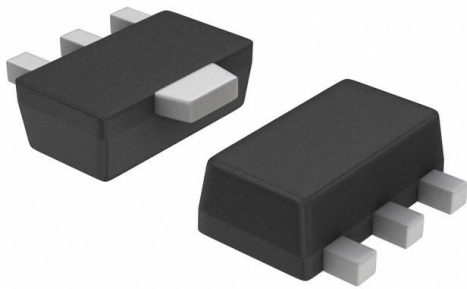


# 2SC6096-TD-H Datasheet

[www.digi-electronics.com](http://www.digi-electronics.com)



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	2SC6096-TD-H-DG
Manufacturer	<a href="#">onsemi</a>
Manufacturer Product Number	2SC6096-TD-H
Description	TRANS NPN 100V 2A PCP
Detailed Description	Bipolar (BJT) Transistor NPN 100 V 2 A 300MHz 1.3 W Surface Mount PCP



Tel: +00 852-30501935

RFQ Email: [Info@DiGi-Electronics.com](mailto:Info@DiGi-Electronics.com)

DiGi is a global authorized distributor of electronic components.



## Purchase and inquiry

Manufacturer Product Number:

2SC6096-TD-H

Series:

-

Transistor Type:

NPN

Voltage - Collector Emitter Breakdown (Max):

100 V

Current - Collector Cutoff (Max):

1 $\mu$ A (ICBO)

Power - Max:

1.3 W

Operating Temperature:

150°C (TJ)

Package / Case:

TO-243AA

Base Product Number:

2SC6096

Manufacturer:

onsemi

Product Status:

Obsolete

Current - Collector (Ic) (Max):

2 A

Vce Saturation (Max) @ Ib, Ic:

150mV @ 100mA, 1A

DC Current Gain (hFE) (Min) @ Ic, Vce:

300 @ 100mA, 5V

Frequency - Transition:

300MHz

Mounting Type:

Surface Mount

Supplier Device Package:

PCP

## Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.29.0075

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

Ordering number : ENA0434A



# 2SC6096

## Bipolar Transistor 100V, 2A, Low VCE(sat), NPN Single PCP

ON Semiconductor®

<http://onsemi.com>

### Applications

- DC / DC converter, relay drivers, lamp drivers, motor drivers, inverter

### Features

- Adoption of FBET, MBIT process
- Low collector-to-emitter saturation voltage
- High allowable power dissipation
- Large current capacity
- High-speed switching
- Halogen free compliance

### Specifications

Absolute Maximum Ratings at Ta=25°C

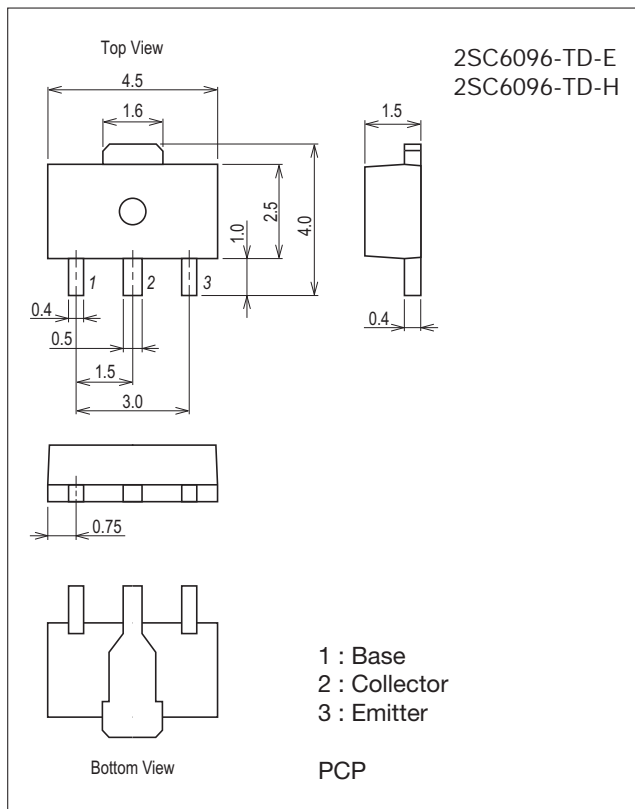
Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V <sub>CBO</sub>		120	V
Collector-to-Emitter Voltage	V <sub>CES</sub>		120	V
	V <sub>CEO</sub>		100	V
Emitter-to-Base Voltage	V <sub>EBO</sub>		6.5	V
Collector Current	I <sub>C</sub>		2	A
Collector Current (Pulse)	I <sub>CP</sub>		3	A

Continued on next page.

