



SANYO Semiconductors

# DATA SHEET

An ON Semiconductor Company

## 2SA1179N/2SC2812N — PNP / NPN Epitaxial Planar Silicon Transistor

### Low-Frequency General-Purpose Amp Applications

#### Features

- Miniature package facilitates miniaturization in end products
- High breakdown voltage

#### Specifications ( ) : 2SA1179N

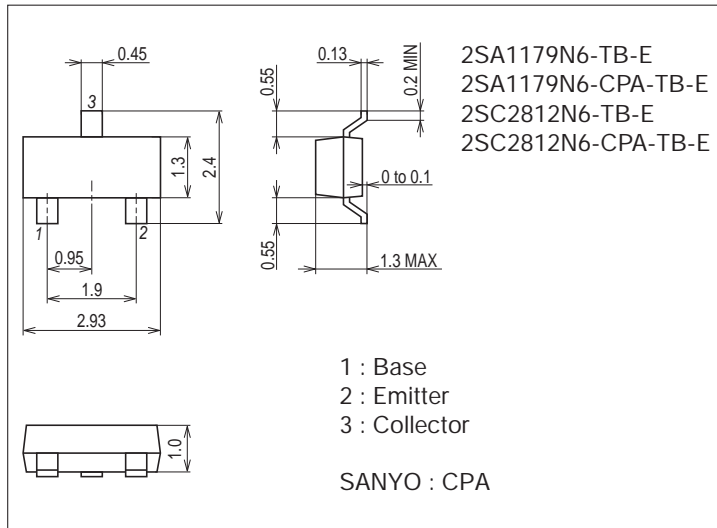
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	VCBO		(-)55	V
Collector-to-Emitter Voltage	VCEO		(-)50	V
Emitter-to-Base Voltage	VEBO		(-)5	V
Collector Current	IC		(-)150	mA
Collector Current (Pulse)	ICP		(-)300	mA
Base Current	IB		(-)30	mA
Collector Dissipation	PC		200	mW
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

#### Package Dimensions

unit : mm (typ)

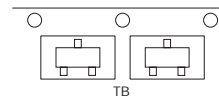
7053-001



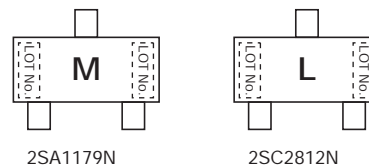
#### Product & Package Information

- Package : CPA
- JEITA, JEDEC : SC-59, TO-236, SOT-23, TO-236AB
- Minimum Packing Quantity : 3,000 pcs./reel

