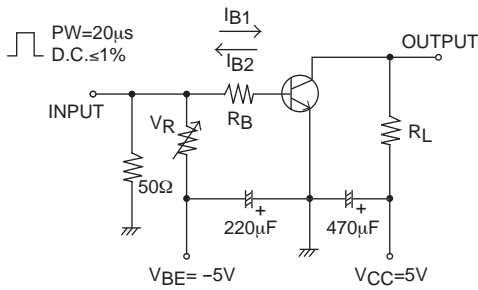


# 15C01SS

## Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=15V, I_E=0A$			0.1	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=4V, I_C=0A$			0.1	$\mu A$
DC Current Gain	$h_{FE}$	$V_{CE}=2V, I_C=10mA$	300		800	
Gain-Bandwidth Product	$f_T$	$V_{CE}=2V, I_C=50mA$		330		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=10V, f=1MHz$		3.2		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=200mA, I_B=10mA$		150	300	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=200mA, I_B=10mA$		0.9	1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0A$	20			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	15			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0A$	5			V
Turn-ON Time	$t_{on}$	See specified Test Circuit.		30		ns
Storage Time	$t_{stg}$			77		ns
Fall Time	$t_f$			40		ns

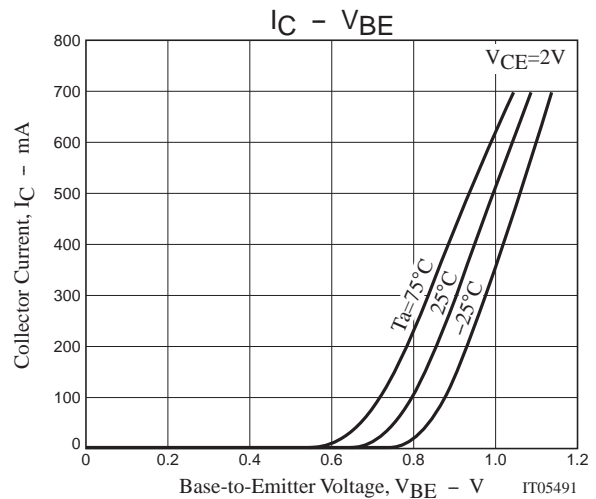
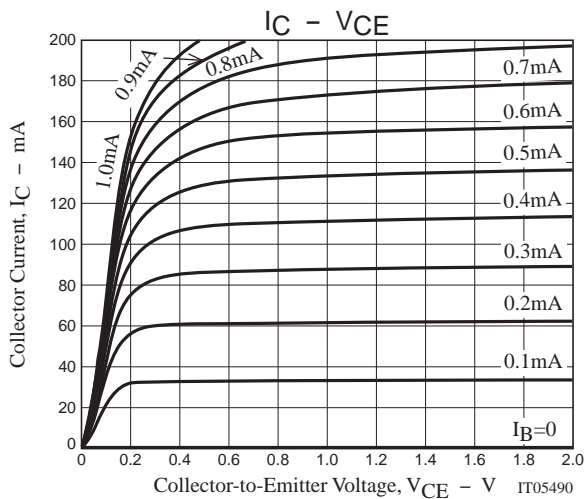
## Switching Time Test Circuit

