



SANYO Semiconductors

# DATA SHEET

An ON Semiconductor Company

## 15C01SS — NPN Epitaxial Planar Silicon Transistor

### 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=0.58Ω [ $I_C=0.7A$ ,  $I_B=35mA$ ]
- Ultrasmall, slim flat-lead package (1.4mm×0.8mm×0.6mm)
- Small ON-resistance (Ron)

#### Specifications

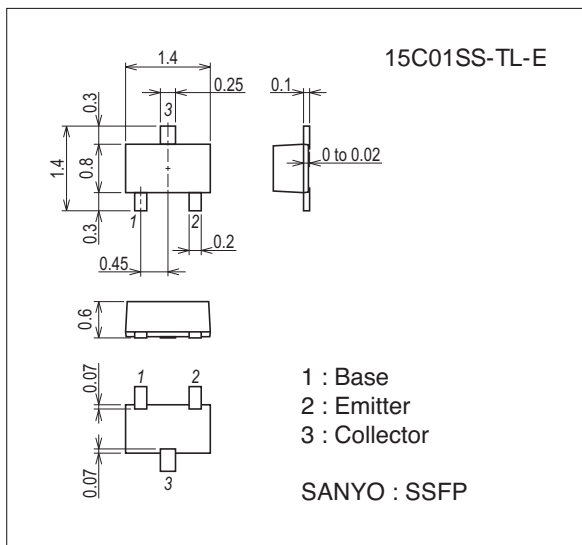
Absolute Maximum Ratings at  $T_a=25^\circ C$

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 (20×30×1.6mm)	200	mW
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

#### Package Dimensions

unit : mm (typ)

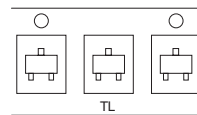
7029A-002



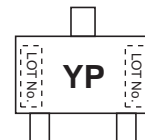
#### Product & Package Information

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

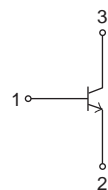
#### Packing Type: TL



#### Marking



#### Electrical Connection

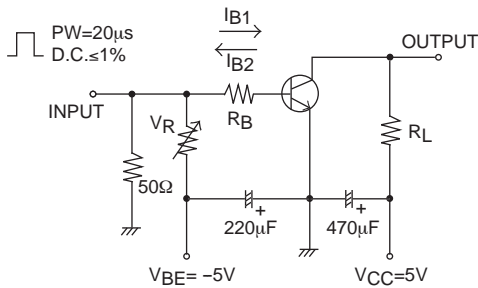


# 15C01SS

## Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V <sub>CB</sub> =15V, I <sub>E</sub> =0A			0.1	μA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =4V, I <sub>C</sub> =0A			0.1	μA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> =2V, I <sub>C</sub> =10mA	300		800	
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =2V, I <sub>C</sub> =50mA		330		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V, f=1MHz		3.2		pF
Collector-to-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =200mA, I <sub>B</sub> =10mA		150	300	mV
Base-to-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =200mA, I <sub>B</sub> =10mA		0.9	1.2	V
Collector-to-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =10μA, I <sub>E</sub> =0A	20			V
Collector-to-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =1mA, R <sub>BE</sub> =∞	15			V
Emitter-to-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =10μA, I <sub>C</sub> =0A	5			V
Turn-ON Time	t <sub>on</sub>	See specified Test Circuit.		30		ns
Storage Time	t <sub>stg</sub>			77		ns
Fall Time	t <sub>f</sub>			40		ns

