



2SC5551A

RF Transistor

30V, 300mA, $f_T=3.5\text{GHz}$, NPN Single PCP

ON Semiconductor®

<http://onsemi.com>

Features

- High f_T : ($f_T=3.5\text{GHz}$ typ)
- Large current : ($I_C=300\text{mA}$)
- Large allowable collector dissipation (1.3W max)

Specifications

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

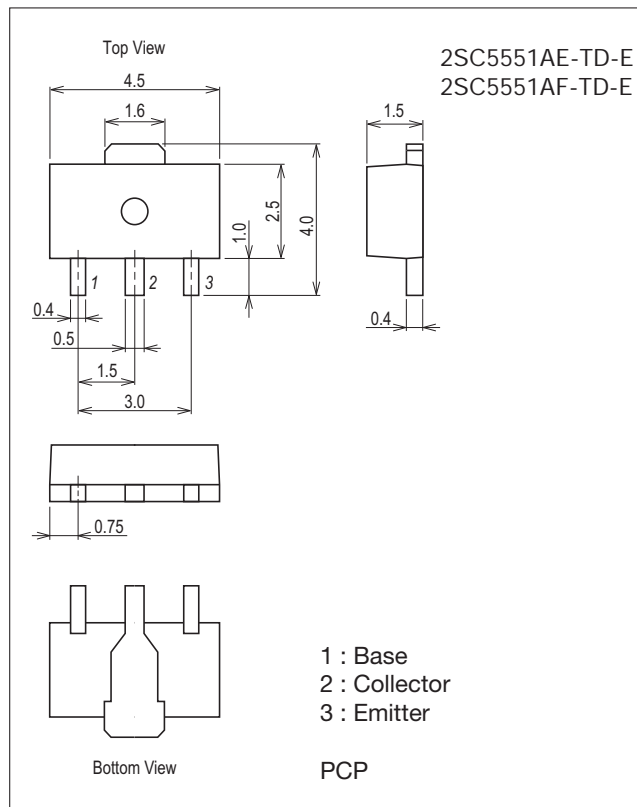
Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		40	V
Collector-to-Emitter Voltage	V_{CE0}		30	V
Emitter-to-Base Voltage	V_{EB0}		2	V
Collector Current	I_C		300	mA
Collector Current (Pulse)	I_{CP}		600	mA
Collector Dissipation	P_C	When mounted on ceramic substrate (250mm ² ×0.8mm)	1.3	W
Junction Temperature	T_j		150	°C
Storage Temperature	T_{stg}		-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)

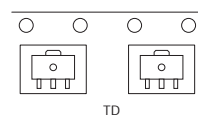
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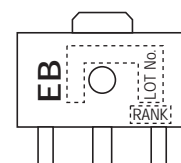
Product & Package Information

- Package : PCP
- JEITA, JEDEC : SC-62, SOT-89, TO-243
- Minimum Packing Quantity : 1,000 pcs./reel