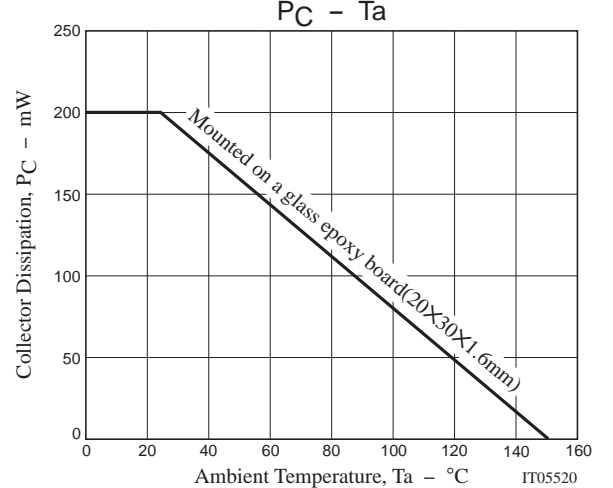
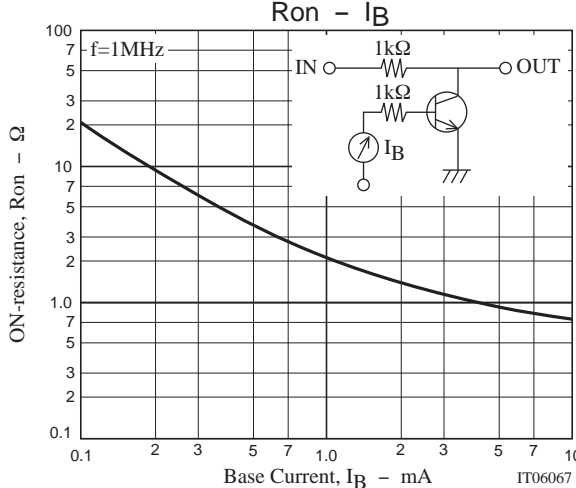
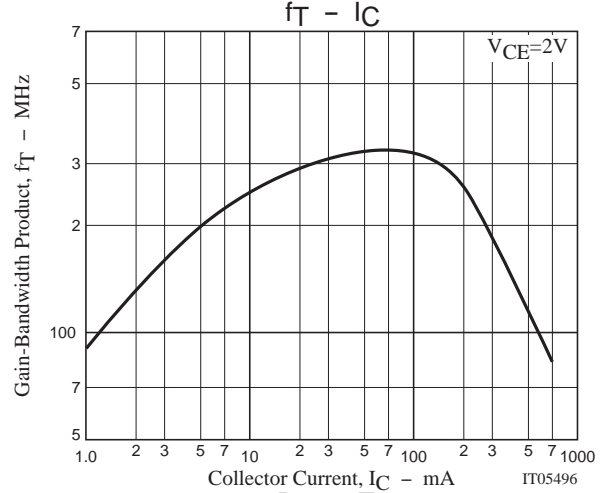
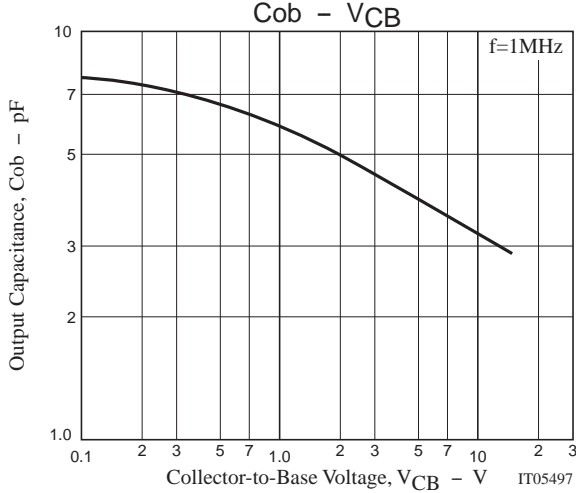
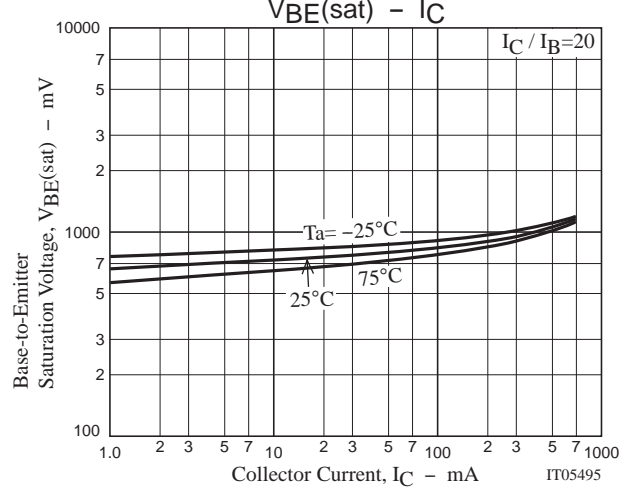
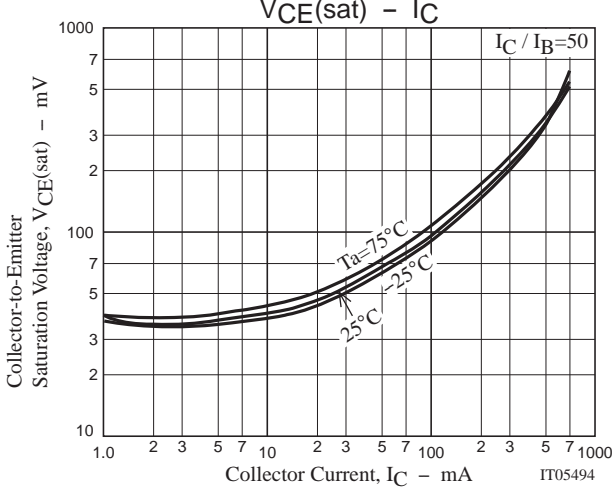
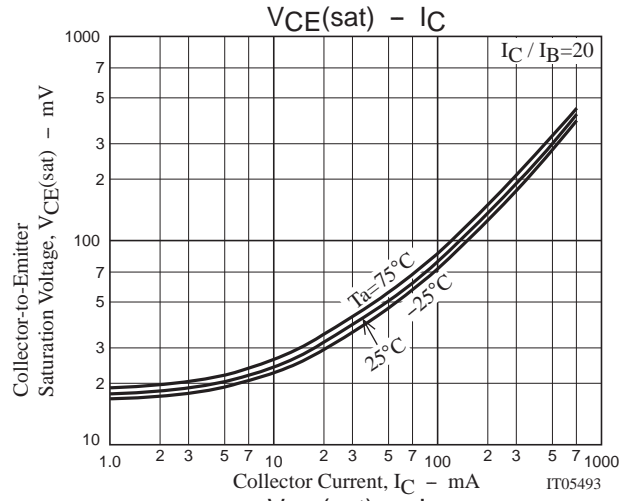
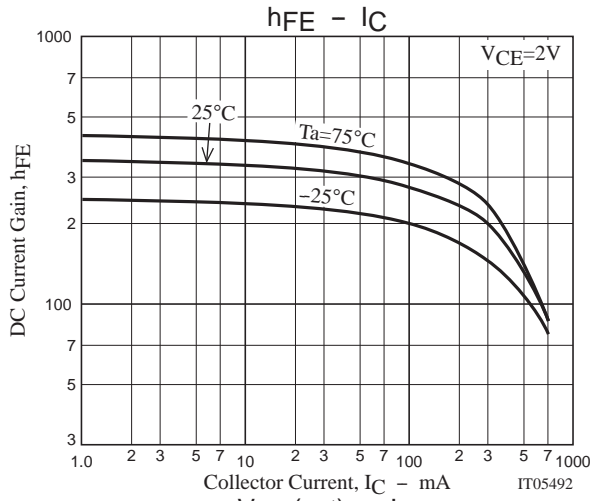