#### Packing Type: TB



#### Marking



# 2SA1179N/2SC2812N

## Electrical Characteristics at Ta=25°C

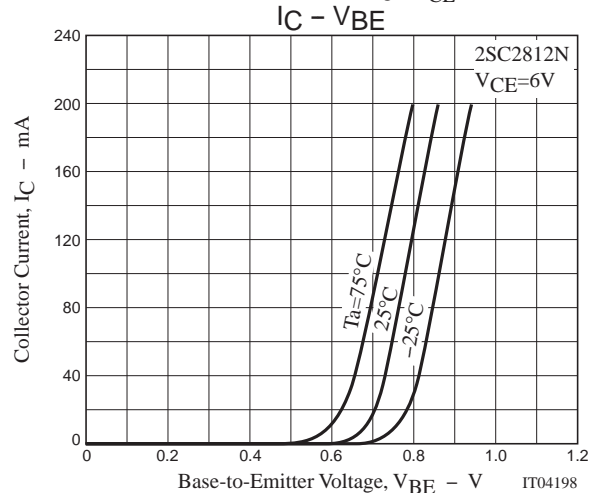
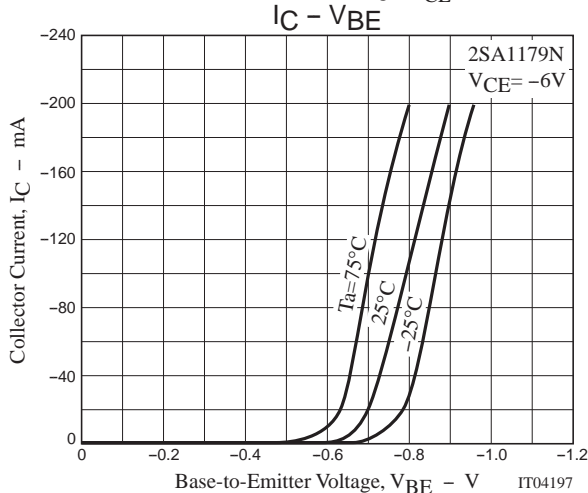
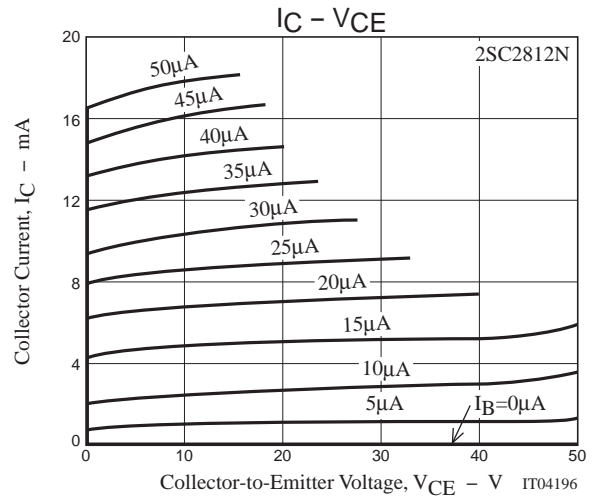
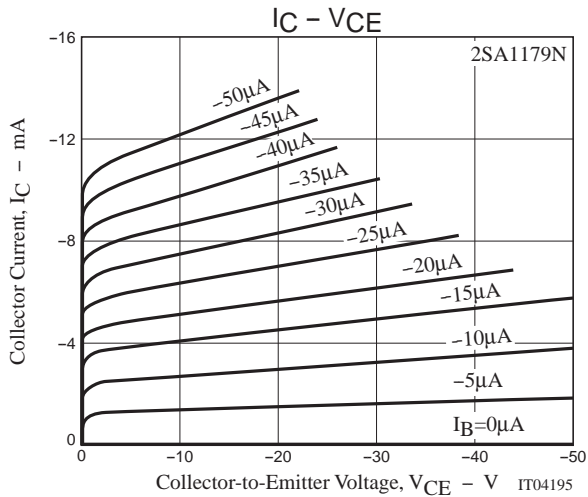
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V <sub>CB</sub> =(-)35V, I <sub>E</sub> =0A			(-)0.1	μA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =(-)4V, I <sub>C</sub> =0A			(-)0.1	μA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> =(-)6V, I <sub>C</sub> =(-)1mA	200		400	
Gain-Bandwidth Product	f <sub>T</sub>	2SC2812N : V <sub>CE</sub> =6V, I <sub>C</sub> =1mA		100		MHz
		2SA1179N : V <sub>CE</sub> =-6V, I <sub>C</sub> =-10mA		(180)		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =(-)6V, f=1MHz		(4.0)3.0		pF
Collector-to-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =(-)50mA, I <sub>B</sub> =(-)5mA		(-0.15)0.1	(-)0.5	V
Base-to-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =(-)50mA, I <sub>B</sub> =(-)5mA			(-)1.0	V
Collector-to-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =(-)10μA, I <sub>E</sub> =0A	(-)55			V
Collector-to-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =(-)1mA, R <sub>BE</sub> =∞	(-)50			V
Emitter-to-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =(-)10μA, I <sub>C</sub> =0A	(-)5			V

\* : The 2SA1179N / 2SC2812N are classified by 1mA h<sub>FE</sub> as follows :

