



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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2SA1419/2SC3649

Bipolar Transistor

(-)-160V, (-)-1.5A, Low VCE(sat), (PNP)NPN Single PCP

ON Semiconductor®

<http://onsemi.com>

Features

- Adoption of FBET, MBIT processes
- High breakdown voltage and large current capacity
- Ultrasmall size making it easy to provide high-density, small-sized hybrid IC's

Specifications () : 2SA1419

Absolute Maximum Ratings at Ta=25°C

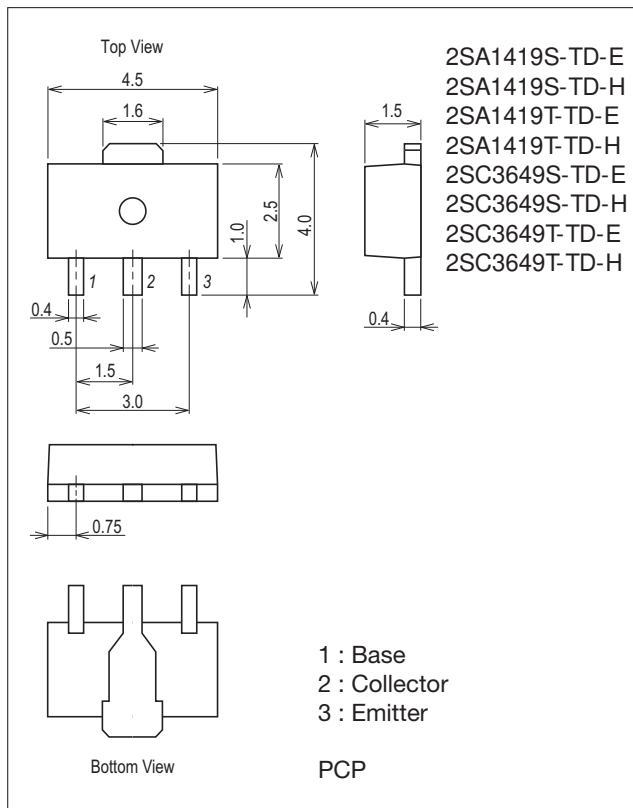
Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	VCBO		(-)-180	V
Collector-to-Emitter Voltage	VCEO		(-)-160	V
Emitter-to-Base Voltage	VEBO		(-)-6	V
Collector Current	IC		(-)-1.5	A
Collector Current (Pulse)	ICP		(-)-2.5	A
Collector Dissipation	PC		500	mW
		When mounted on ceramic substrate (250mm ² ×0.8mm)	1.5	W
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)

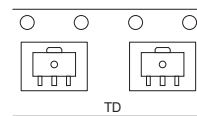
7007B-004



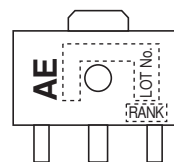
Product & Package Information

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

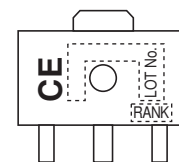
Packing Type: TD



Marking

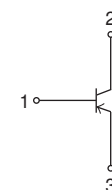


2SA1419

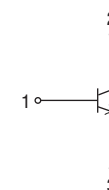


2SC3649

Electrical Connection



2SA1419



2SC3649

2SA1419 / 2SC3649

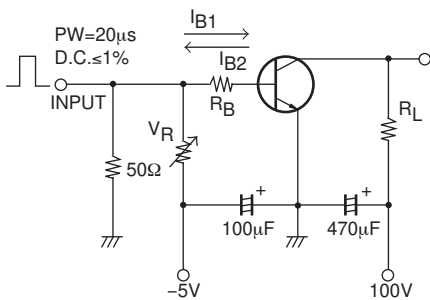
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V _{CB} =(-)120V, I _E =0A			(-)1	μA
Emitter Cutoff Current	IEBO	V _{EB} =(-)4V, I _C =0A			(-)1	μA
DC Current Gain	h _{FE1}	V _{CE} =(-)5V, I _C =(-)100mA	100*		400*	
	h _{FE2}	V _{CE} =(-)5V, I _C =(-)10mA	80			
Gain-Bandwidth Product	f _T	V _{CE} =(-)10V, I _C =(-)50mA		120		MHz
Output Capacitance	C _{ob}	V _{CB} =(-)10V, f=1MHz		(22)14		pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =(-)500mA, I _B =(-)50mA		(-200)130	(-500)450	mV
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =(-)500mA, I _B =(-)50mA		(-)0.85	(-)1.2	V
Collector-to-Base Breakdown Voltage	V _{(BR)CBO}	I _C =(-)10μA, I _E =0A	(-)180			V
Collector-to-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C =(-)1mA, R _{BE} =∞	(-)160			V
Emitter-to-Base Breakdown Voltage	V _{(BR)EBO}	I _E =(-)10μA, I _C =0A	(-)6			V
Turn-ON Time	t _{on}	See specified Test Circuit.		(40)40		ns
Storage Time	t _{stg}			(0.7)1.2		μs
Fall Time	t _f			(40)80		ns