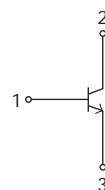
Packing Type: TD



Marking



Electrical Connection



2SC5551A

Electrical Characteristics at Ta=25°C

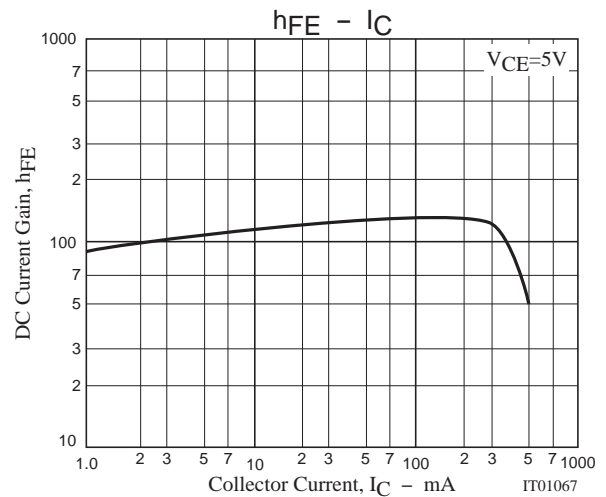
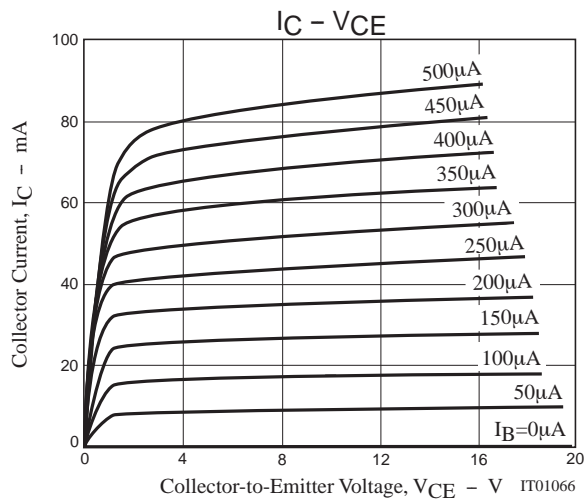
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=20V, I_E=0A$			1.0	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=1V, I_C=0A$			5.0	μA
DC Current Gain	h_{FE1}	$V_{CE}=5V, I_C=50mA$	90		270	
	h_{FE2}	$V_{CE}=5V, I_C=300mA$	20			
Gain-Bandwidth Product	f_T	$V_{CE}=5V, I_C=50mA$		3.5		GHz
Output Capacitance	C_{ob}	$V_{CB}=10V, f=1MHz$		2.9	4.0	pF
Reverse Transfer Capacitance	C_{re}			1.5		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=50mA, I_B=5mA$		0.07	0.3	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=50mA, I_B=5mA$		0.8	1.2	V