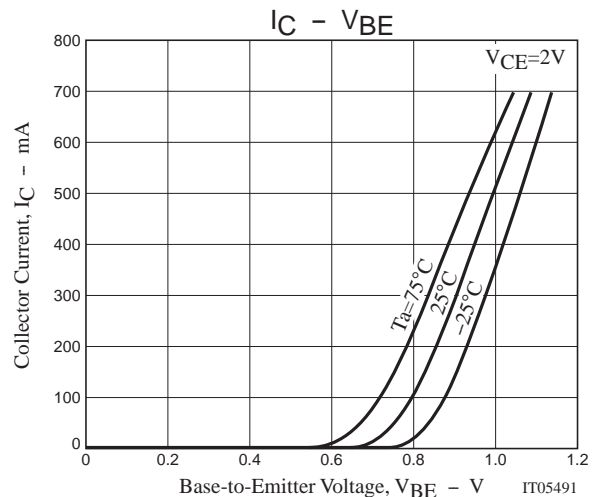
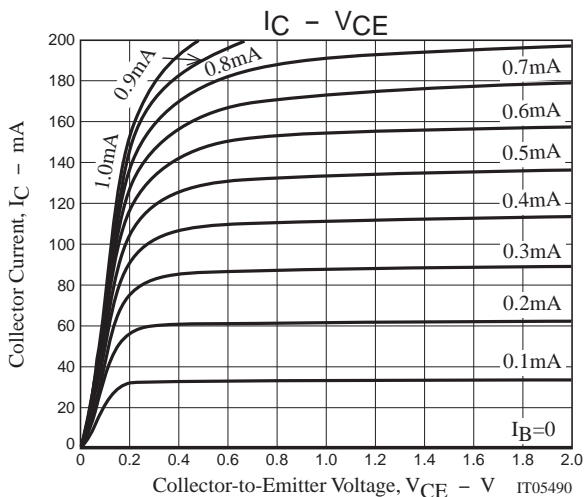
## Switching Time Test Circuit



