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15C01SS

Bipolar Transistor 15V, 0.6A, Low $V_{CE(sat)}$ NPN Single SSFP

Applications

- Low-frequency Amplifier, muting circuit

Features

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

Specifications

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

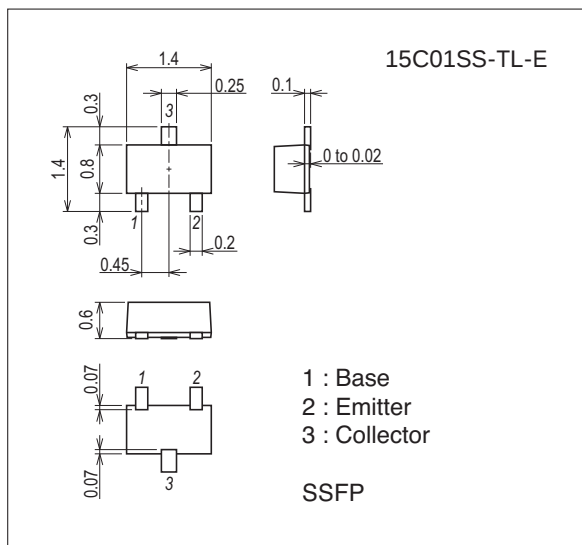
Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		20	V
Collector-to-Emitter Voltage	V_{CEO}		15	V
Emitter-to-Base Voltage	V_{EBO}		5	V
Collector Current	I_C		600	mA
Collector Current (Pulse)	I_{CP}		1.2	A
Collector Dissipation	P_C	Mounted on a glass epoxy board (20×30×1.6mm)	200	mW
Junction Temperature	T_j		150	$^\circ C$
Storage Temperature	T_{stg}		-55 to +150	$^\circ C$

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

Package Dimensions

unit : mm (typ)

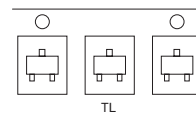
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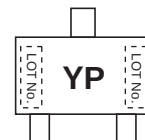
Product & Package Information

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

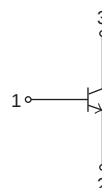
Packing Type: TL



Marking



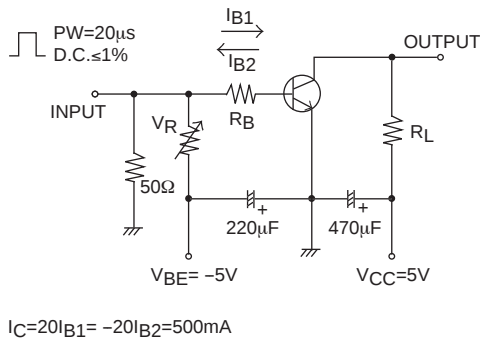
Electrical Connection



Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V _{CB} =15V, I _E =0A			0.1	μA
Emitter Cutoff Current	IEBO	V _{EB} =4V, I _C =0A			0.1	μA
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	Cob	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 =10μA, I _E =0A	20			V
Collector-to-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C =1mA, R _{BE} =∞	15			V
Emitter-to-Base Breakdown Voltage	V _{(BR)EBO}	I _E =10μA, 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

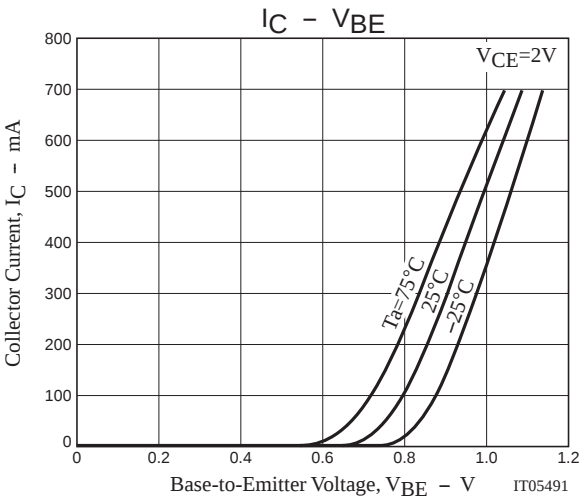
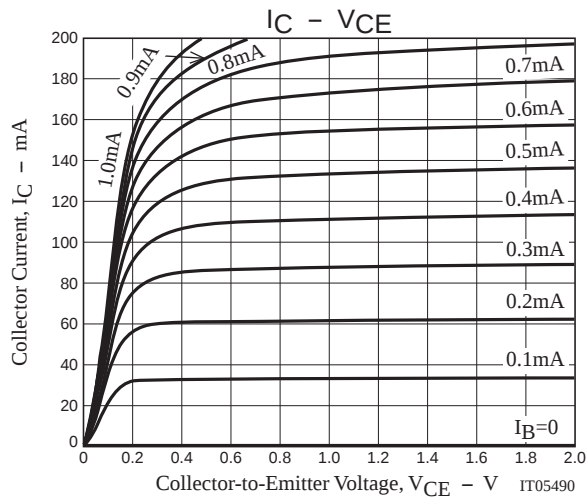
Switching Time Test Circuit