### Package Dimensions

unit : mm (typ)

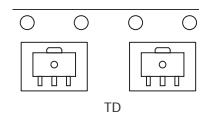
7007B-004



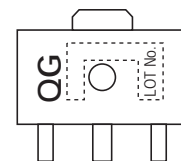
### Product & Package Information

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

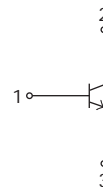
### Packing Type: TD



### Marking



### Electrical Connection



## 2SC6096

Continued from preceding page.

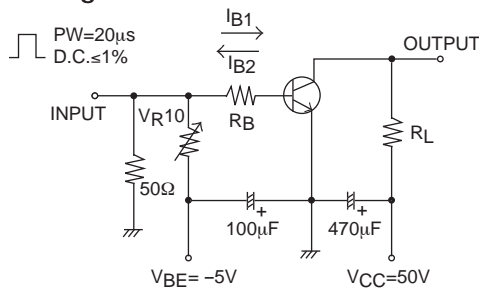
Parameter	Symbol	Conditions	Ratings	Unit
Base Current	$I_B$		400	mA
Collector Dissipation	PC	When mounted on ceramic substrate (250mm <sup>2</sup> ×0.8mm)	1.3	W
		T <sub>c</sub> =25°C	3.5	W
Junction Temperature	T <sub>j</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

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.

### Electrical Characteristics at T<sub>a</sub>=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I <sub>CBO</sub>	V <sub>CB</sub> =80V, I <sub>E</sub> =0A			1	μA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =4V, I <sub>C</sub> =0A			1	μA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =100mA	300		600	
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =300mA		300		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V, f=1MHz		13		pF
Collector-to-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =1A, I <sub>B</sub> =100mA		100	150	mV
Base-to-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =1A, I <sub>B</sub> =100mA		0.85	1.2	V
Collector-to-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =10μA, I <sub>E</sub> =0A	120			V
Collector-to-Emitter Breakdown Voltage	V <sub>(BR)CES</sub>	I <sub>C</sub> =100μA, R <sub>BE</sub> =0Ω	120			V
	V <sub>(BR)CEO</sub>	I <sub>C</sub> =1mA, R <sub>BE</sub> =∞	100			V
Emitter-to-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =10μA, I <sub>C</sub> =0A	6.5			V
Turn-ON Time	t <sub>on</sub>	See specified Test Circuit.		40		ns
Storage Time	t <sub>stg</sub>			1100		ns
Fall Time	t <sub>f</sub>			40		ns

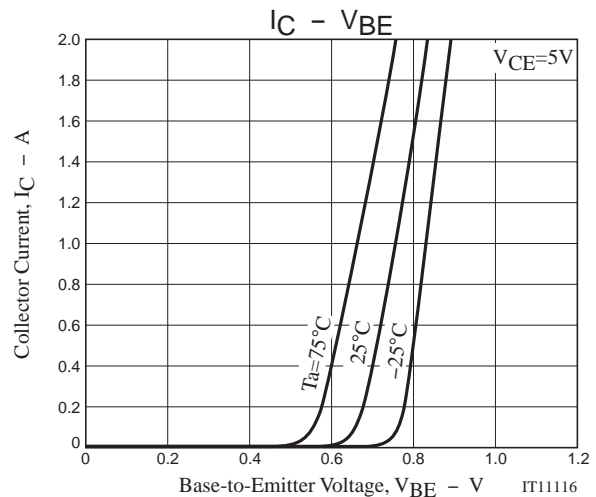
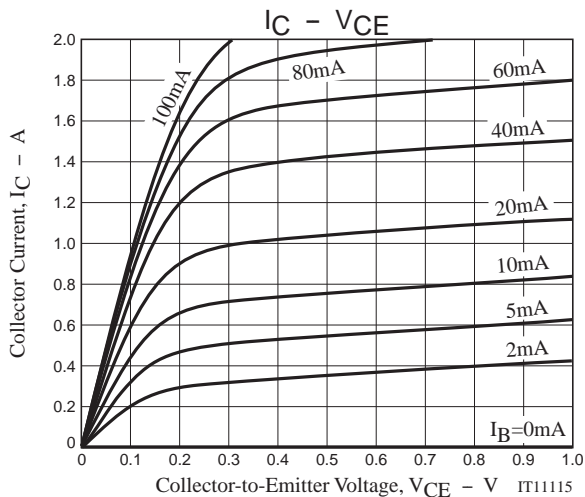
### Switching Time Test Circuit



