Ordering number : EN7491A

50A02SS

Bipolar Transistor
−50V, −0.4A, Low V_{CE}(sat) PNP Single SSFP

ON Semiconductor®
http://onsemi.com

Applications

- Low-frequency Amplifier, high-speed switching small motor drive, muting circuit

Features

- Large current capacity
- Low collector-to-emitter saturation voltage (resistance) : R_{CE}(sat) typ=210mΩ[I_C=0.5A, I_B=50mA]
- Ultrasmall package facilitates miniaturization in end products
- Small ON-resistance (Ron)

Specifications

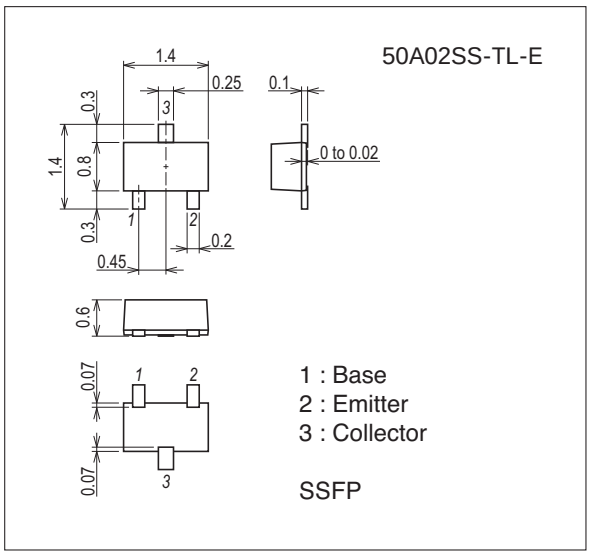
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		−50	V
Collector-to-Emitter Voltage	V_{CEO}		−50	V
Emitter-to-Base Voltage	V_{EBO}		−5	V
Collector Current	I_C		−400	mA
Collector Current (Pulse)	I_{CP}		−800	mA
Collector Dissipation	P_C	Mounted on a glass epoxy board (20×30×1.6mm)	200	mW
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		−55 to +150	°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

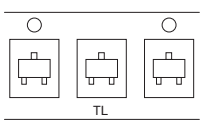
unit : mm (typ)
7029A-002



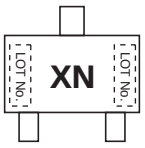
Product & Package Information

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

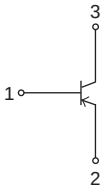
Packing Type: TL



Marking



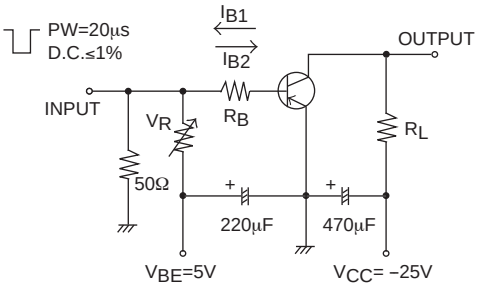
Electrical Connection



Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}= −40V, I_E=0A			−100	nA
Emitter Cutoff Current	I_{EBO}	V_{EB}= −4V, I_C=0A			−100	nA
DC Current Gain	h_{FE}	V_{CE}= −2V, I_C= −10mA	200		500	
Gain-Bandwidth Product	f_T	V_{CE}= −10V, I_C= −50mA		690		MHz
Output Capacitance	Cob	V_{CB}= −10V, f=1MHz		3.8		pF
Collector-to-Emitter Saturation Voltage	V_{CE}(sat)	I_C= −100mA, I_B= −10mA		−60	−120	mV
Base-to-Emitter Saturation Voltage	V_{BE}(sat)	I_C= −100mA, I_B= −10mA		−0.9	−1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C= −10μA, I_E=0A	−50			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C= −1mA, R_{BE}=∞	−50			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}			170		ns
Fall Time	t_f			30		ns