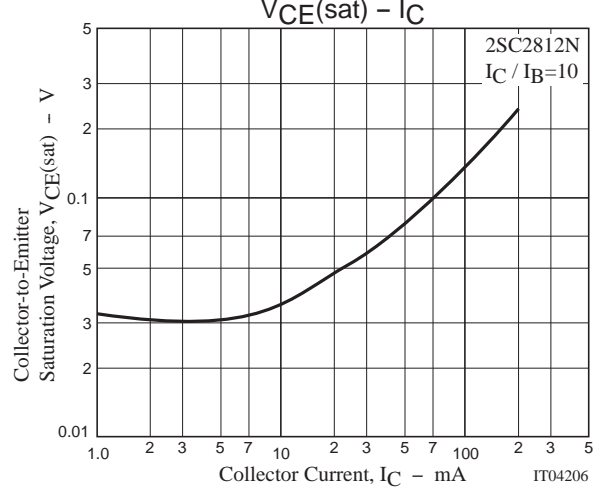
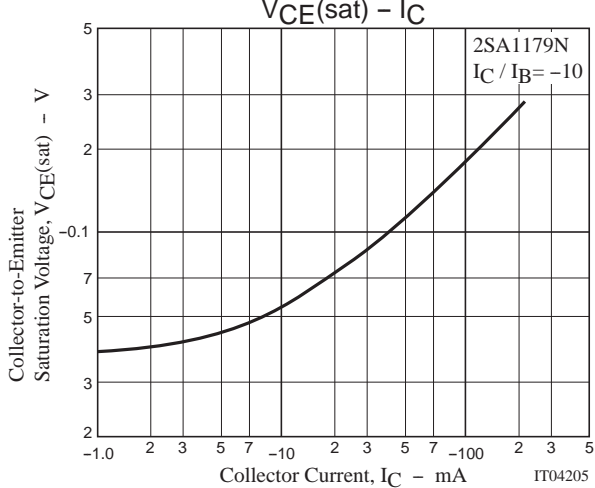
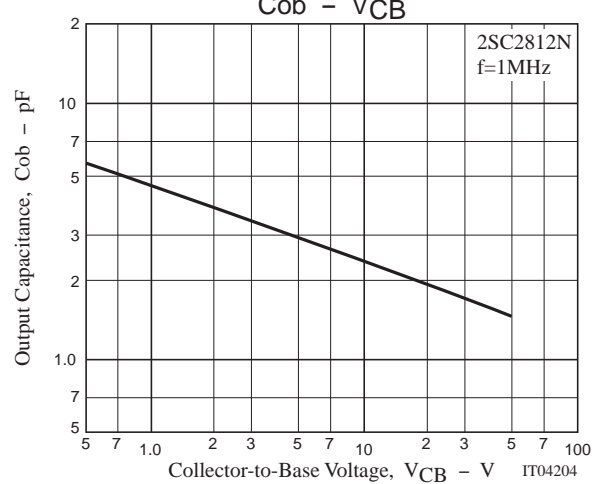
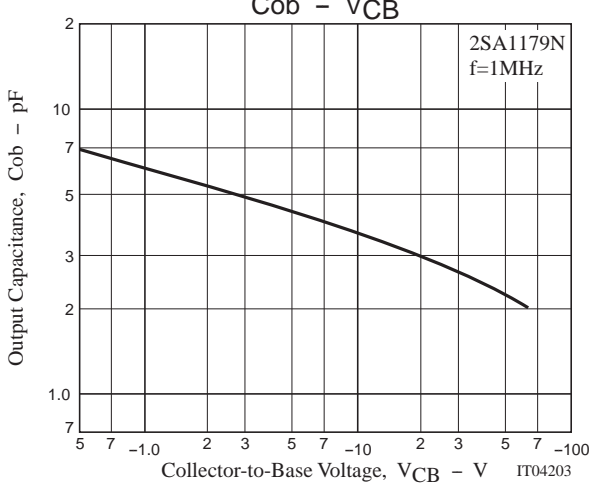