* : The 2SA1419 / 2SC3649 are classified by 100mA h_{FE} as follows :

Rank	R	S	T
h _{FE}	100 to 200	140 to 280	200 to 400

Switching Time Test Circuit

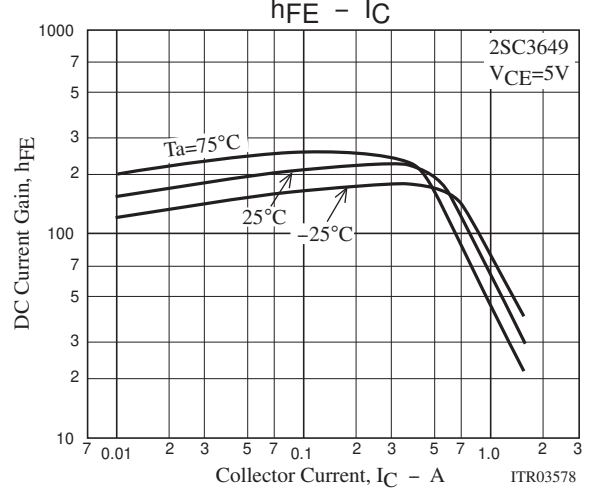
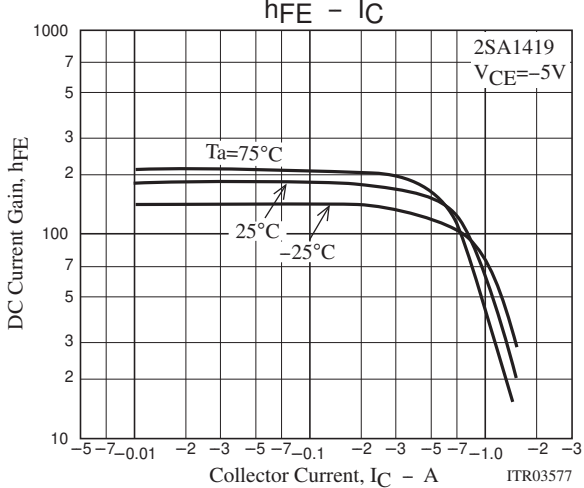