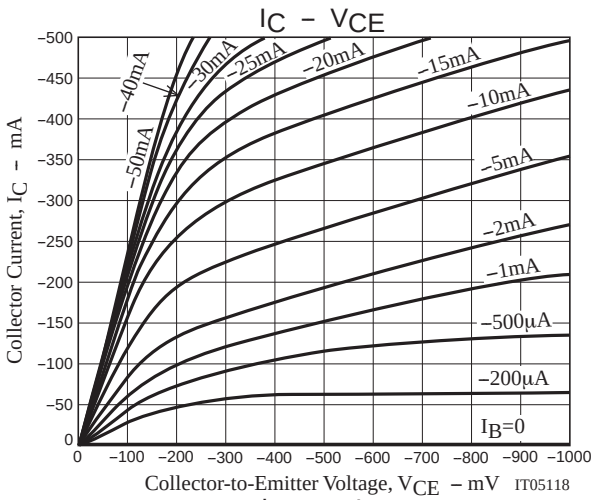
Switching Time Test Circuit

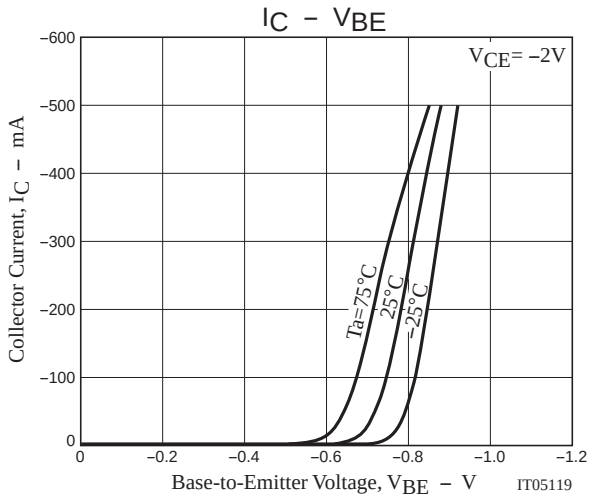


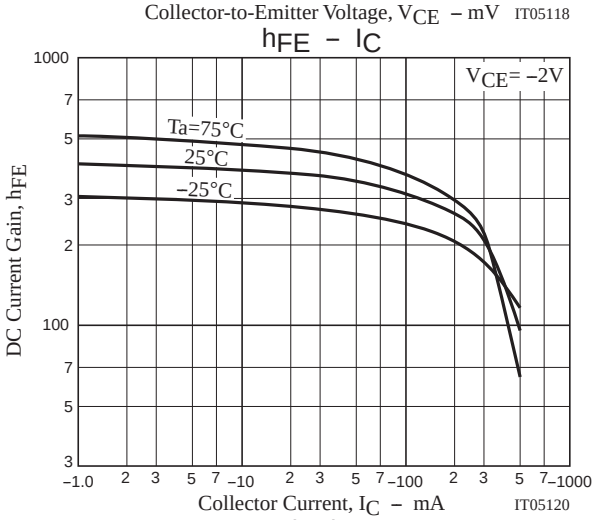
I_C=20I_{B1}= −20I_{B2}= −200mA

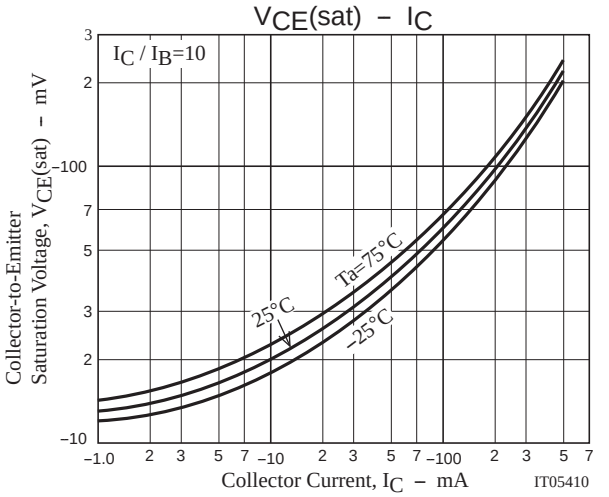
Ordering Information

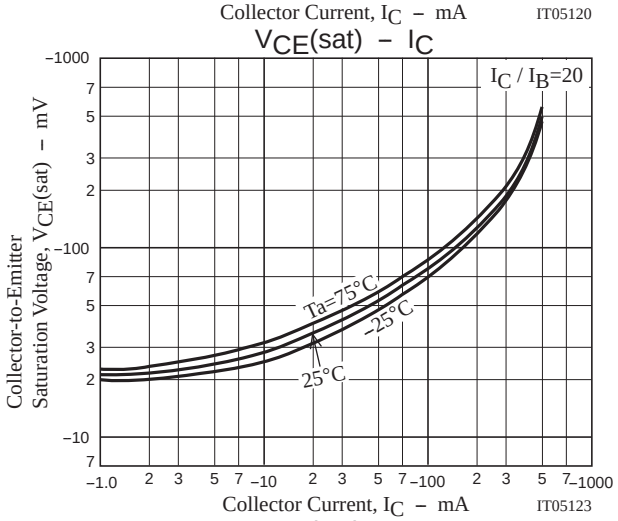
Device	Package	Shipping	memo
50A02SS-TL-E	SSFP	8,000pcs./reel	Pb Free