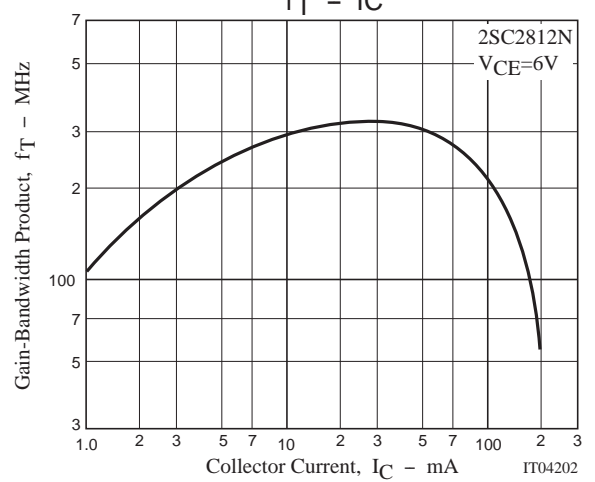
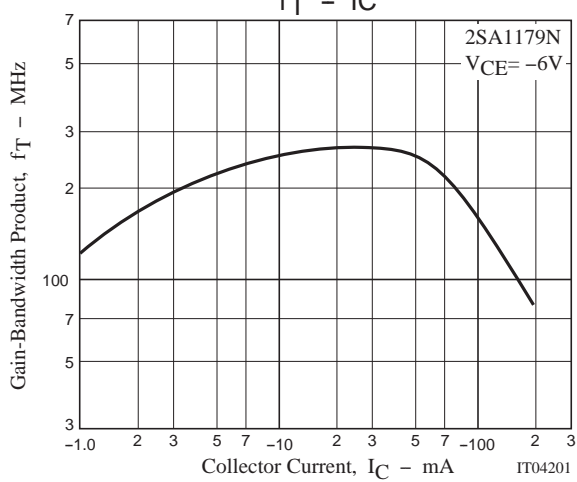
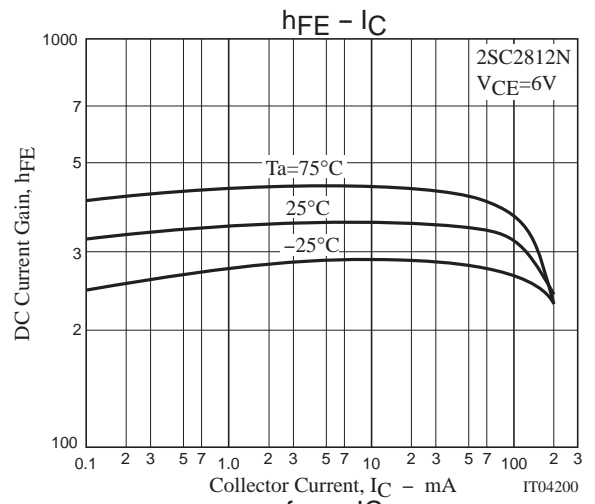
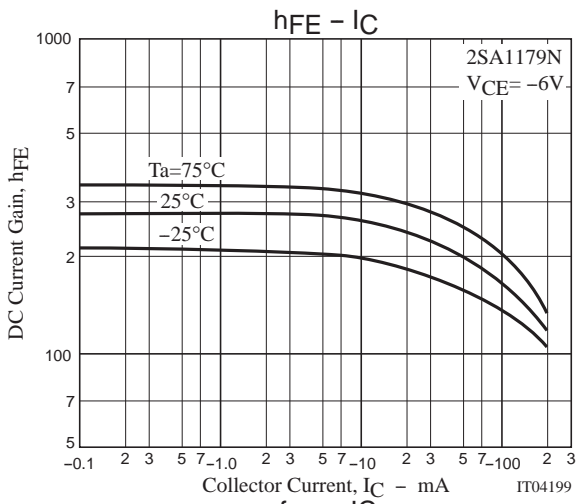
Rank	6
h <sub>FE</sub>	200 to 400