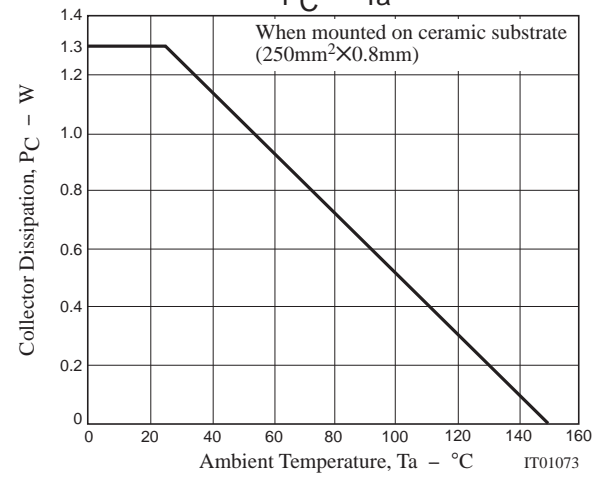
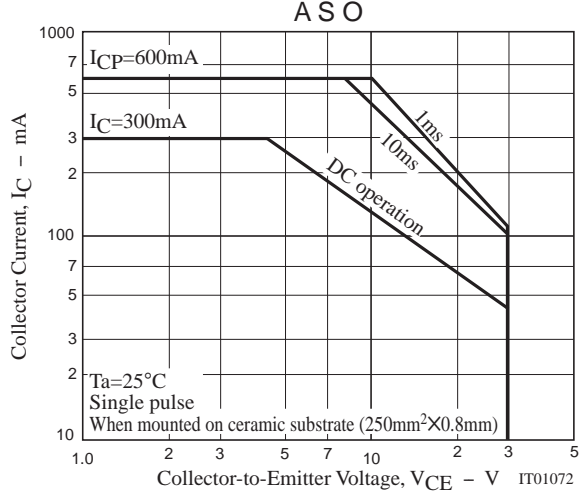
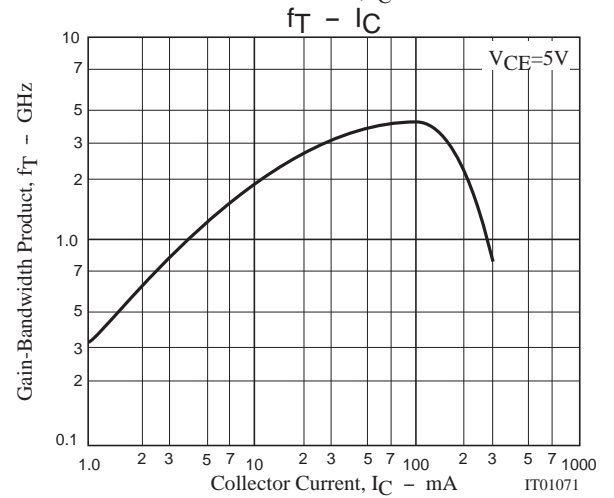
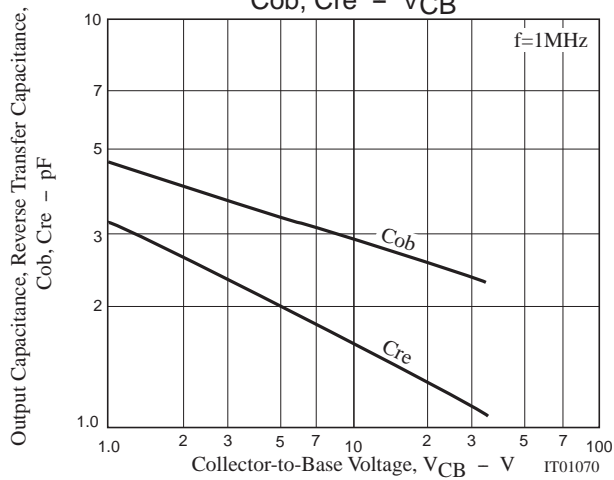
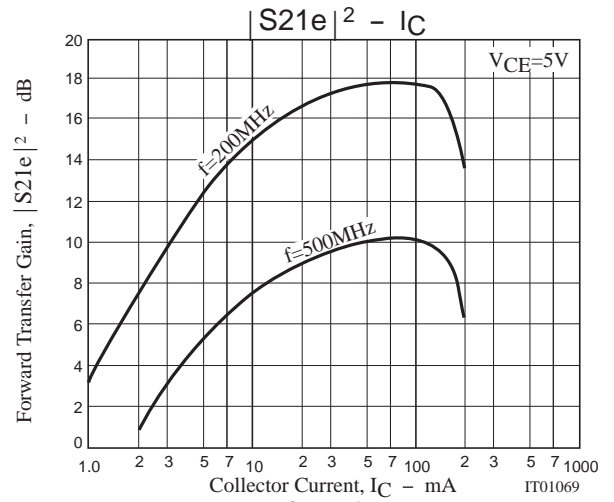
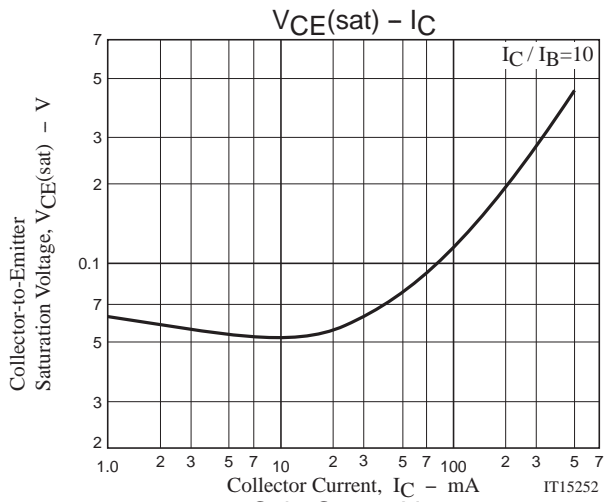
* : The 2SC5551A is classified by 50mA h_{FE} as follows :

Rank	E	F
h_{FE}	90 to 180	135 to 270

Ordering Information

Device	Package	Shipping	memo
2SC5551AE-TD-E	PCP	1,000pcs./reel	Pb Free
2SC5551AF-TD-E	PCP	1,000pcs./reel	