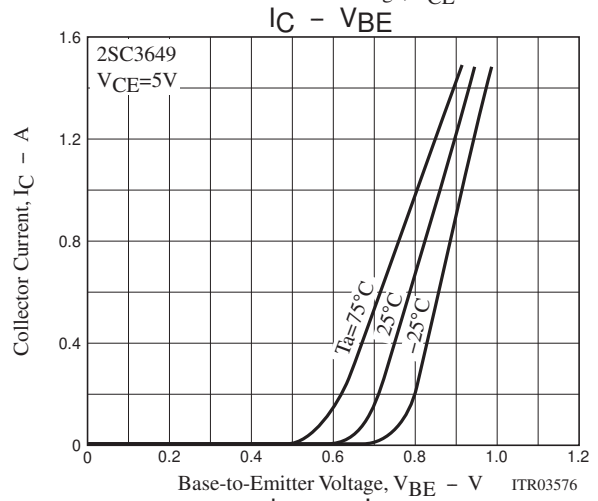
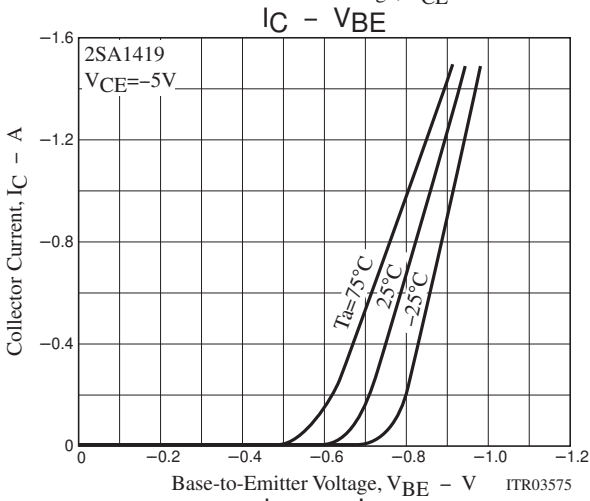
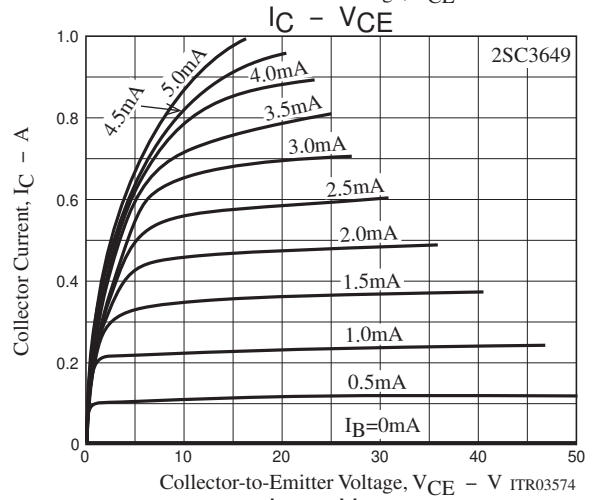
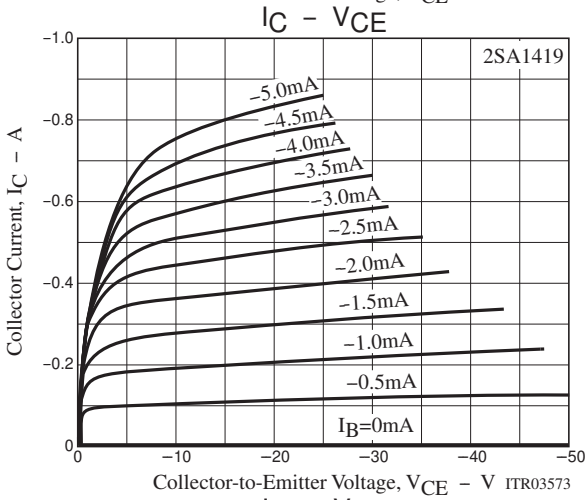
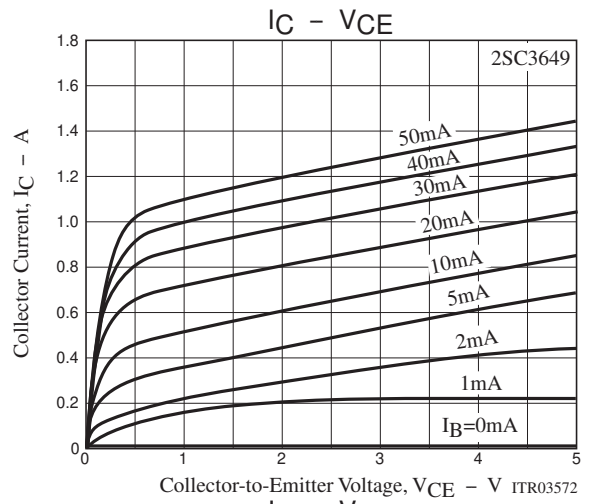
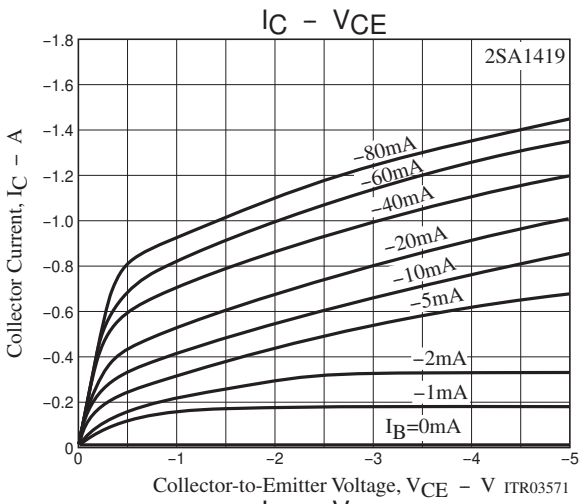