## Ordering Information

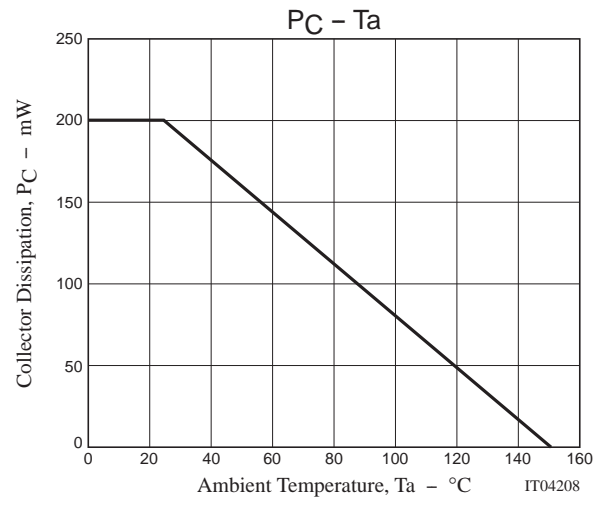
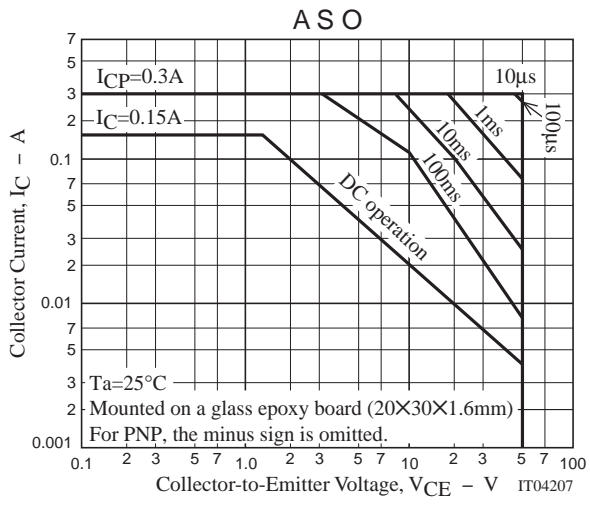
Device	Package	Shipping	memo
2SA1179N6-TB-E	CPA	3,000pcs./reel	Pb Free
2SA1179N6-CPA-TB-E	CPA	3,000pcs./reel	
2SC2812N6-TB-E	CPA	3,000pcs./reel	
2SC2812N6-CPA-TB-E	CPA	3,000pcs./reel	



# 2SA1179N/2SC2812N



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## Embossed Taping Specification

2SA1179N6-TB-E, 2SA1179N6-CPA-TB-E, 2SC2812N6-TB-E, 2SC2812N6-CPA-TB-E

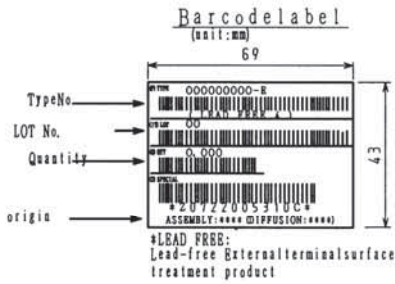
### 1. Packing format

Storage package Outline name	Carrier tape Typenumber	Maximum Number of Devices contained (PCS)			Packing format	
		Reel	Innerbox	Outerbox	Innerbox BOX (C-1)	Outerbox BOX (A-7)
CPA	CPA	3,000	15,000	90,000	5 reels contained Dimensions: mm (external) 183×72×185	6 innerboxes contained Dimensions: mm (external) 440×195×210