Bag Packing Specification

2SC5551AE-TD-E, 2SC5551AF-TD-E

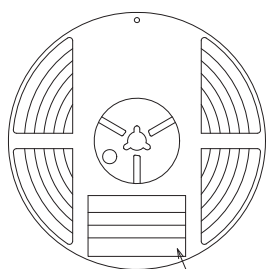
1. Packing Format

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)
PCP	PCP	1,000	4,000	24,000	4 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


69

(P) TYPE	000000000
(1) LOT	00
(Q) QTY	0,000 (1)
(Z) SPECIAL	LEAD FREE *

Z0722005310C

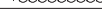
ASSEMBLY:**** (DIFFUSION:****)

108

TYPE CODE


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TYPE <div style="display: flex; justify-content: space-around; height: 30px;"> <div style="border: 1px solid black; border-radius: 50%; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 20px; height: 20px;"></div> </div>
QTY <div style="display: flex; justify-content: space-between; align-items: center;"> 0, 000 PCS (1) LEAD FREE * </div>
LOT <div style="display: flex; justify-content: space-around; height: 30px;"> <div style="border: 1px solid black; border-radius: 50%; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 20px; height: 20px;"></div> </div>
PACKAGE <div style="display: flex; justify-content: space-around; height: 30px;"> <div style="border: 1px solid black; border-radius: 50%; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 20px; height: 20px;"></div> <div style="border: 1px solid black; border-radius: 50%; width: 20px; height: 20px;"></div> </div>

SPECIAL


2722005310C

ASSEMBLY:**** (DIFFUSION:****)

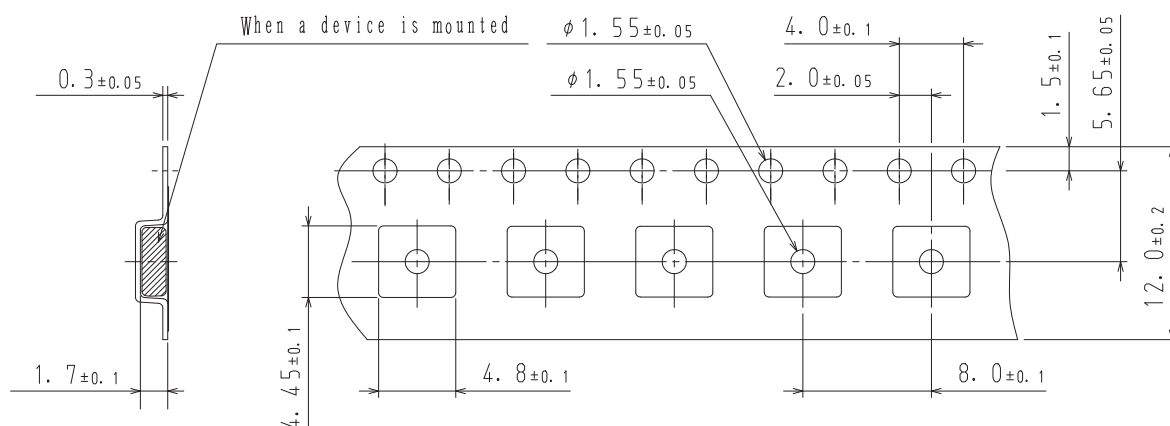
NOTE (1)

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

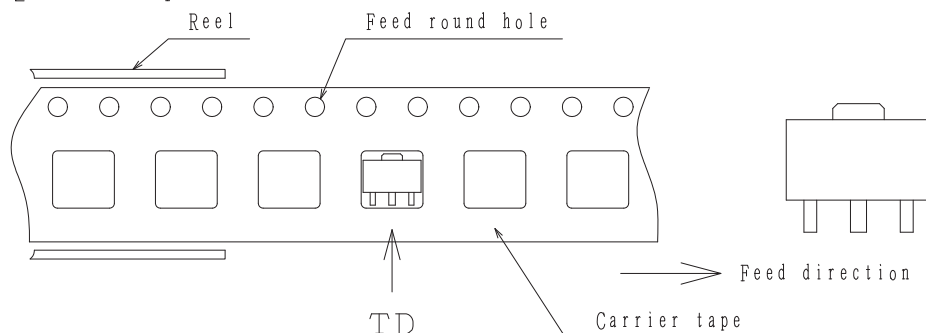
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