$$I_C = 10I_{B1} = -10I_{B2} = 0.7A$$

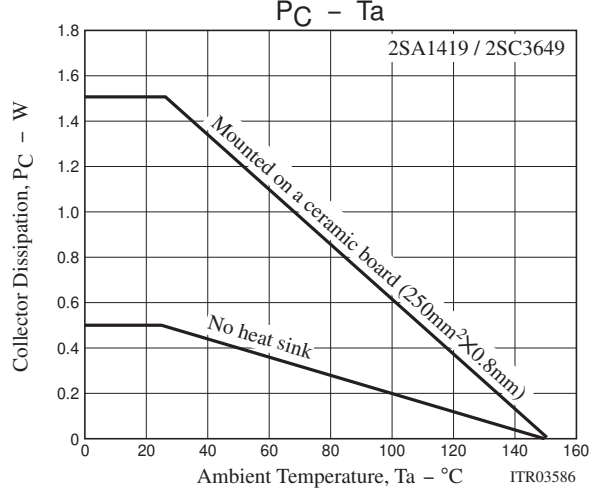
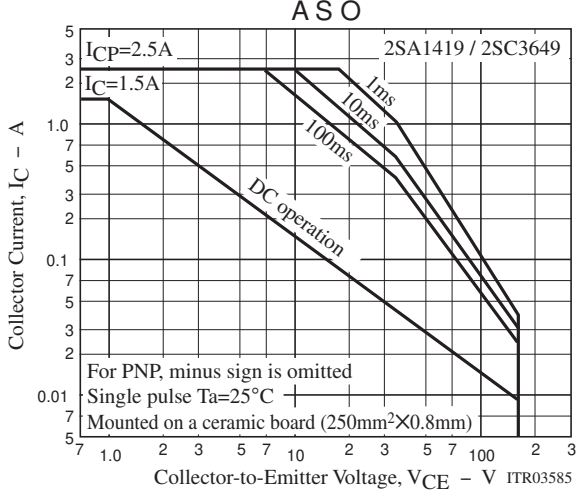
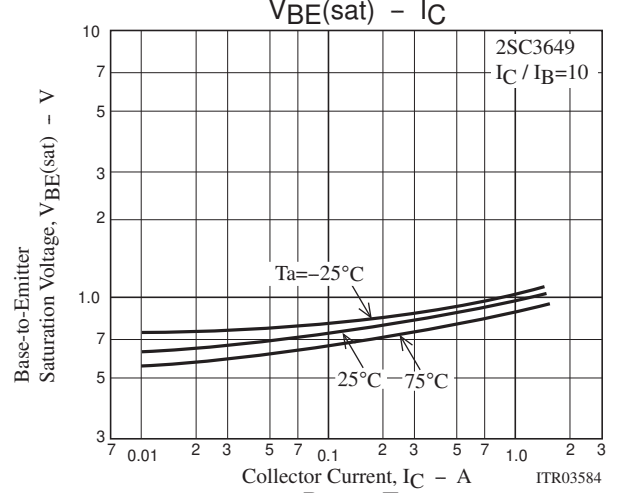
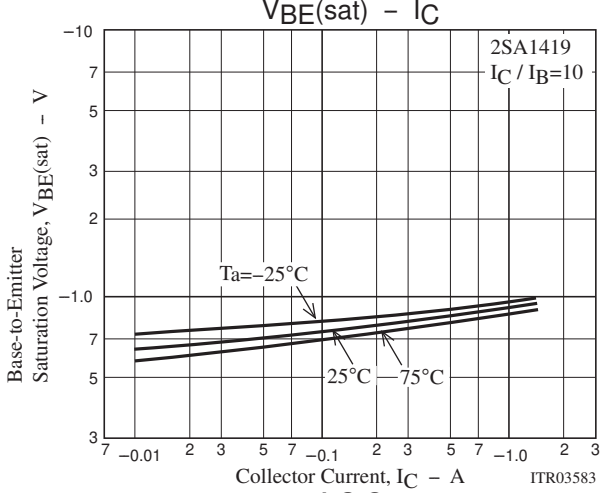
