



SANYO Semiconductors

# DATA SHEET

An ON Semiconductor Company

## 2SD1618 — NPN Epitaxial Planar Silicon Transistors Low-Voltage High-Current Amplifier, Muting Applications

### Features

- Low collector-to-emitter saturation voltage
- Very small size making it easy to provide highdensity, small-sized hybrid IC's

### Specifications

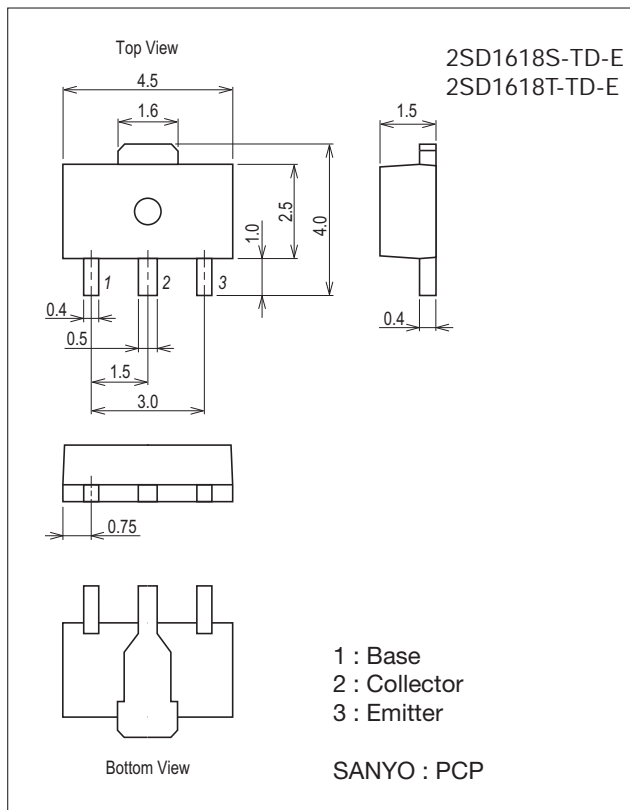
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	VCBO		20	V
Collector-to-Emitter Voltage	VCEO		15	V
Emitter-to-Base Voltage	VEBO		5	V
Collector Current	IC		0.7	A
Collector Current (Pulse)	ICP		1.5	A
Collector Dissipation	PC		500	mW
		When mounted on ceramic substrate (250mm <sup>2</sup> ×0.8mm)	1.3	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

### Package Dimensions

unit : mm (typ)