$$I_C = 20I_{B1} = -20I_{B2} = 500mA$$

## Ordering Information

Device	Package	Shipping	memo
15C01SS-TL-E	SSFP	8,000pcs./reel	Pb Free





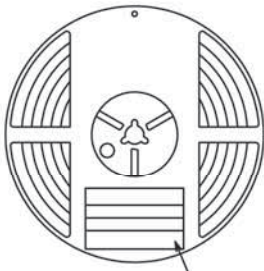
Embossed Taping Specification

15C01SS-TL-E

1. Packing Format

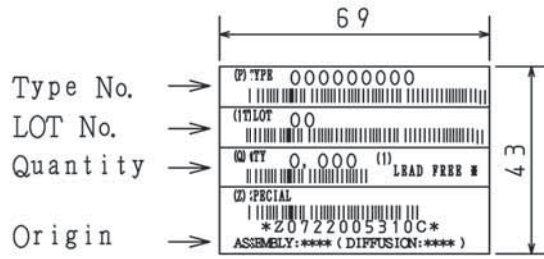
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
SSFP	SSFP	8,000	40,000	240,000	5 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimension::mm (external) 440×195×210

Packing method



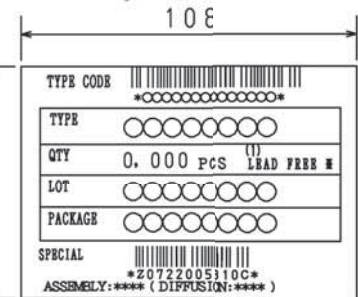
Reel label

Reel label, Inner box label (unit:mm)



Outer box label

It is a label at the time of factory shipments. The form of a label may change in physical distribution process.



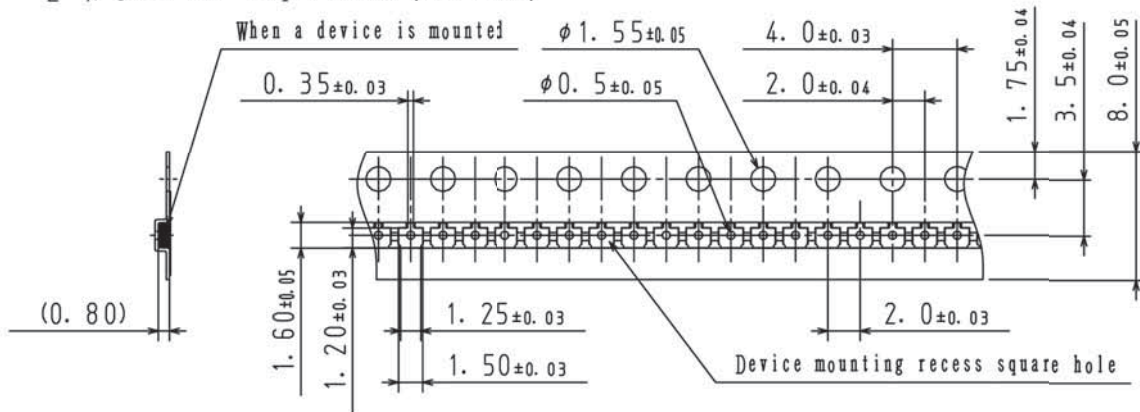
NOTE (1)

The LEAD FREE \* description shows that the surface treatment of the terminal is lead free.