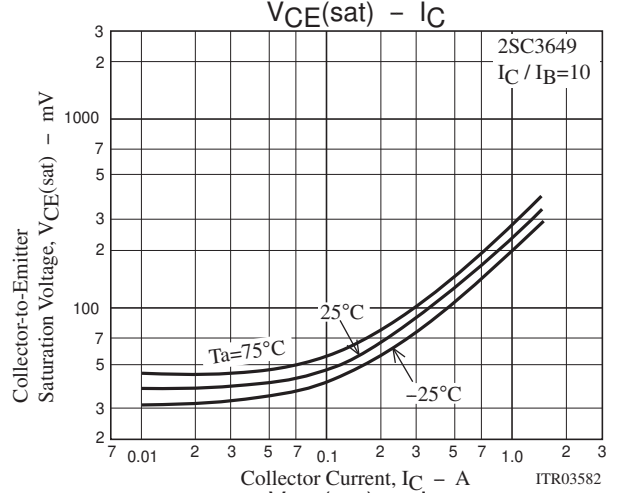
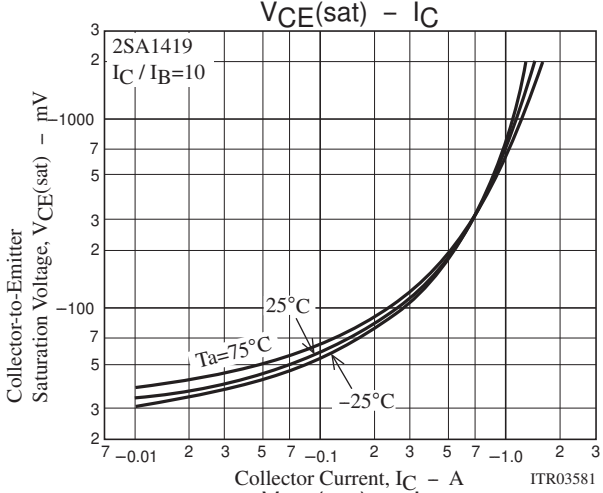
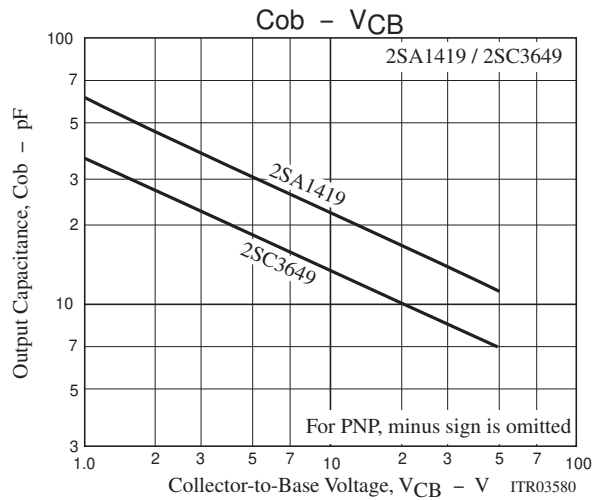
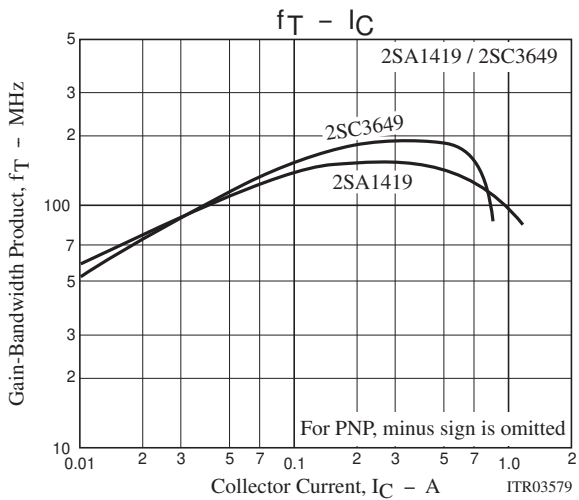
(For PNP, the polarity is reversed)

