



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

NPN Epitaxial Planar Silicon Transistors

2SD1618 — 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

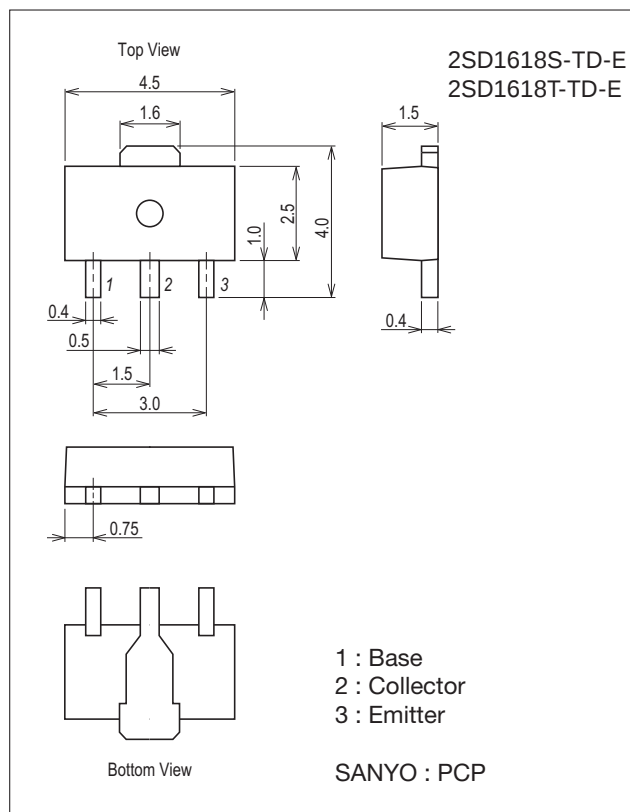
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CBO}		20	V
Collector-to-Emitter Voltage	V _{CEO}		15	V
Emitter-to-Base Voltage	V _{EBO}		5	V
Collector Current	I _C		0.7	A
Collector Current (Pulse)	I _{CP}		1.5	A
Collector Dissipation	P _C		500	mW
		When mounted on ceramic substrate (250mm ² ×0.8mm)	1.3	W
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Package Dimensions

unit : mm (typ)

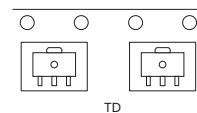
7007B-004



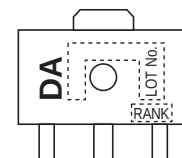
Product & Package Information

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

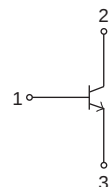
Packing Type: TD



Marking



Electrical Connection



SANYO Semiconductor Co., Ltd.

