



SANYO Semiconductors

## DATA SHEET

An ON Semiconductor Company

# 2SC5551A — NPN Epitaxial Planar Silicon Transistor

## High-Frequency Medium-Output Amplifier Applications

### Features

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

### Specifications

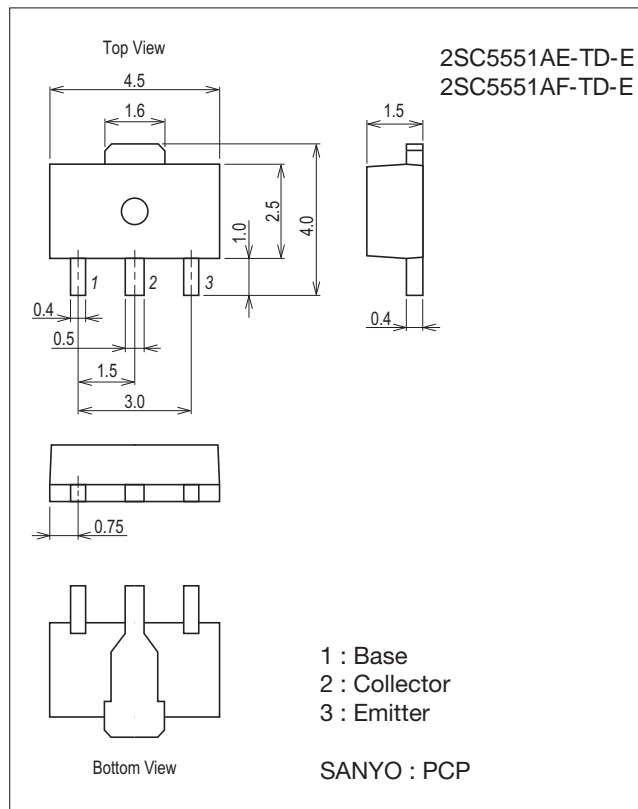
Absolute Maximum Ratings at  $T_a=25^\circ\text{C}$ 

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 ( $250\text{mm}^2 \times 0.8\text{mm}$ )	1.3	W
Junction Temperature	$T_j$		150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

### Package Dimensions

unit : mm (typ)

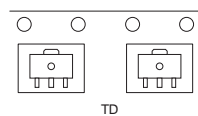
7007B-004



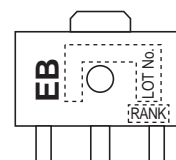
### Product & Package Information

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

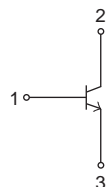
### Packing Type: TD



### Marking



### Electrical Connection



## 2SC5551A

### Electrical Characteristics at $T_a=25^{\circ}\text{C}$

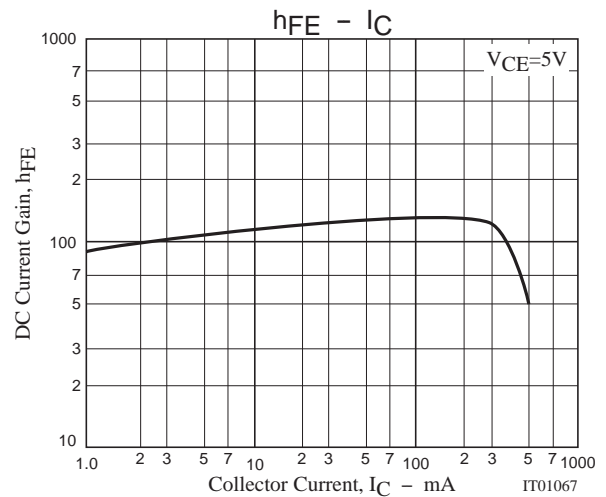
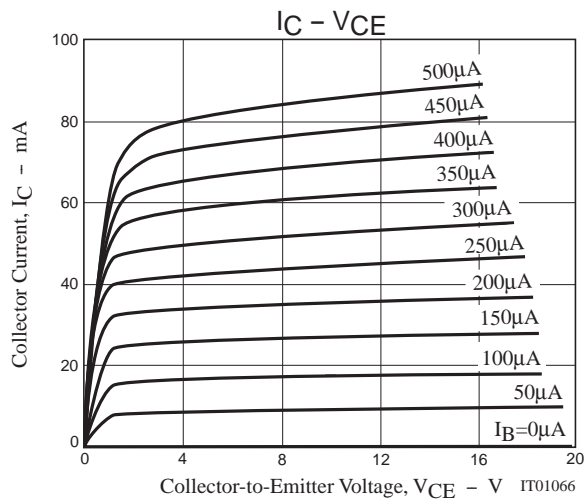
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=20\text{V}, I_E=0\text{A}$			1.0	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=1\text{V}, I_C=0\text{A}$			5.0	$\mu\text{A}$
DC Current Gain	$h_{FE1}$	$V_{CE}=5\text{V}, I_C=50\text{mA}$	90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