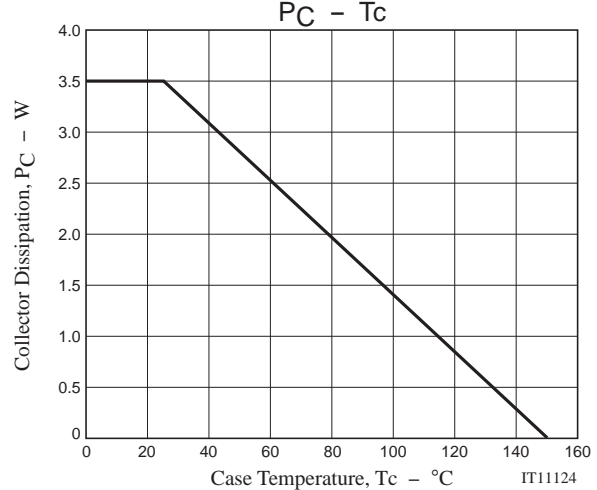
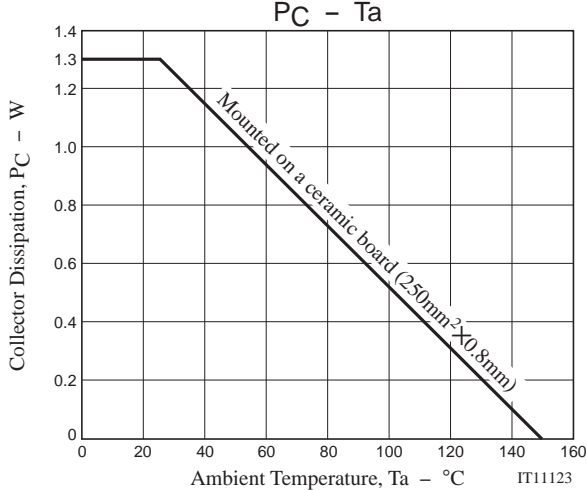
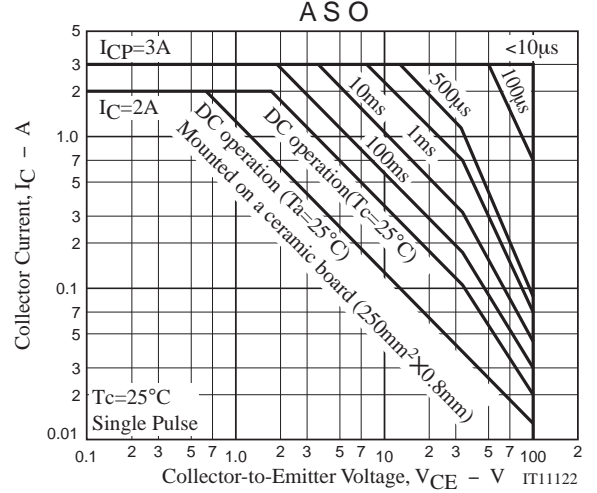
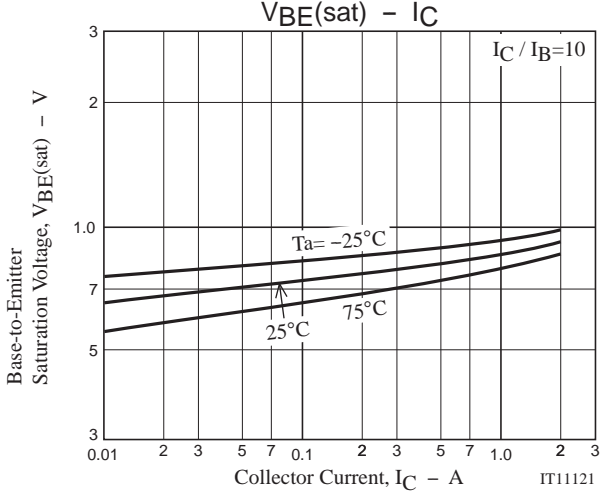