<http://www.sanyosemi.com/en/network/>

2SD1618

Electrical Characteristics at Ta=25°C

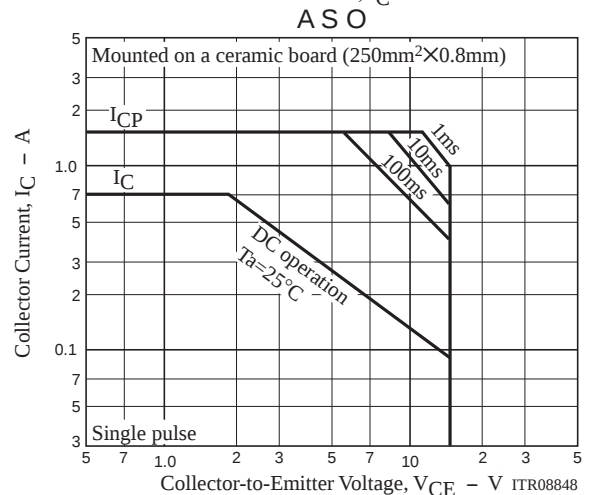
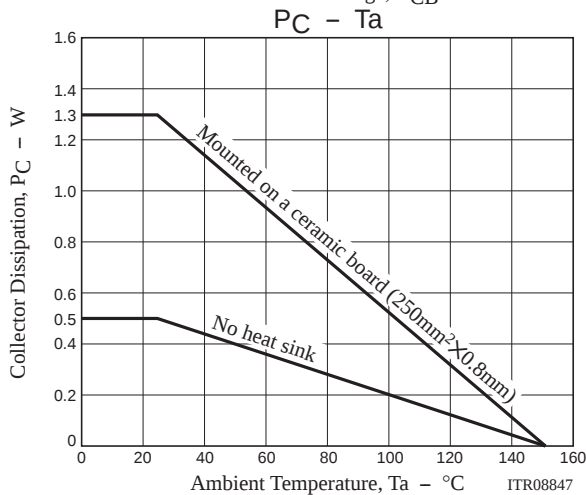
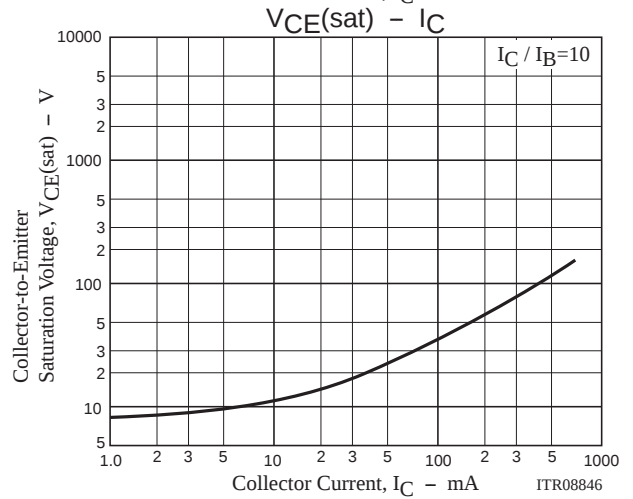
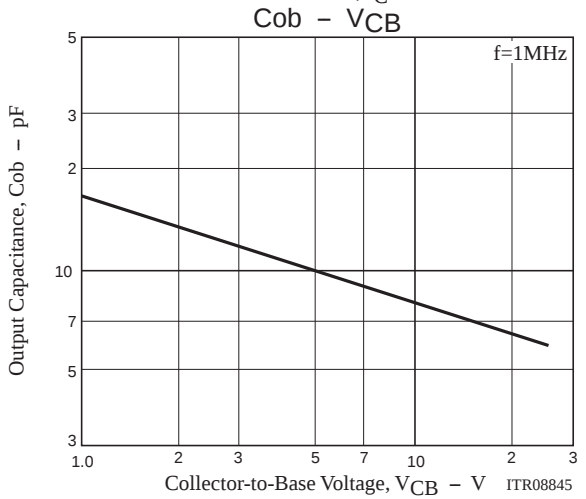
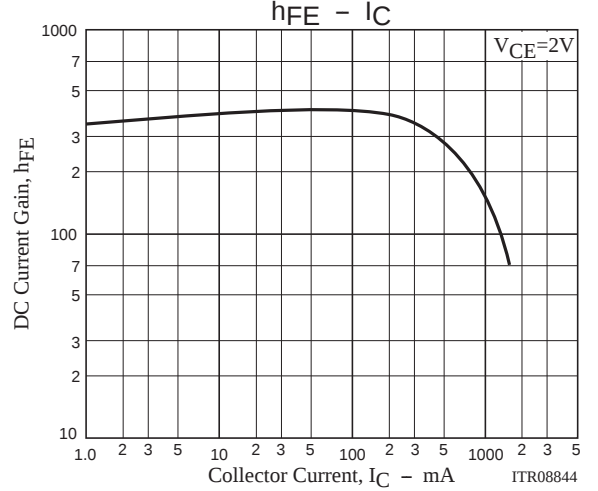
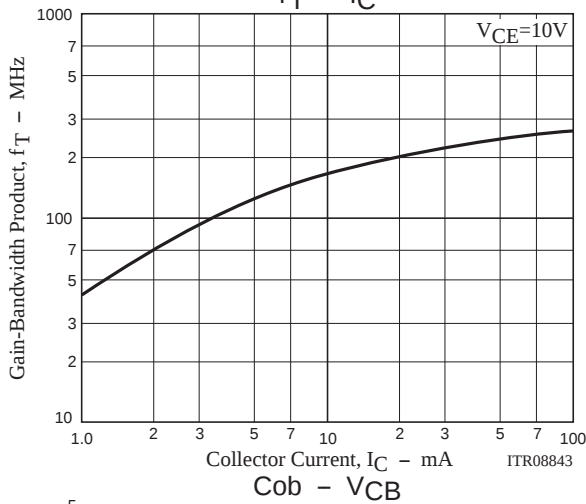
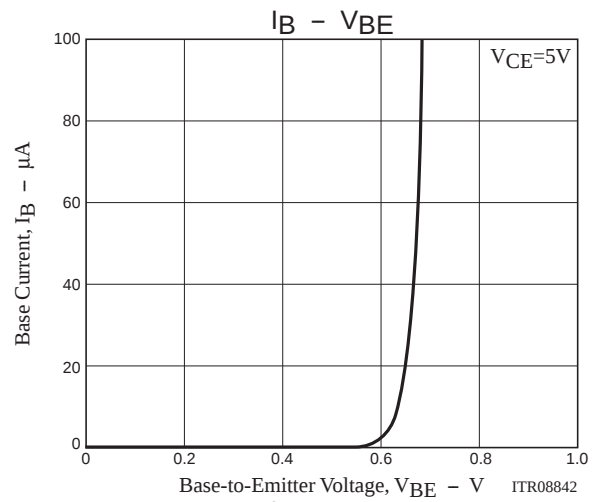
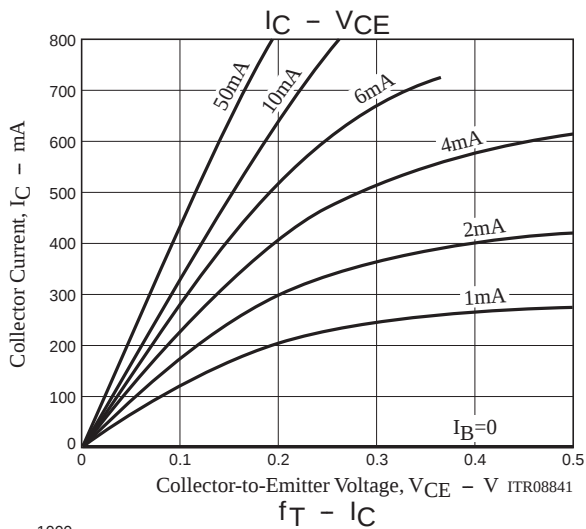
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	ICBO	V _{CB} =15V, I _E =0A			0.1	μA
Emitter Cutoff Current	IEBO	V _{EB} =4V, I _C =0A			0.1	μA
DC Current Gain	h _{FE1}	V _{CE} =2V, I _C =50mA	140*		560*	
	h _{FE2}	V _{CE} =2V, I _C =500mA	60			
Gain-Bandwidth Product	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 =10μA, I _E =0A	20			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	I _C =1mA, R _{BE} =∞	15			V
Emitter-to-Base Breakdown Voltage	V(BR)EBO	I _E =10μA, 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