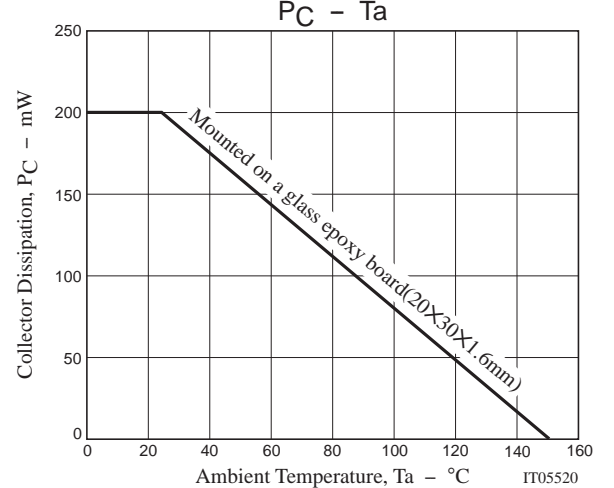
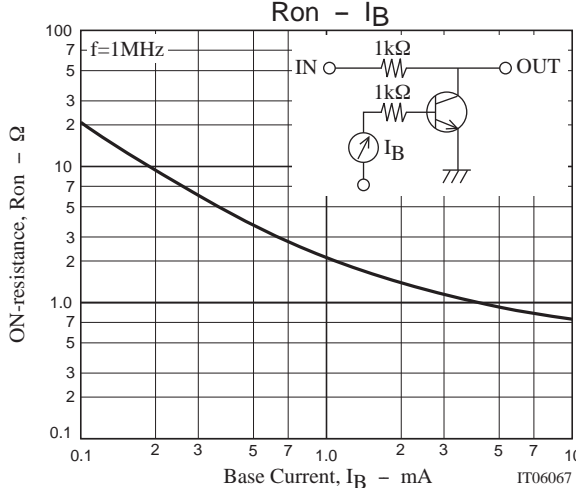
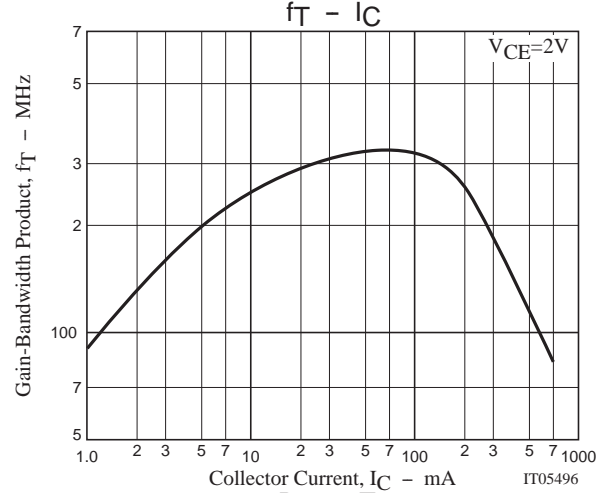
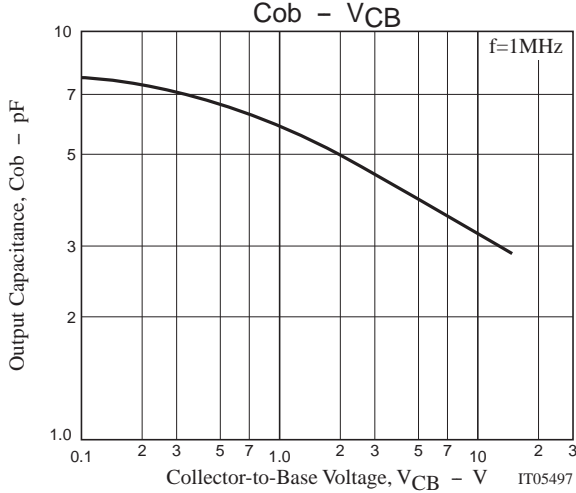
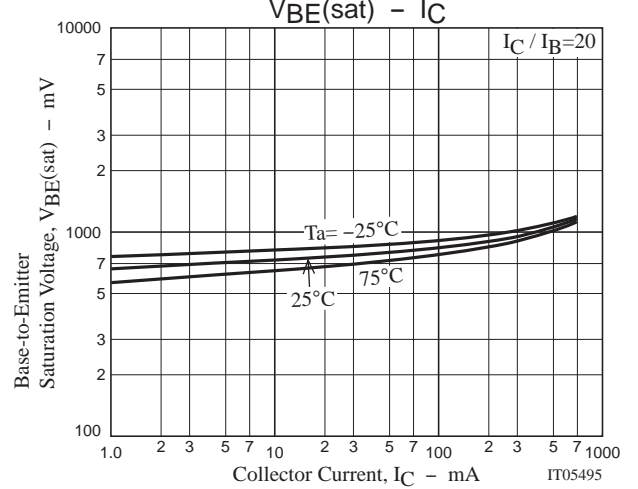
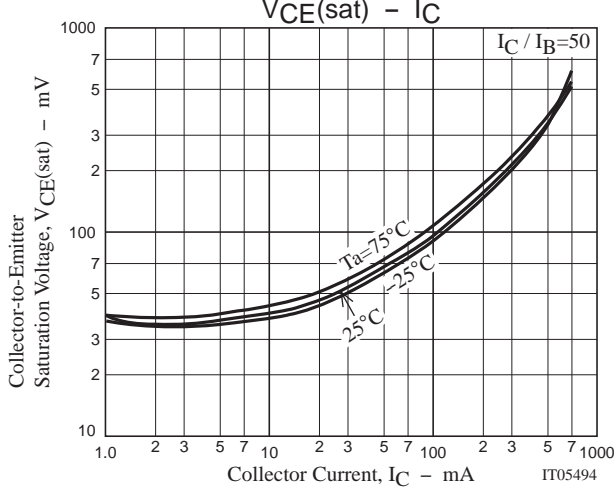
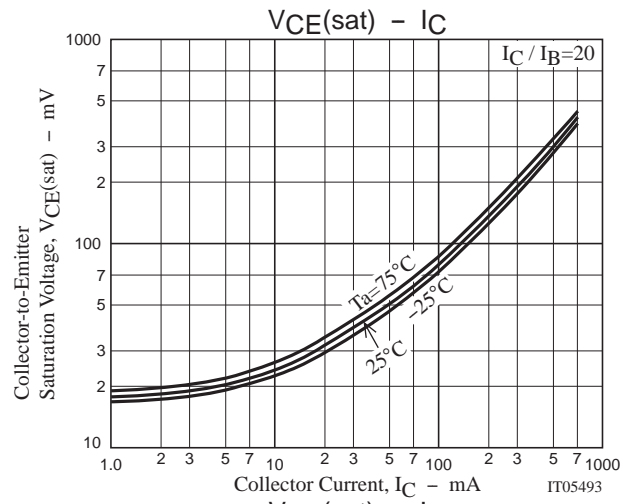
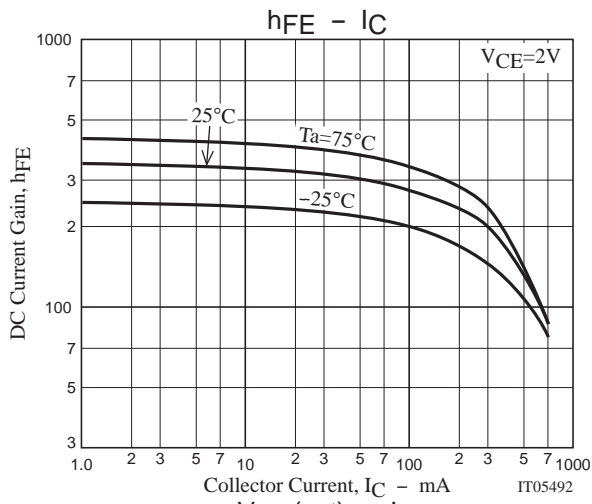
$$I_C = 20I_{B1} = -20I_{B2} = 500\text{mA}$$