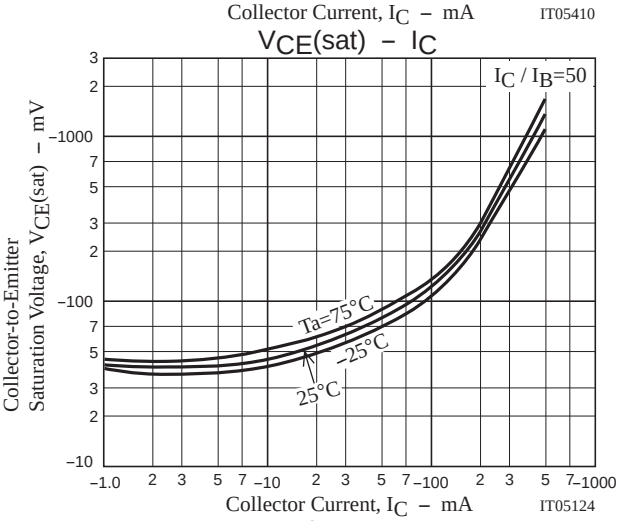


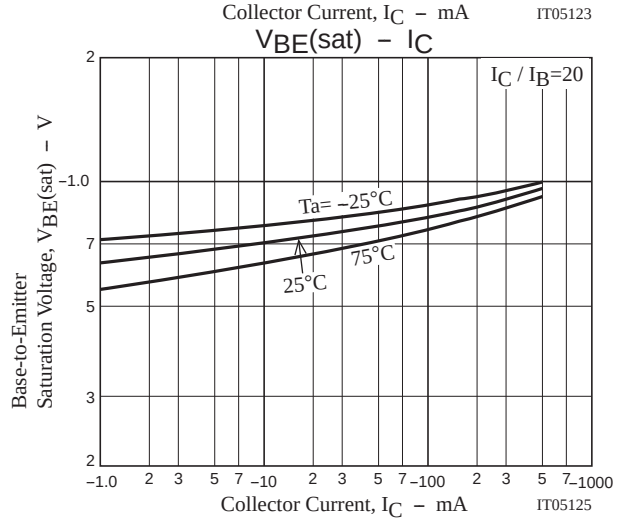


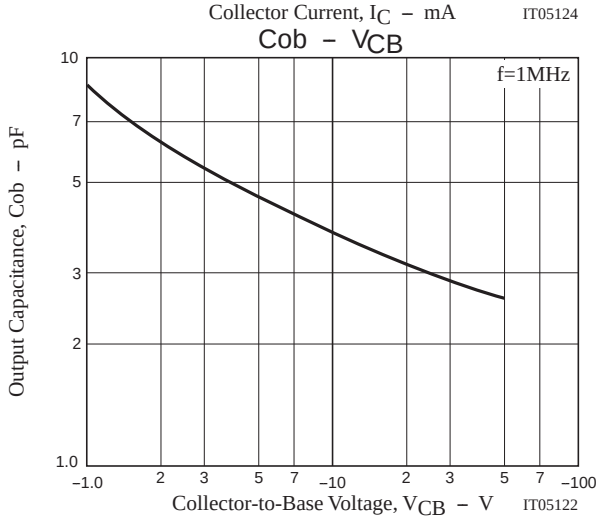


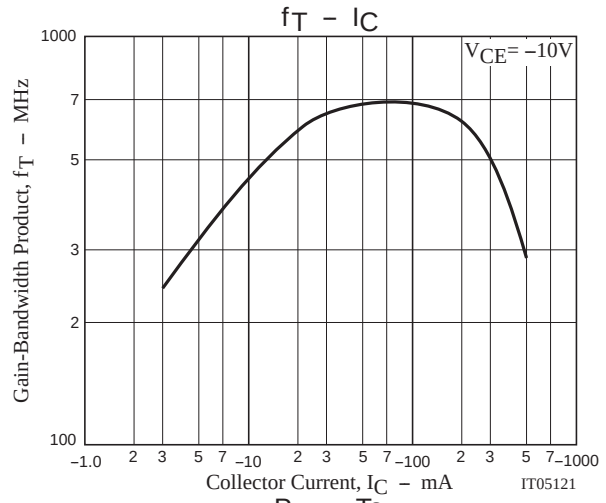


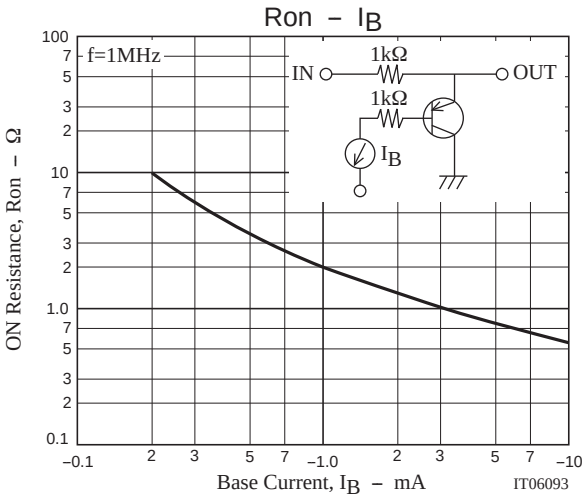


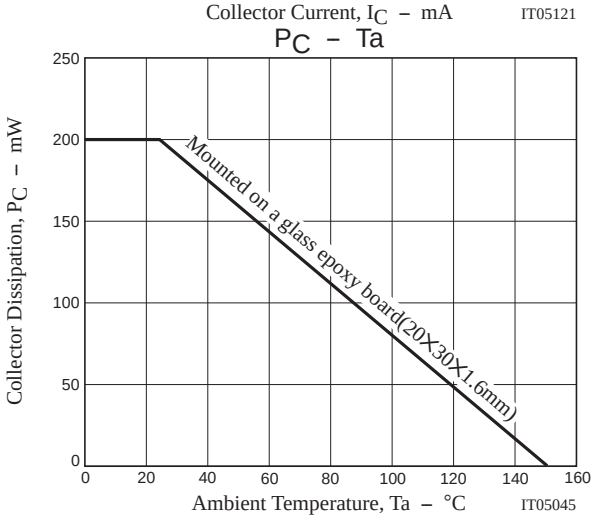












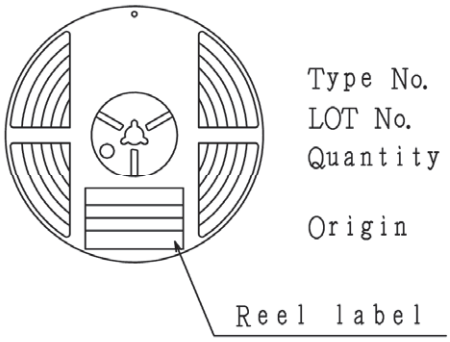
Embossed Taping Specification

50A02SS-TL-E

1. Packing Format

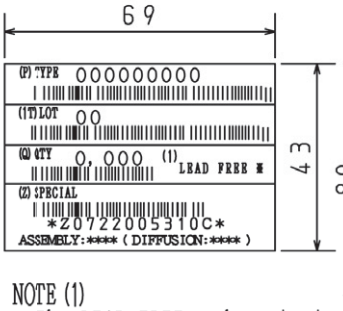
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
SSFP	SSFP	8,000	40,000	240,000	5 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimensions:mm (external) 440×195×210

Packing method



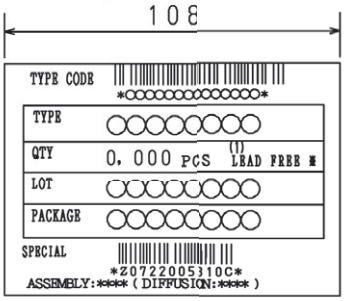
Reel label, Inner box label

(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.