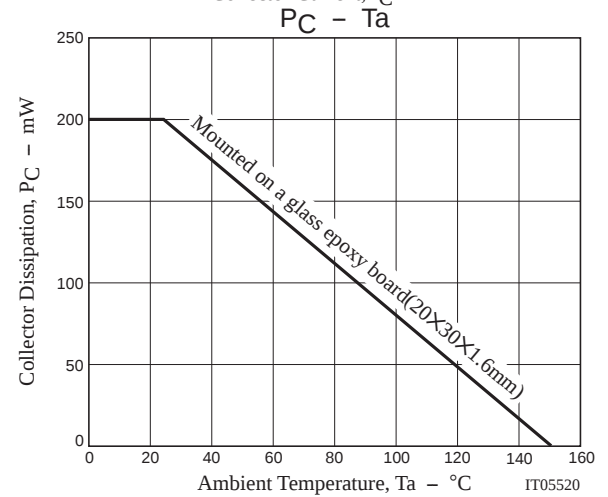
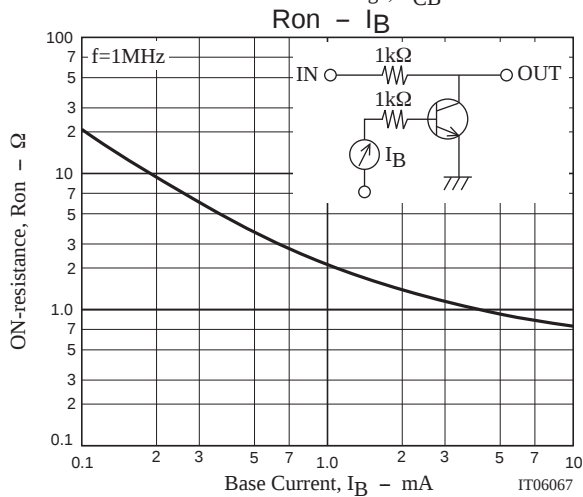
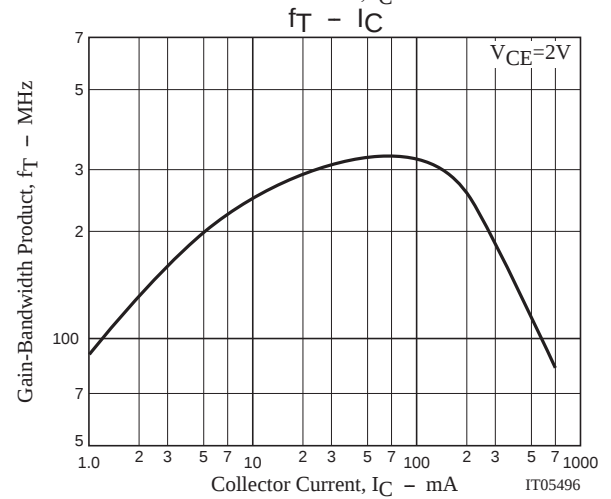
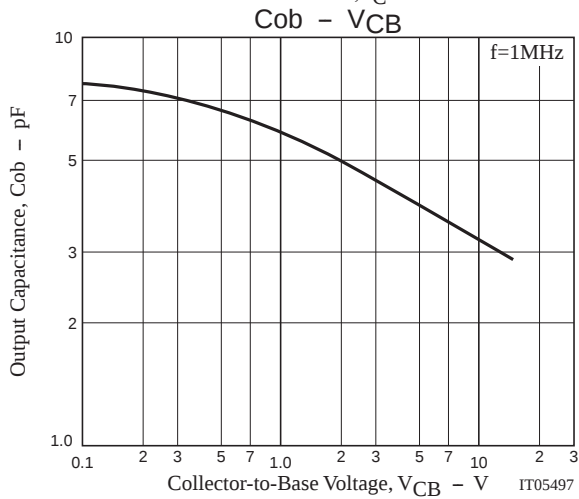