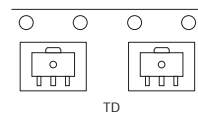
7007B-004



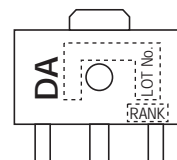
### Product & Package Information

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

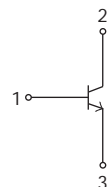
### Packing Type: TD



### Marking



### Electrical Connection



## 2SD1618

### Electrical Characteristics at Ta=25°C

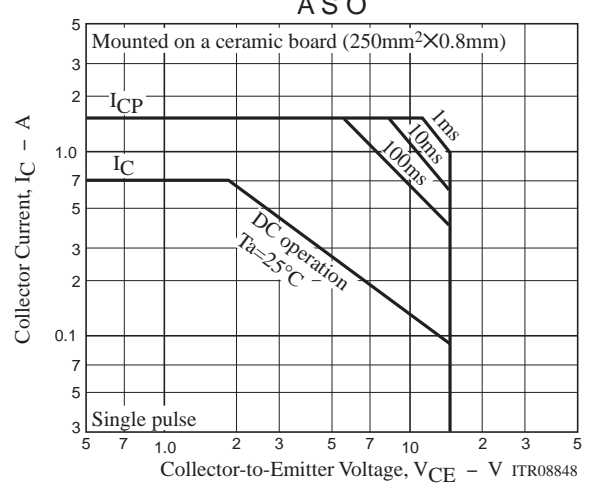
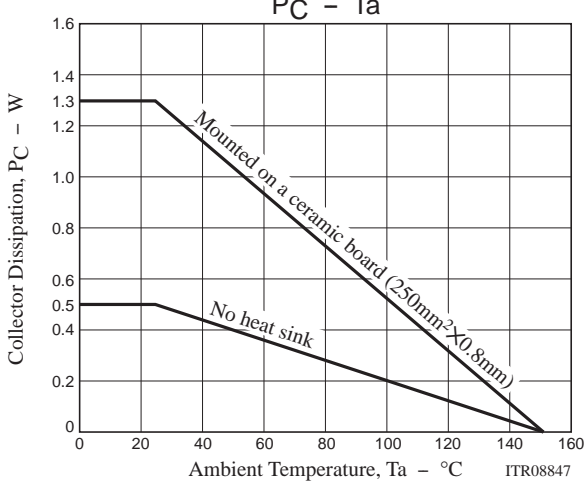
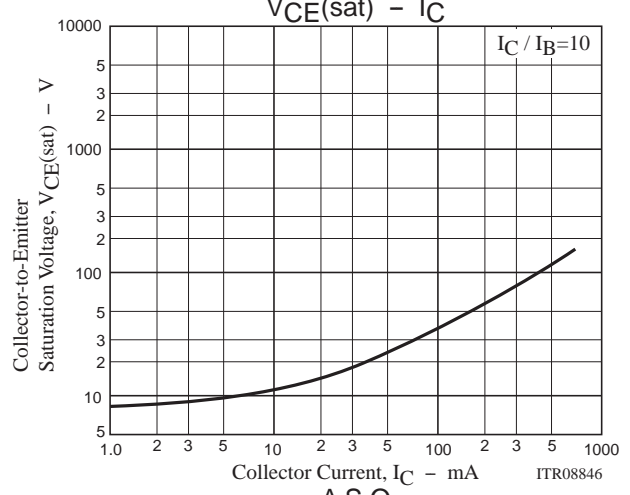
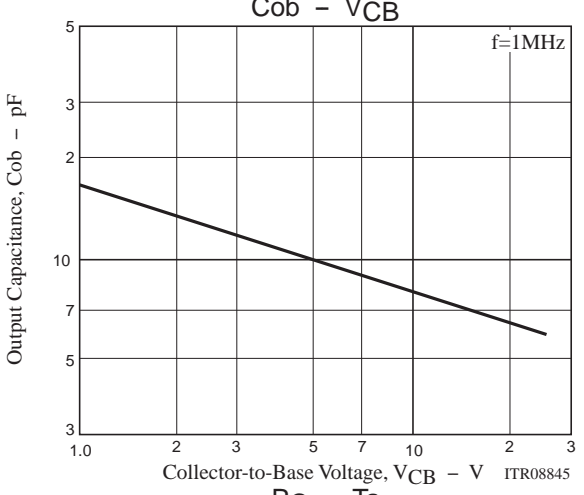
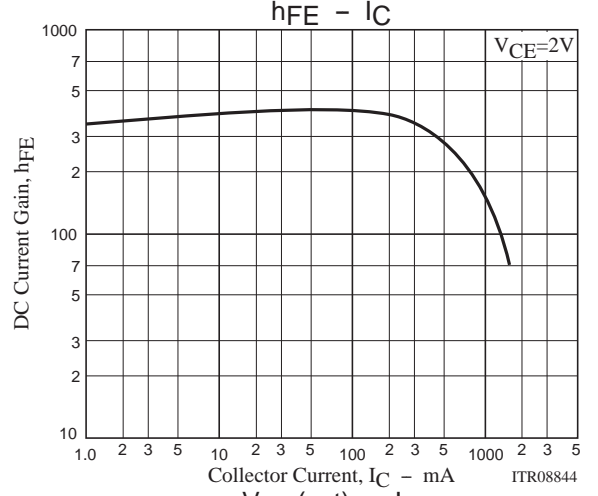
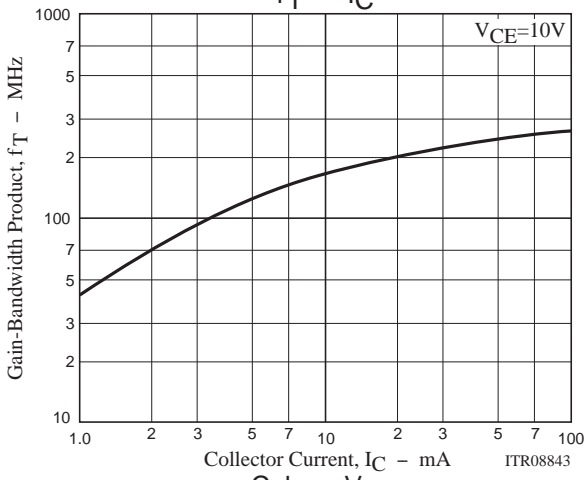
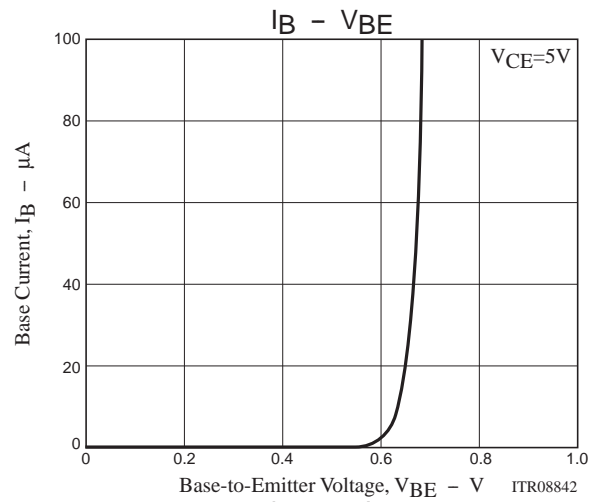
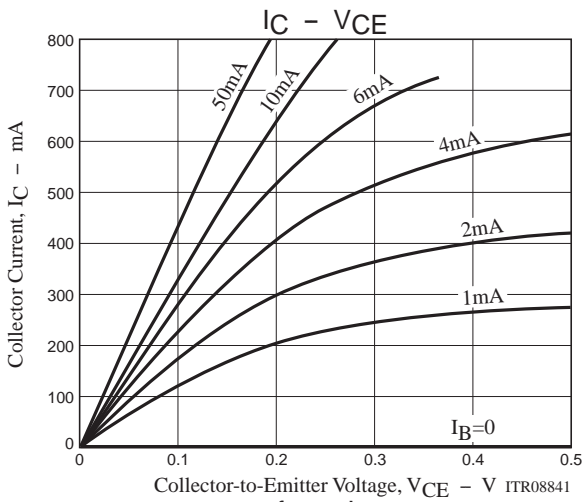
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=15V, I_E=0A$			0.1	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=4V, I_C=0A$			0.1	$\mu A$
DC Current Gain	$h_{FE1}$	$V_{CE}=2V, I_C=50mA$	140*		560*	
	$h_{FE2}$	$V_{CE}=2V, I_C=500mA$	60			
Gain-Bandwidth Product	$f_T$	$V_{CE}=10V, I_C=50mA$		250		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)1}$	$I_C=5mA, I_B=0.5mA$		10	25	mV
	$V_{CE(sat)2}$	$I_C=100mA, I_B=10mA$		30	80	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=100mA, I_B=10mA$		0.8	1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0A$	20			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	15			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0A$	5			V
Output Capacitance	$C_{ob}$	$V_{CB}=10V, f=1MHz$		8		pF