## Ordering Information

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



# 15C01SS



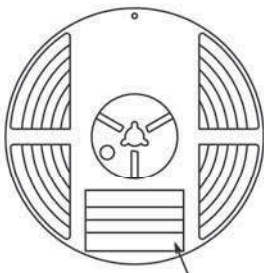
Embossed Taping Specification

15C01SS-TL-E

1. Packing Format

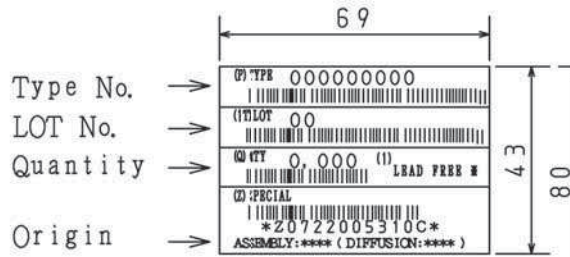
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
SSFP	SSFP	8,000	40,000	240,000	5 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimension::mm (external) 440×195×210

Packing method

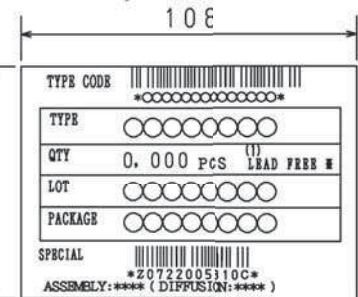


Reel label

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.



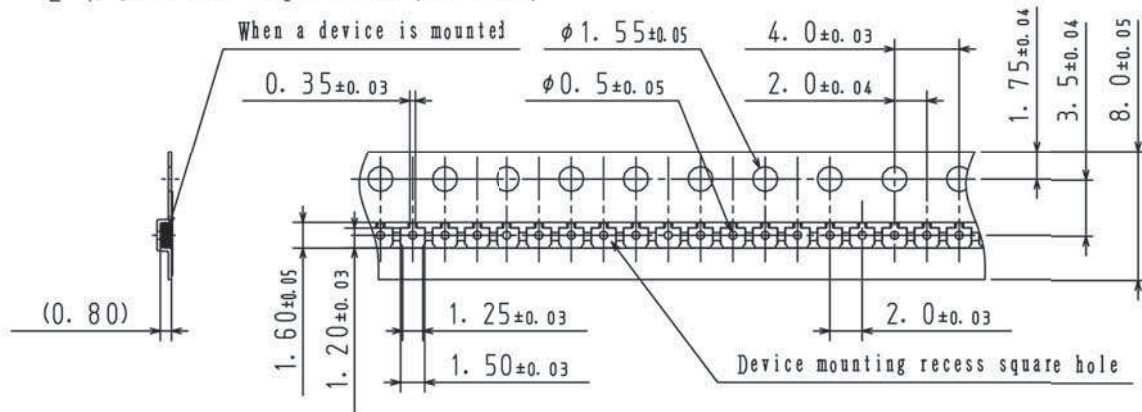
NOTE (1)