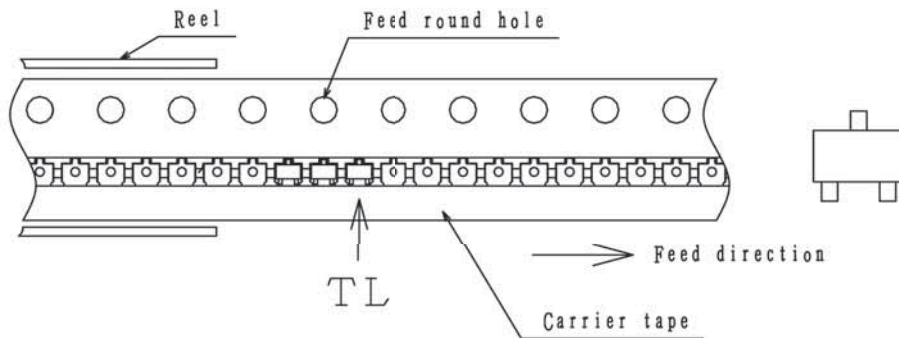
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

2-1. Carrier tape size (unit:mm)



2-2. Device placement direction

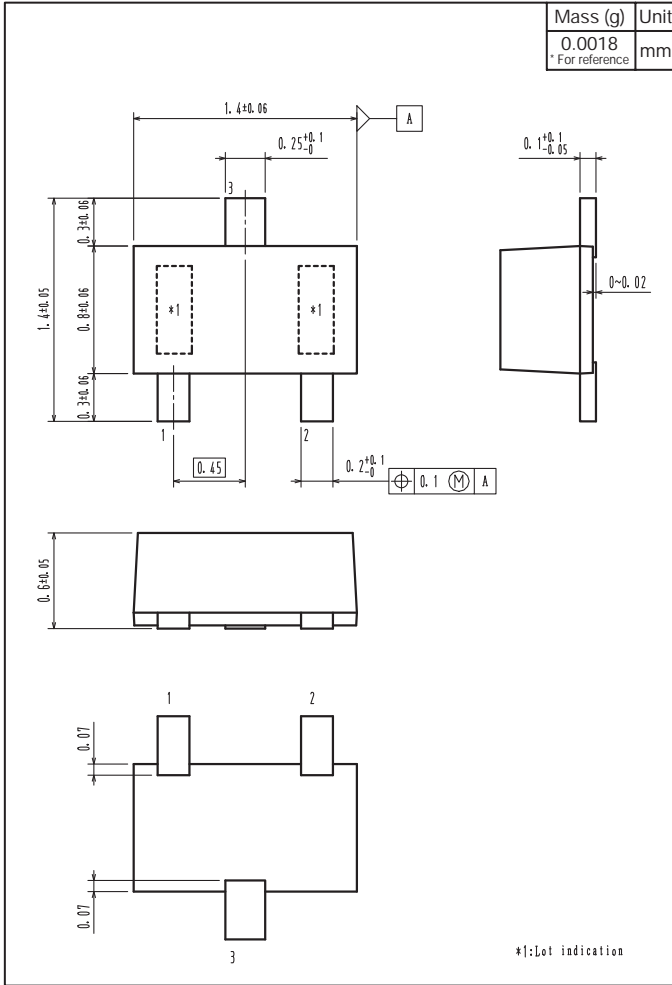


Those with pin 1 index on the feed hole side.....TL

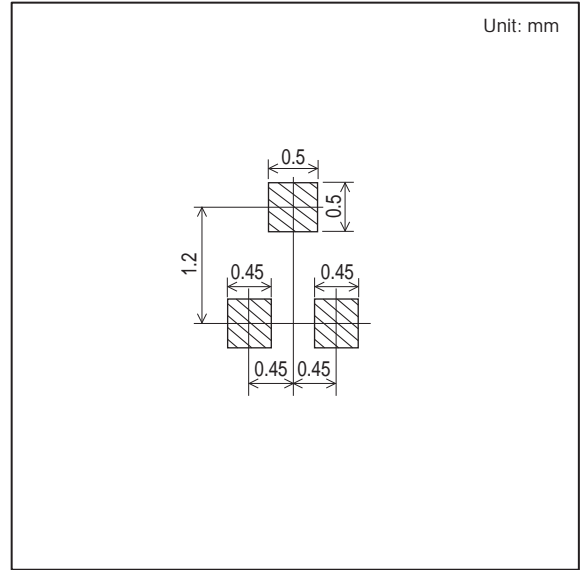
# 15C01SS

## Outline Drawing

15C01SS-TL-E



## Land Pattern Example



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