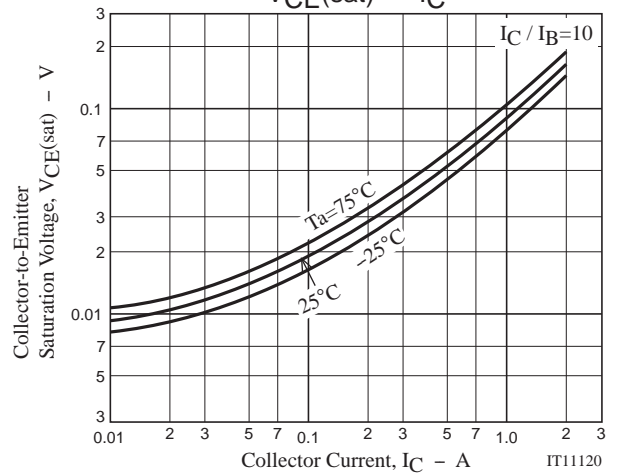
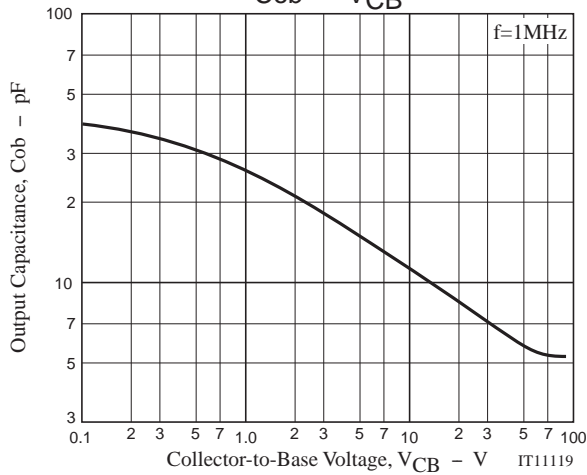
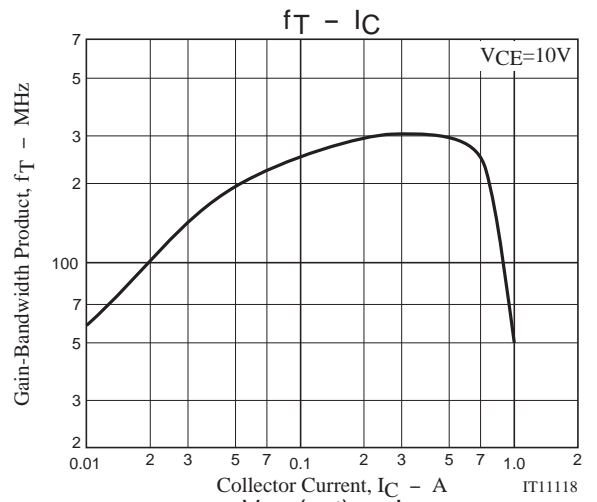
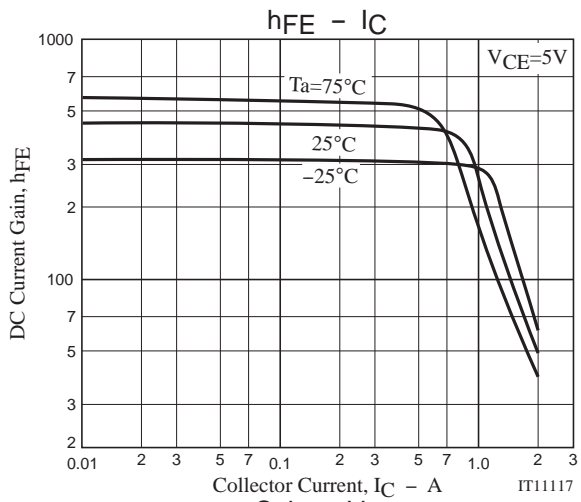
$$I_C = 10I_{B1} = -10I_{B2} = 0.5A$$