\* : The 2SD1618 is classified by 50mA hFE as follows :

Rank	S	T	U
hFE	140 to 280	200 to 400	280 to 560

### Ordering Information

Device	Package	Shipping	memo
2SD1618S-TD-E	PCP	1,000pcs./reel	Pb Free
2SD1618T-TD-E	PCP	1,000pcs./reel	



Bag Packing Specification

2SD1618S-TD-E, 2SD1618T-TD-E

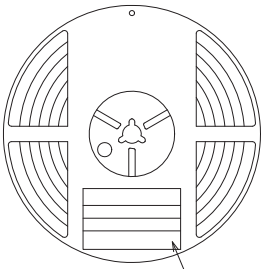
1. Packing Format

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)

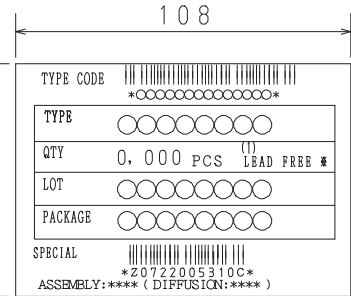
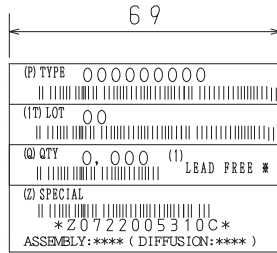
Outer box label  
It is a label at the time of factory shipments.  
The form of a label may change in physical distribution process.

Packing method



Reel label

Type No.  
LOT No.  
Quantity  
Origin



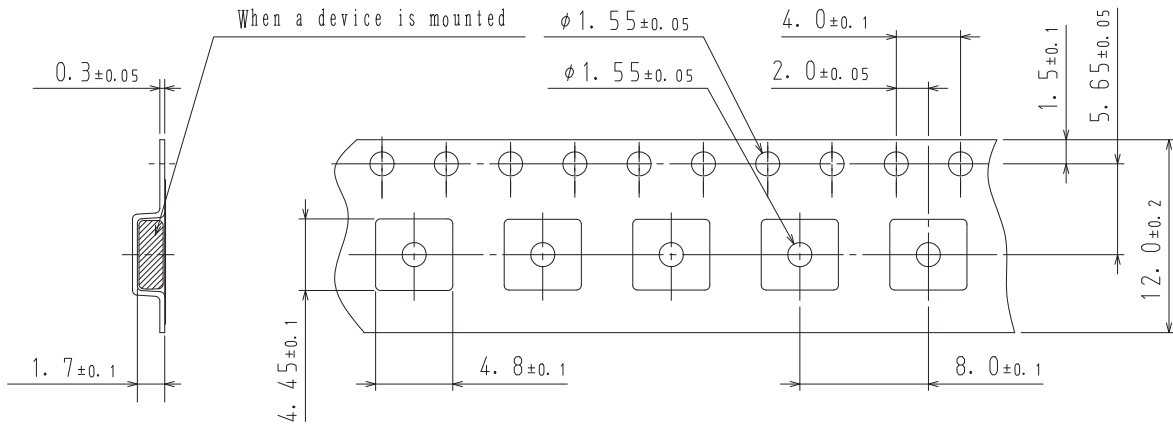
NOTE (1)

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

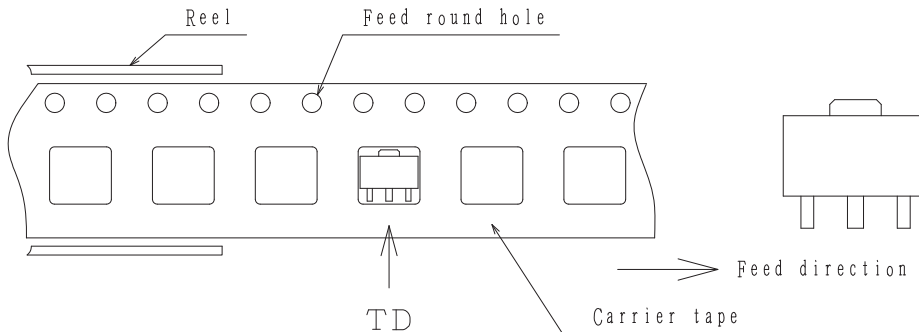
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