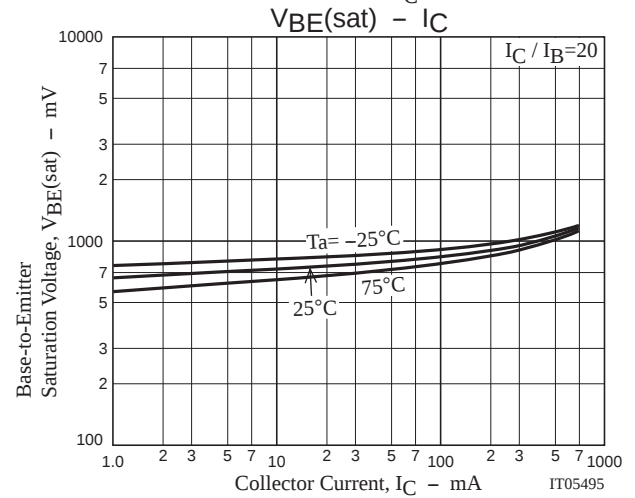
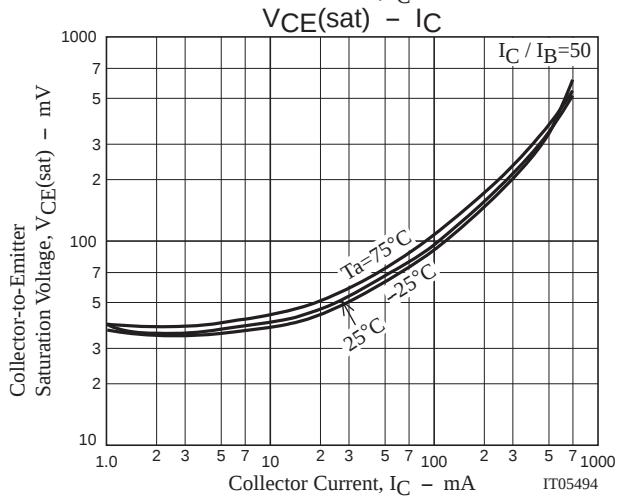
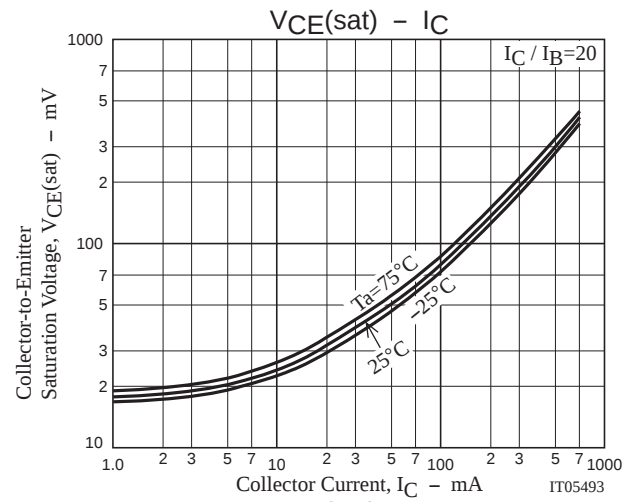
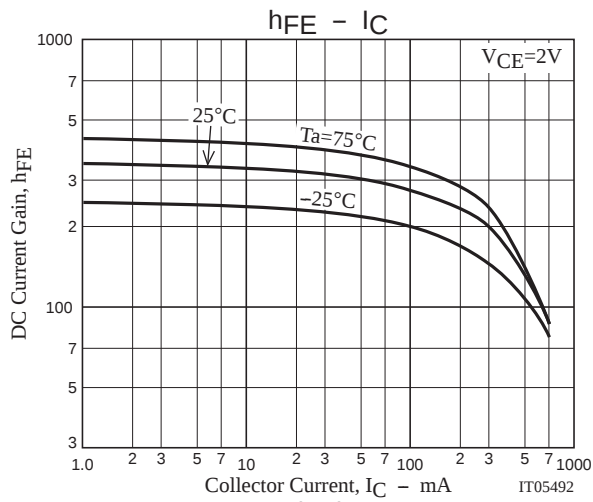