### Ordering Information

Device	Package	Shipping	memo
2SC6096-TD-E	PCP	1,000pcs./reel	Pb Free
2SC6096-TD-H	PCP	1,000pcs./reel	Pb Free and Halogen Free



2SC6096



## ZSC6096

### Embossed Taping Specification

ZSC6096-TD-E, ZSC6096-TD-H

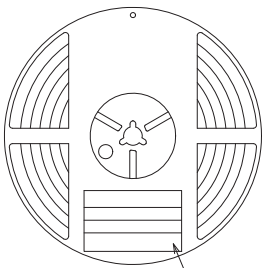
#### 1. Packing Format

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)

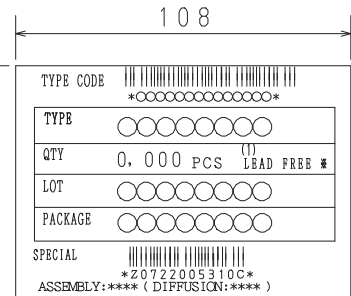
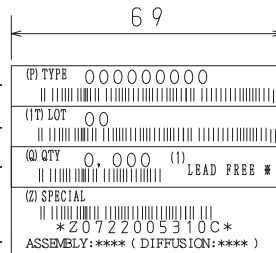
Outer box label  
It is a label at the time of factory shipments.  
The form of a label may change in physical distribution process.

#### Packing method



Type No. →  
LOT No. →  
Quantity →  
Origin →

Reel label



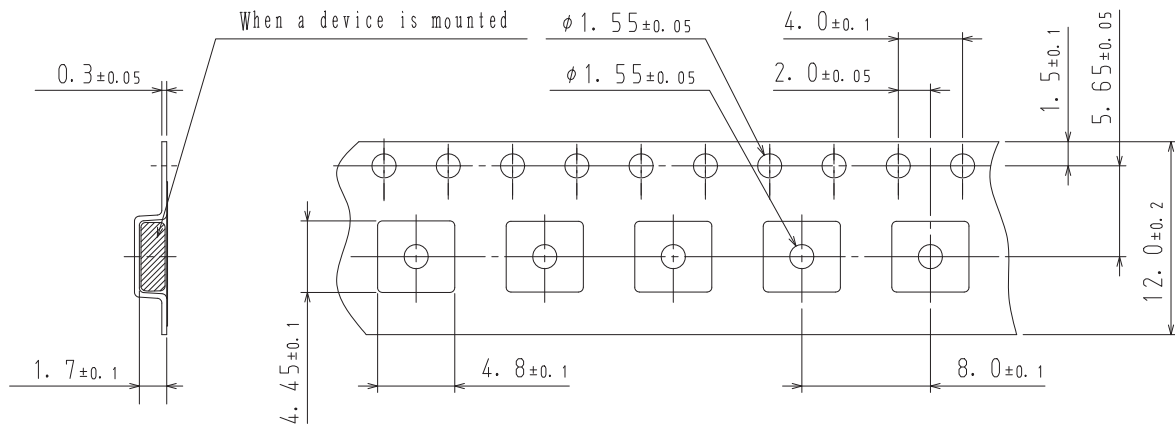
**NOTE (1)**

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

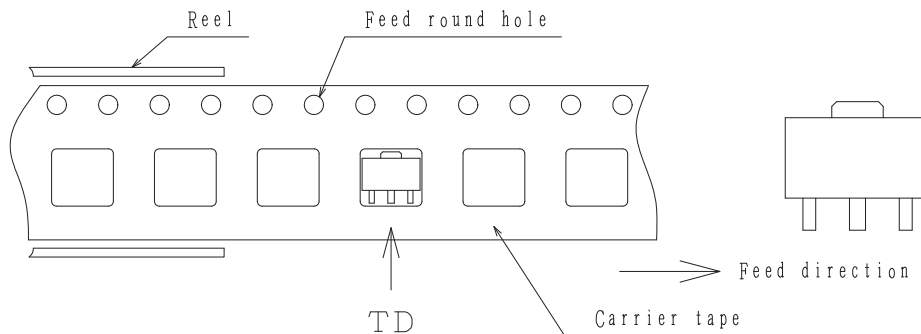
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