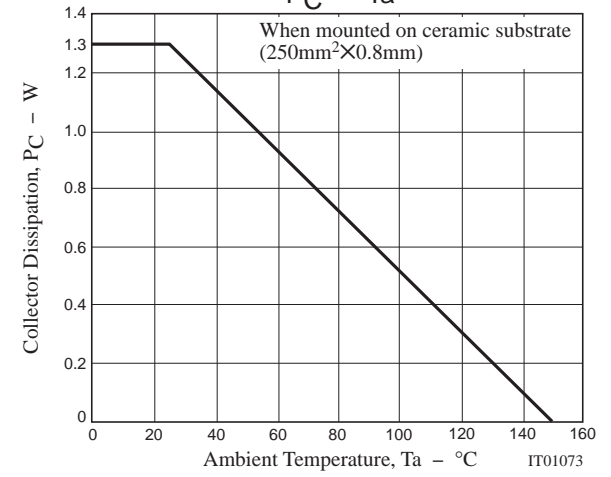
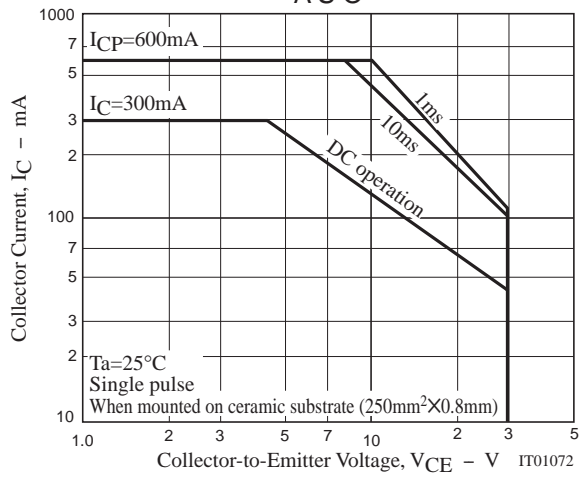
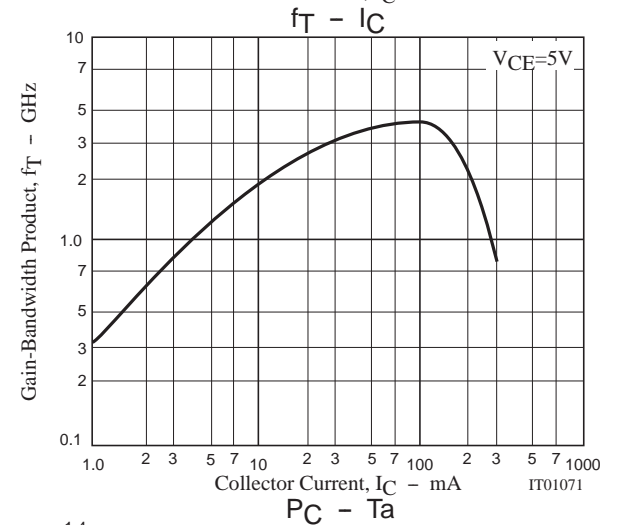
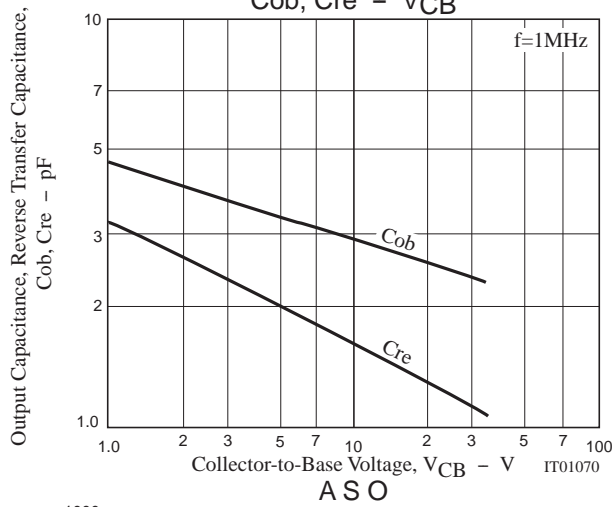
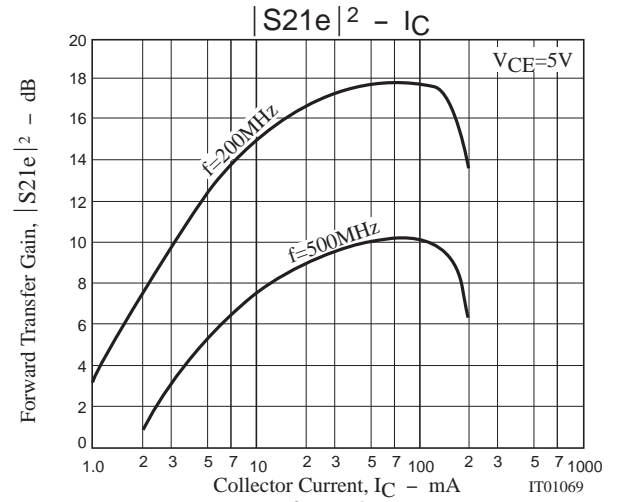
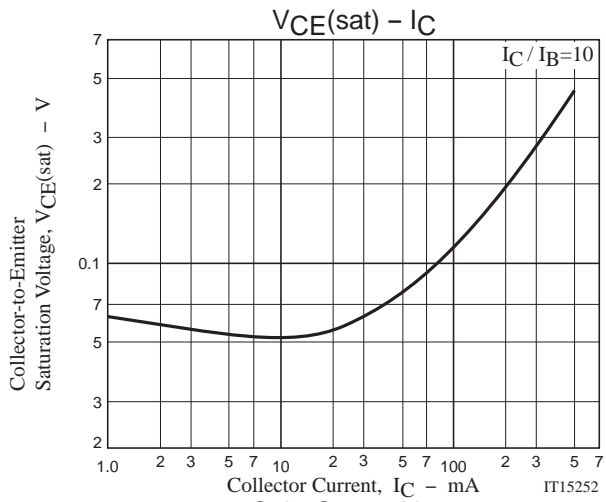
\* : The 2SC5551A is classified by 50mA  $h_{FE}$  as follows :