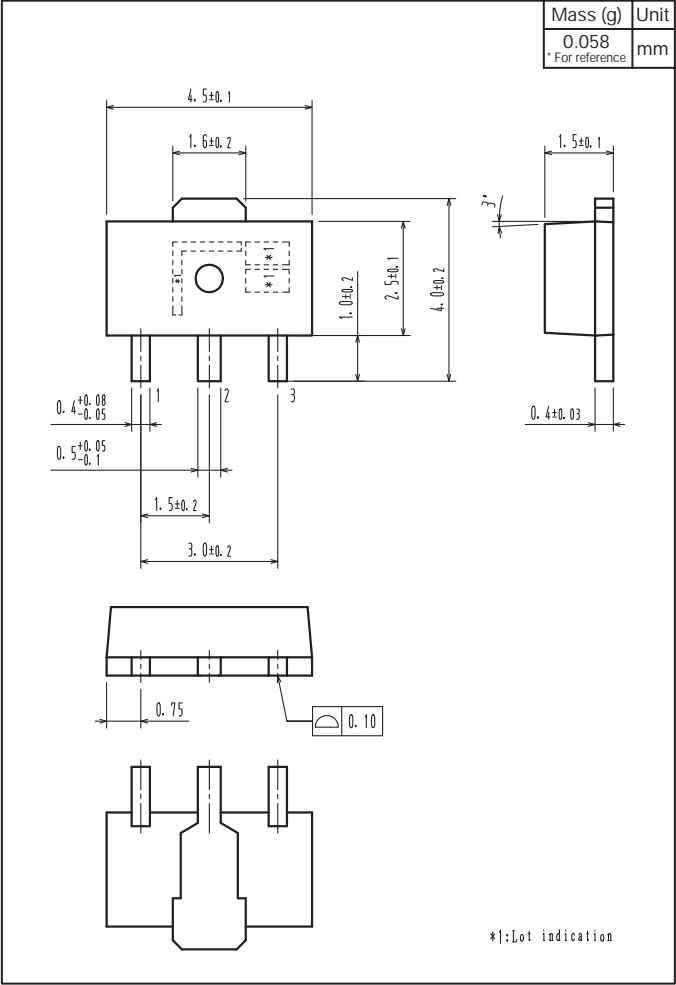
2-2. Device placement direction



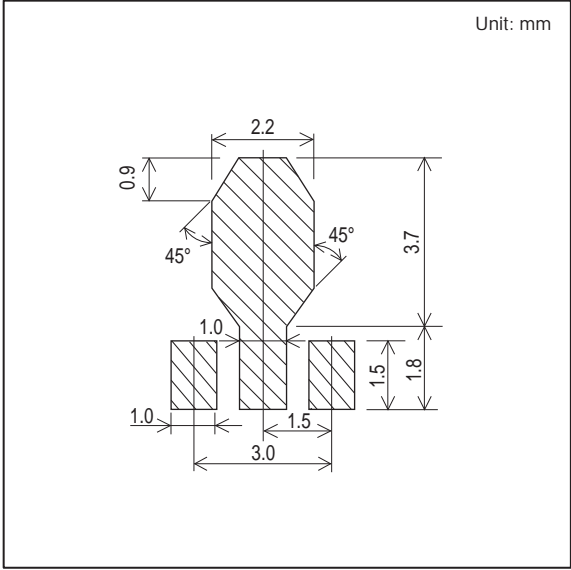
Those with pin 1 index on the feed hole side.....TD

Outline Drawing

2SC5551AE-TD-E, 2SC5551AF-TD-E



Land Pattern Example



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