2-2. Device placement direction

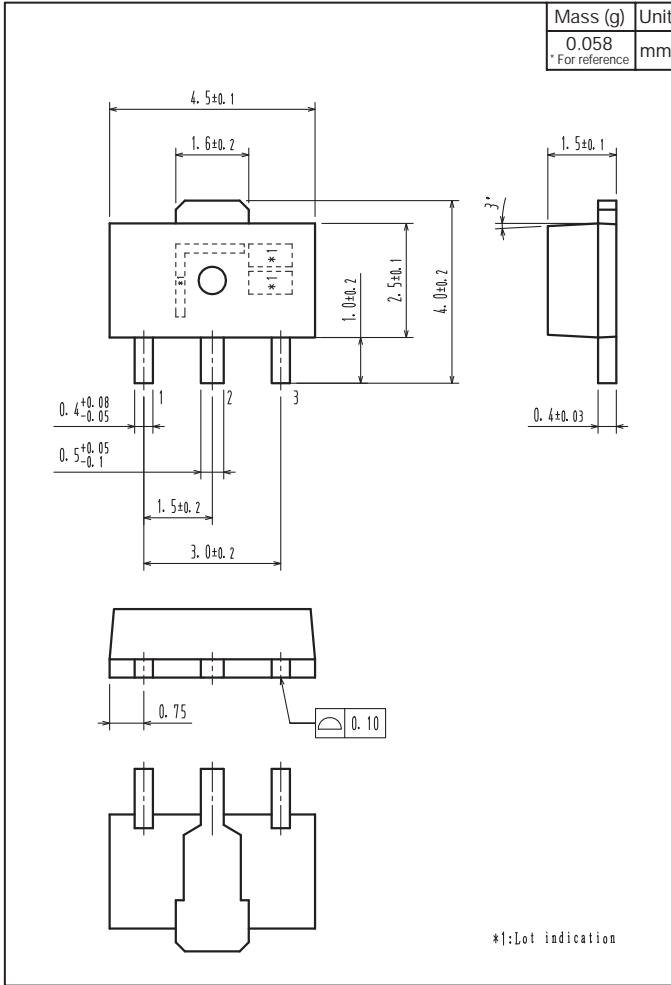


Those with pin 1 index on the feed hole side.....TD

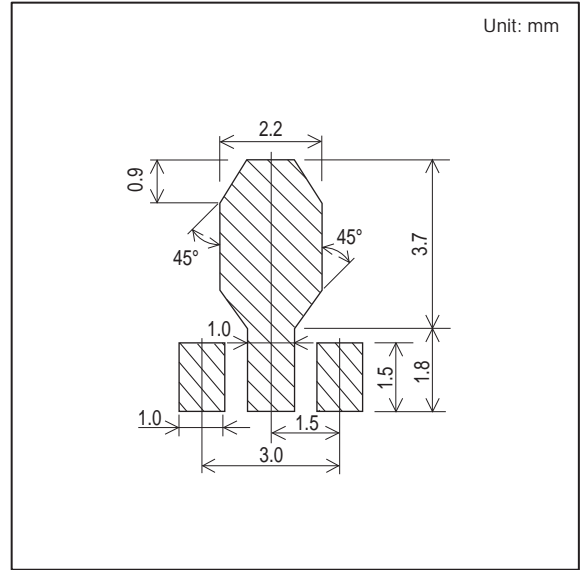
# 2SD1618

## Outline Drawing

2SD1618S-TD-E, 2SD1618T-TD-E



## Land Pattern Example



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- Техническая поддержка проекта;
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