#### 2. Taping configuration

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



##### 2-2. Device placement direction

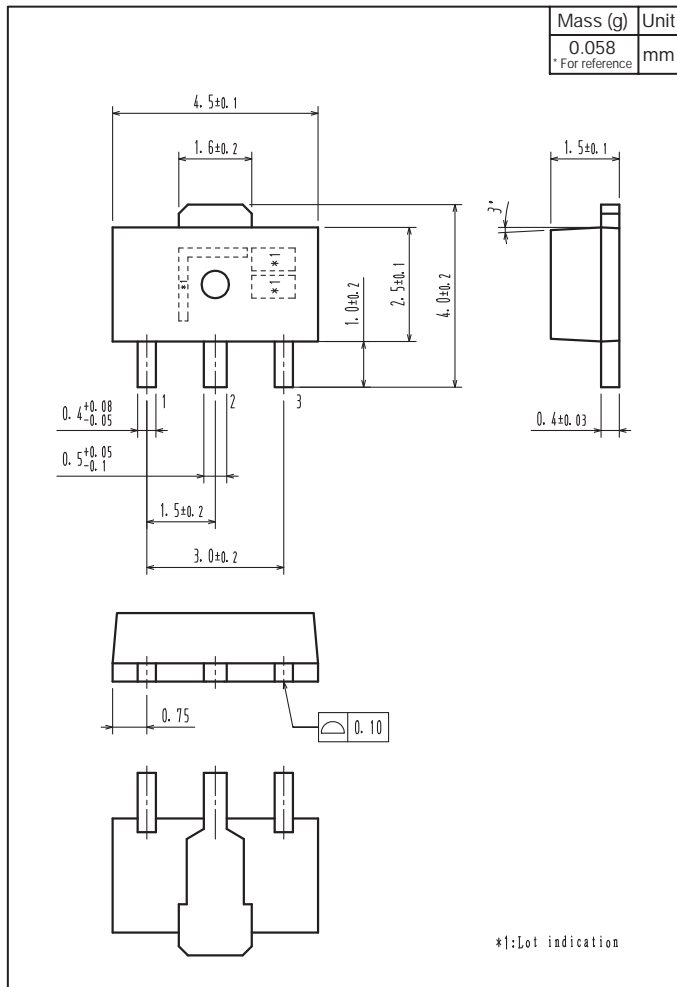


Those with pin 1 index on the feed hole side.....TD

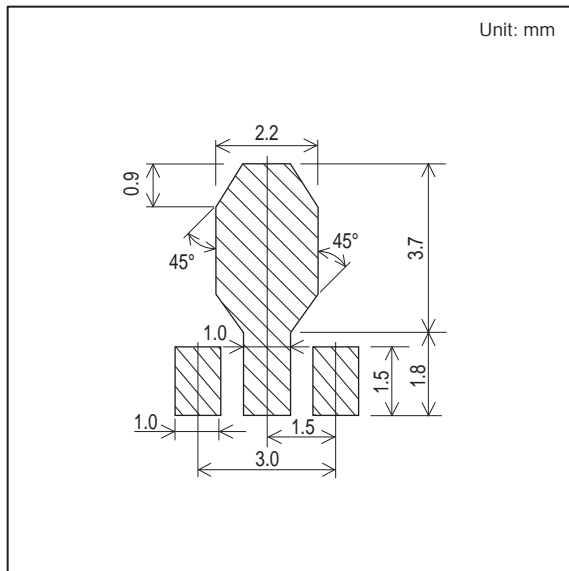
# 2SC6096

## Outline Drawing

2SC6096-TD-E, 2SC6096-TD-H



## Land Pattern Example



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**2SC6096**

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