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

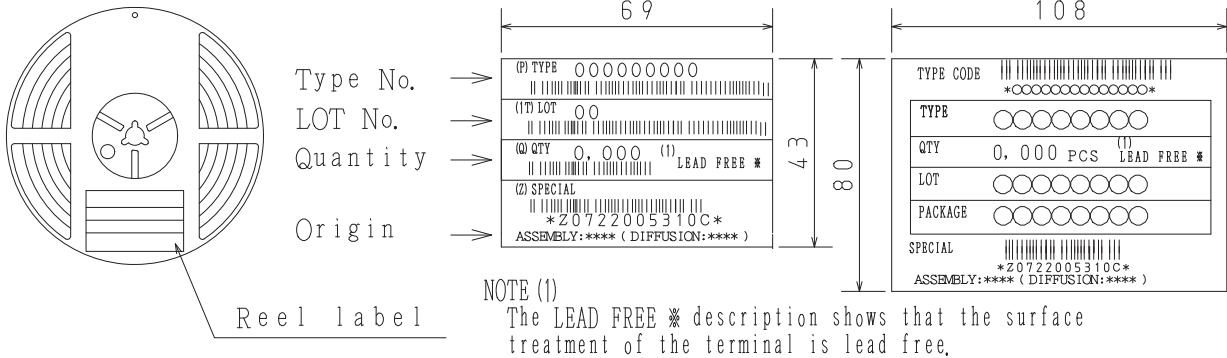
### 1. Packing Format

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.