$I_C = 20I_{B1} = -20I_{B2} = 500\text{mA}$

Ordering Information

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





Embossed Taping Specification

15C01SS-TL-E

1. Packing Format

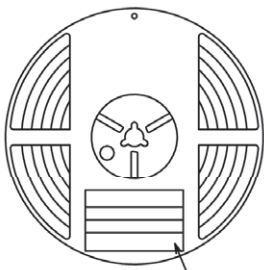
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
SSFP	SSFP	8,000	40,000	240,000	5 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimensions:mm (external) 440×195×210

Reel label, Inner box label
(unit:mm)

Outer box label

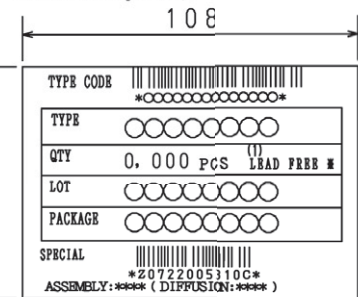
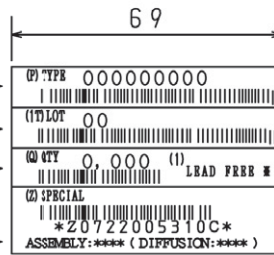
It is a label at the time of factory shipments.
The form of a label may change in physical
distribution process.

Packing method



Reel label

Type No.
LOT No.
Quantity
Origin



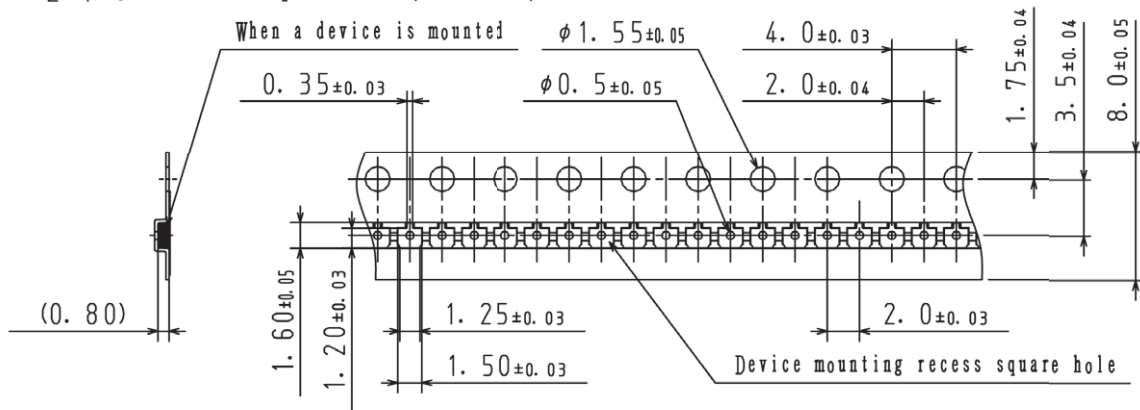
NOTE (1)