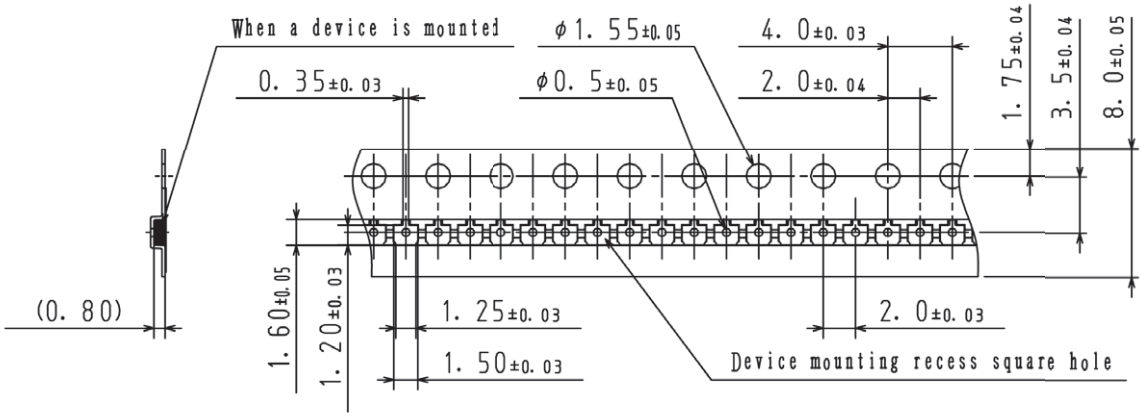


NOTE (1)
The LEAD FREE ※ description shows that the surface treatment of the terminal is lead free.

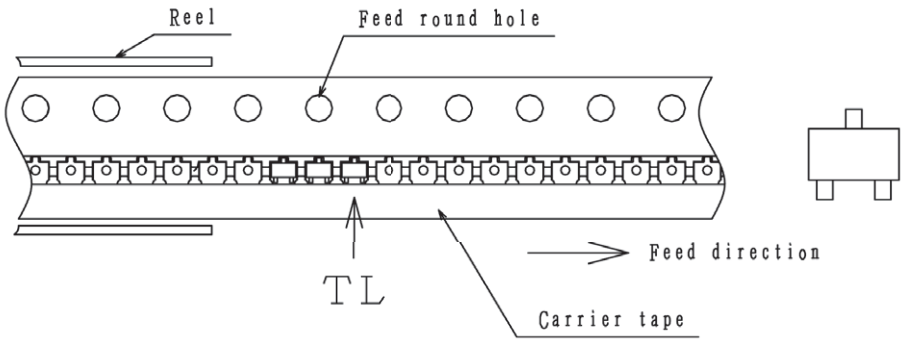
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



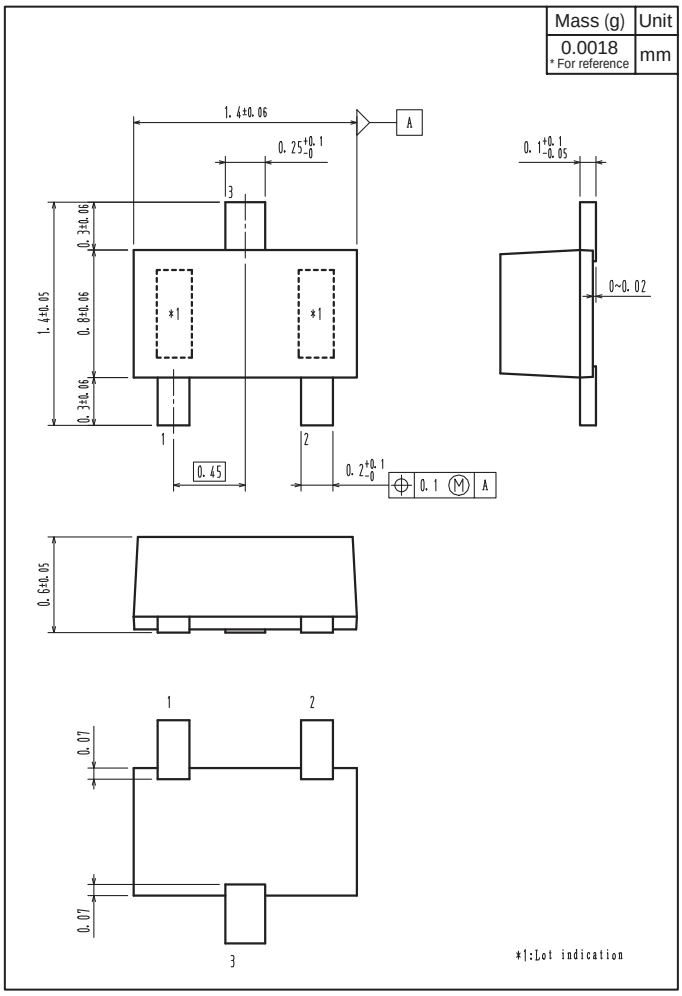
2-2. Device placement direction



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

Outline Drawing

50A02SS-TL-E



Land Pattern Example