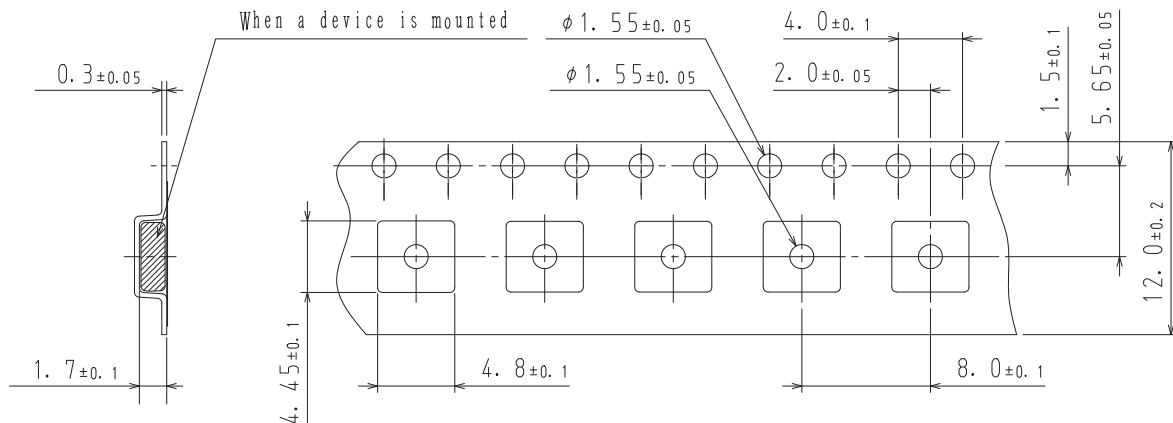
#### Packing method



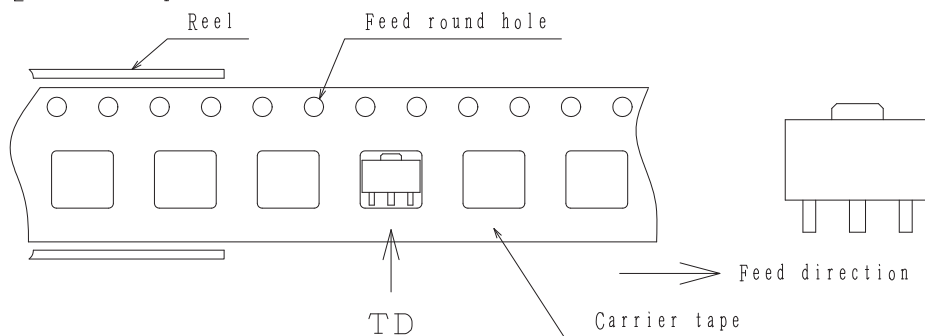
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

### 2. Taping configuration

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



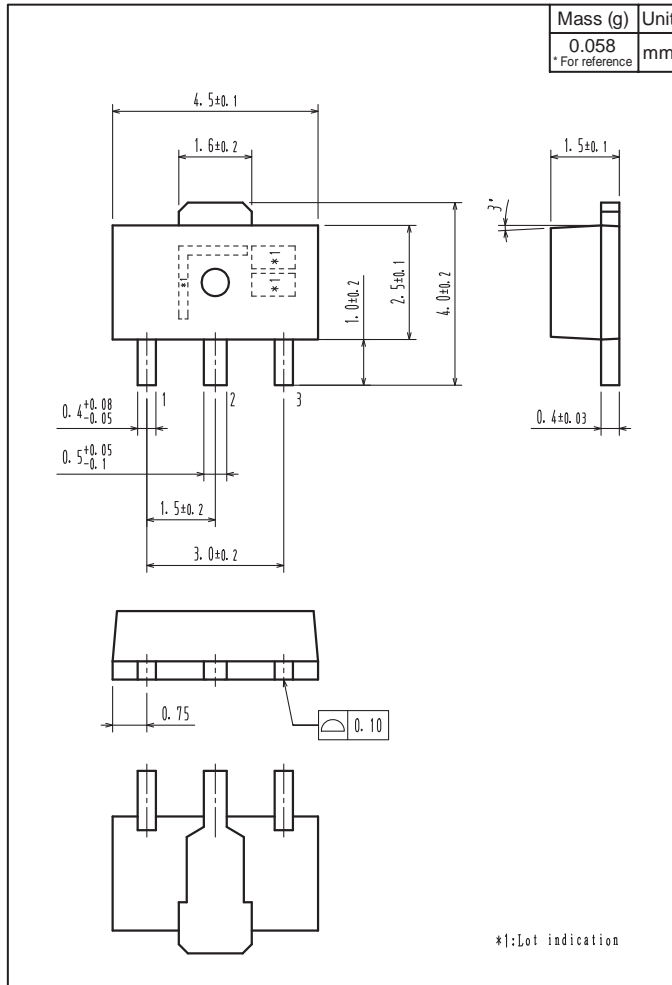
#### 2-2. Device placement direction



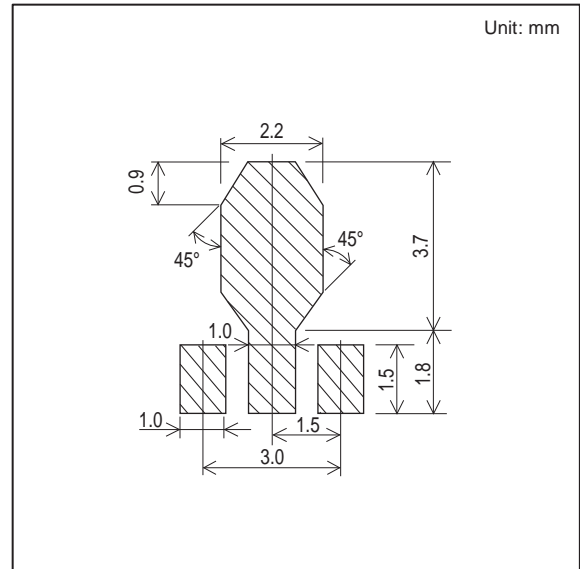
# 2SC5551A

## Outline Drawing

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



## Land Pattern Example



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