Ordering Information

Device	Package	Shipping	memo
2SA1419S-TD-E	PCP	1,000pcs./reel	Pb Free
2SA1419S-TD-H	PCP	1,000pcs./reel	Pb Free and Halogen Free
2SA1419T-TD-E	PCP	1,000pcs./reel	Pb Free
2SA1419T-TD-H	PCP	1,000pcs./reel	Pb Free and Halogen Free
2SC3649S-TD-E	PCP	1,000pcs./reel	Pb Free
2SC3649S-TD-H	PCP	1,000pcs./reel	Pb Free and Halogen Free
2SC3649T-TD-E	PCP	1,000pcs./reel	Pb Free
2SC3649T-TD-H	PCP	1,000pcs./reel	Pb Free and Halogen Free



2SA1419 / 2SC3649



Bag Packing Specification

2SA1419S-TD-E, 2SA1419S-TD-H, 2SA1419T-TD-E, 2SA1419T-TD-H, 2SC3649S-TD-E, 2SC3649S-TD-H, 2SC3649T-TD-E, 2SC3649T-TD-H

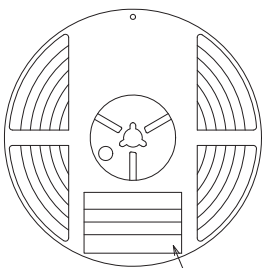
1. Packing Format

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)

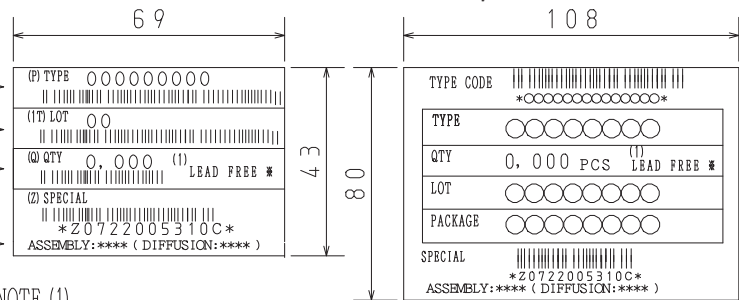
Outer box label
It is a label at the time of factory shipments.
The form of a label may change in physical distribution process.

Packing method



Type No.
LOT No.
Quantity
Origin

Reel label



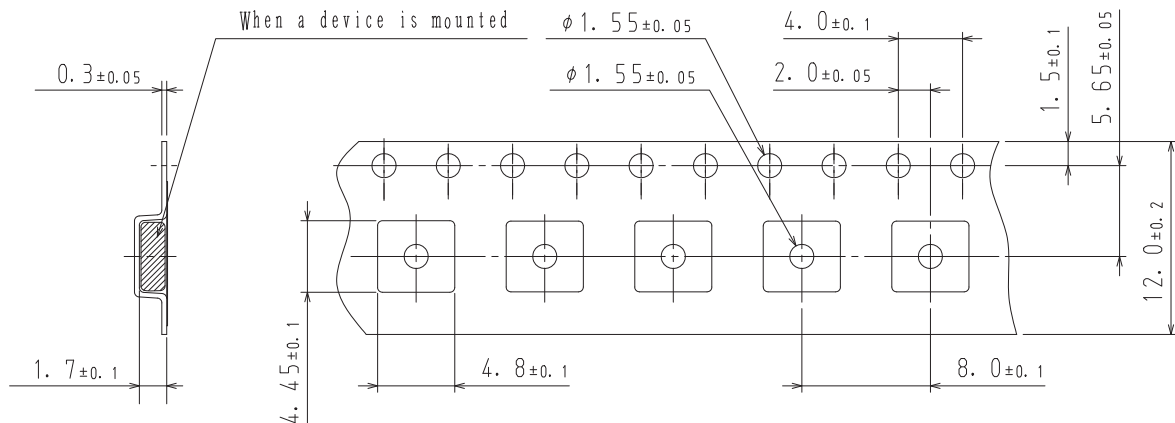
NOTE (1)