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

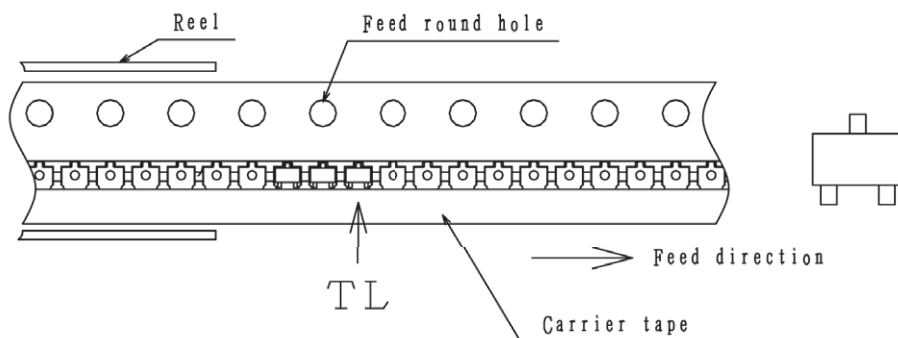
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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

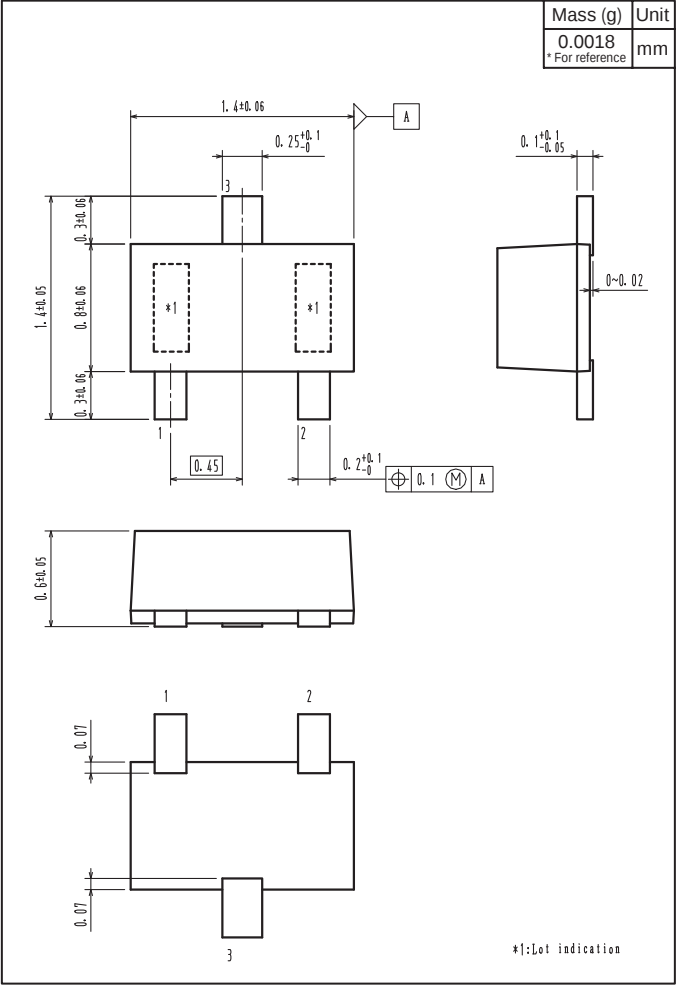


2-2. Device placement direction

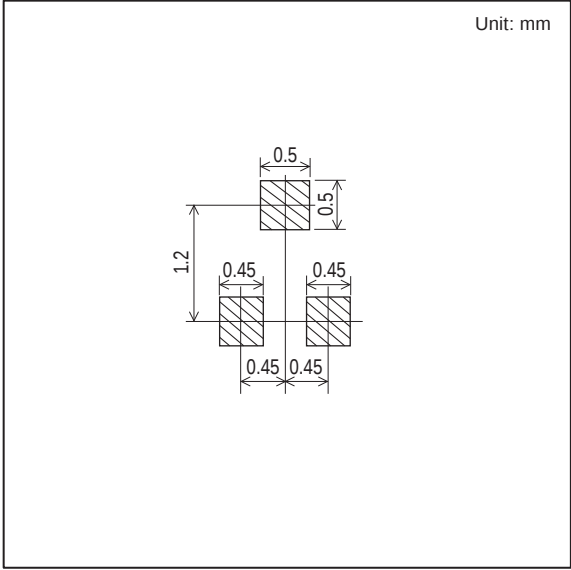


Those with pin 1 index on the feed hole side.....TL

Outline Drawing
15C01SS-TL-E



Land Pattern Example



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