### Packing method



Barcode label



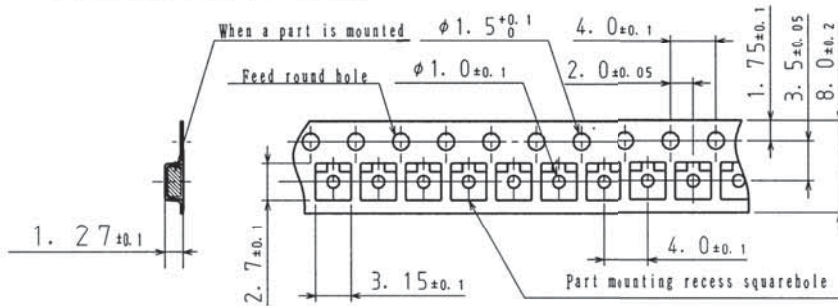
### Shipping Label

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

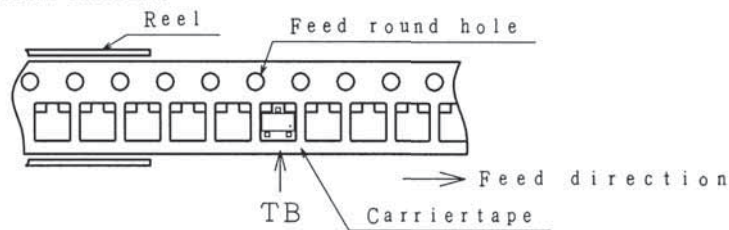


### 2. Taping structure

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



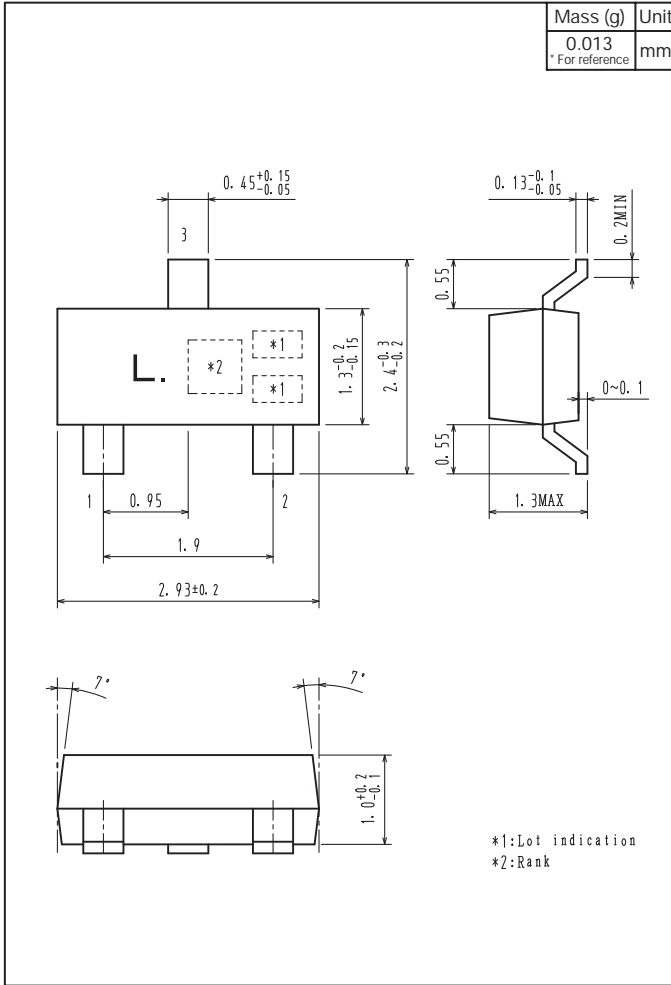
#### 2-2. Parts placement direction



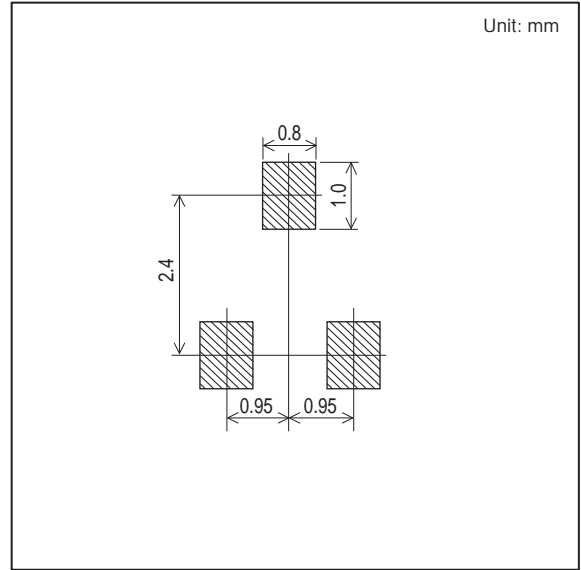
# 2SA1179N/2SC2812N

## Outline Drawing

2SA1179N6-TB-E, 2SA1179N6-CPA-TB-E, 2SC2812N6-TB-E, 2SC2812N6-CPA-TB-E



## Land Pattern Example



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