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

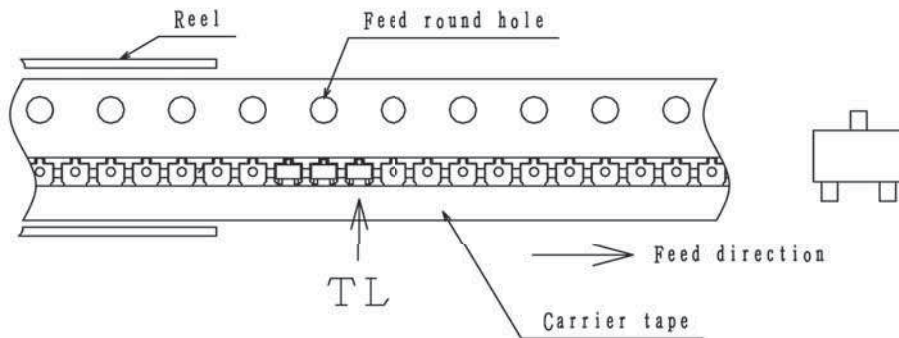
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



2-2. Device placement direction

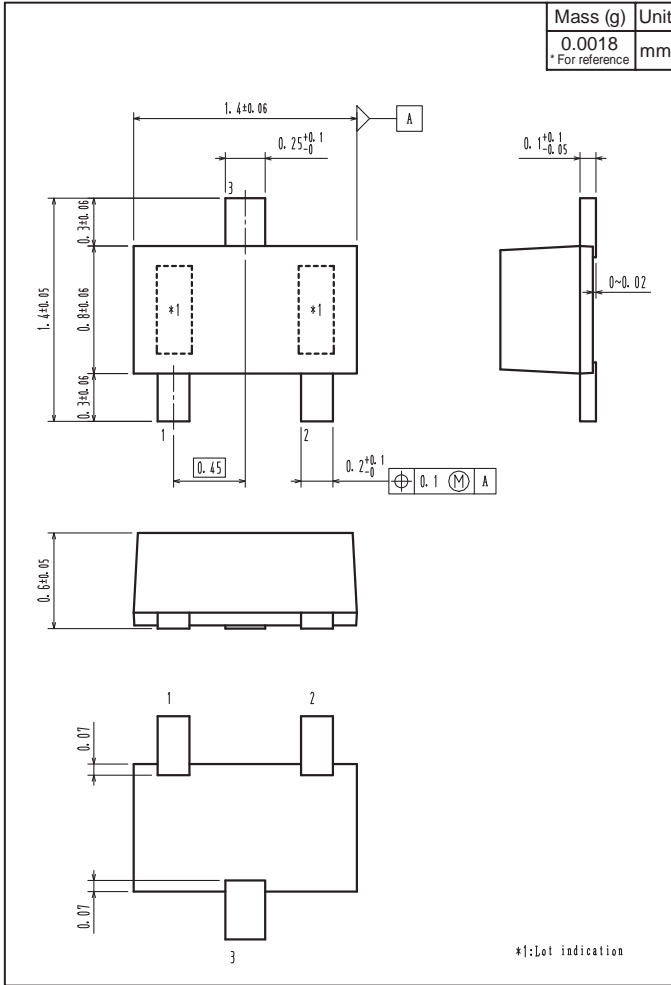


Those with pin 1 index on the feed hole side.....TL

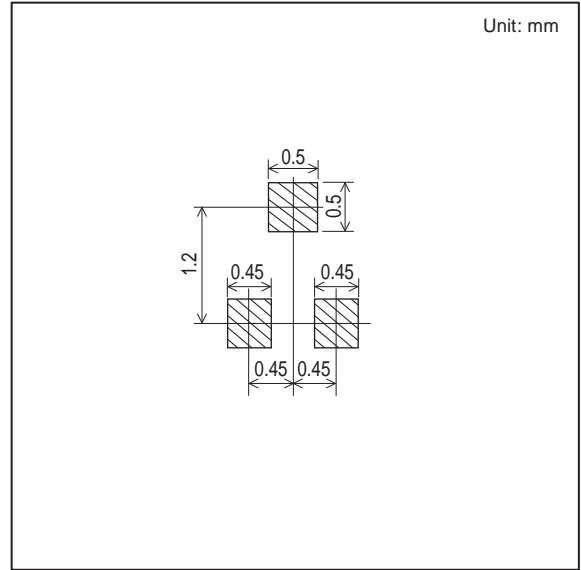
# 15C01SS

## Outline Drawing

15C01SS-TL-E



## Land Pattern Example



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