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

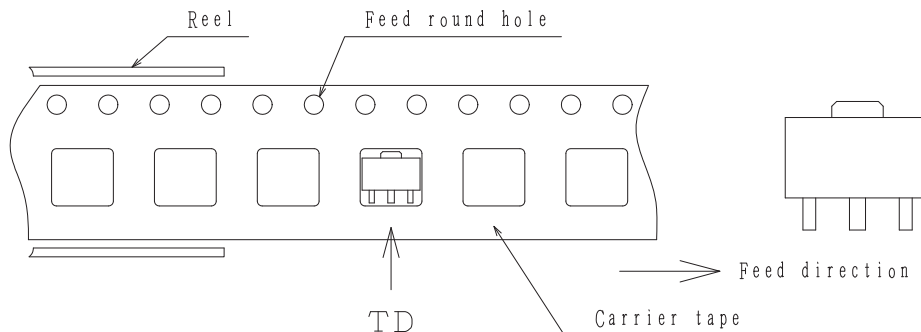
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



2-2. Device placement direction

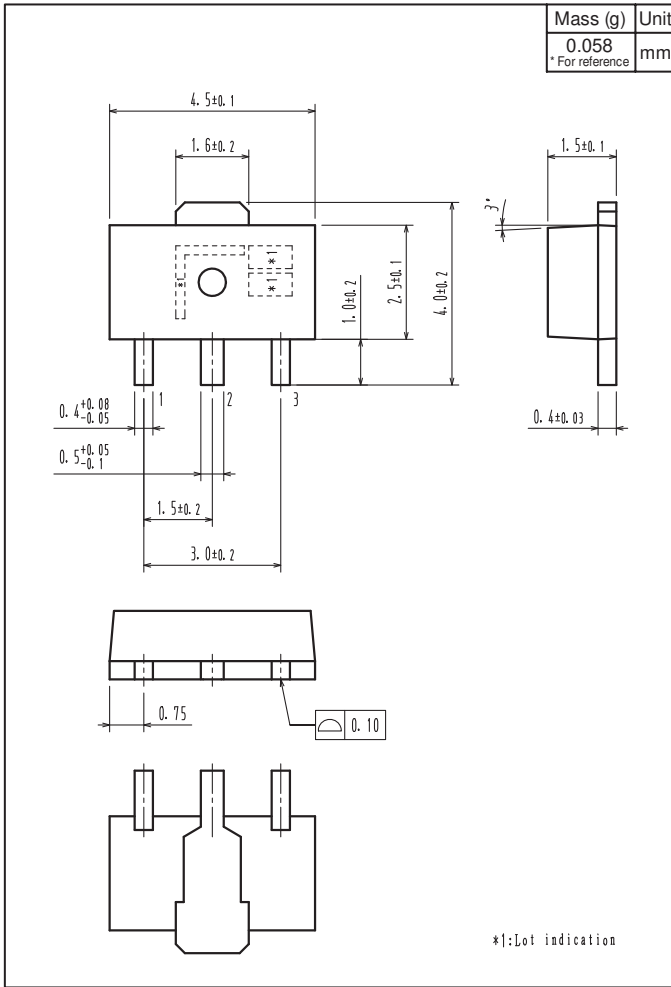


Those with pin 1 index on the feed hole side.....TD

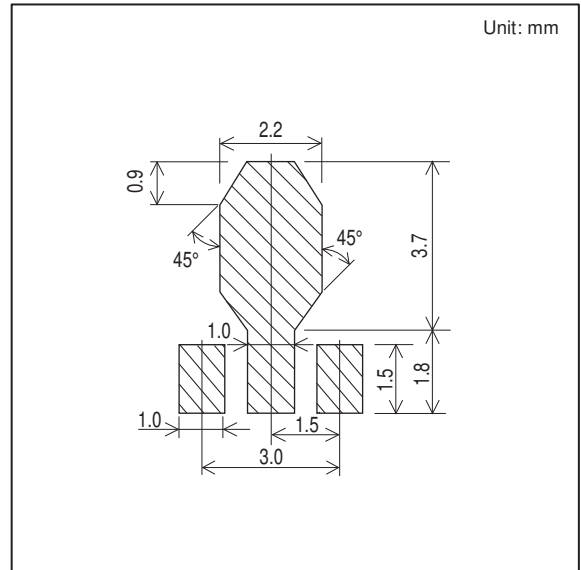
2SA1419 / 2SC3649

Outline Drawing

2SA1419S-TD-E, 2SA1419S-TD-H, 2SA1419T-TD-E, 2SA1419T-TD-H, 2SC3649S-TD-E, 2SC3649S-TD-H, 2SC3649T-TD-E, 2SC3649T-TD-H



Land Pattern Example



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