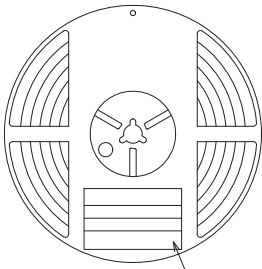
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
PCP	PCP	1,000	4,000	24,000	4 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimensions:mm (external) 440×195×210

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 →

(P) TYPE	000000000
(1) LOT	00
(Q) QTY	0,000 (1) LEAD FREE #
(Z) SPECIAL	*Z0722005310C* ASSEMBLY:**** (DIFFUSION:****)

TYPE CODE	
TYPE	○○○○○○○○
QTY	0,000 PCS (1) LEAD FREE #
LOT	○○○○○○○○
PACKAGE	○○○○○○○○
SPECIAL	
ASSEMBLY:**** (DIFFUSION:****)	

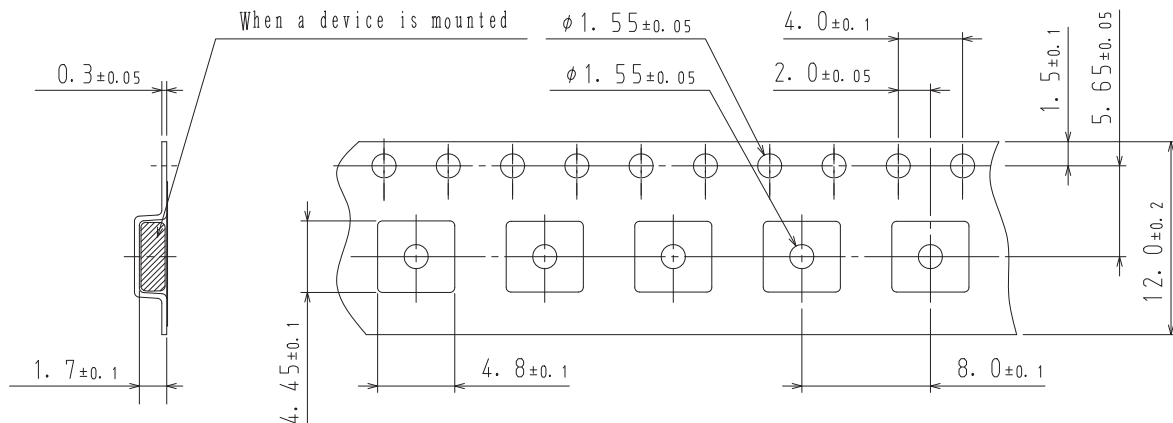
NOTE (1)

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

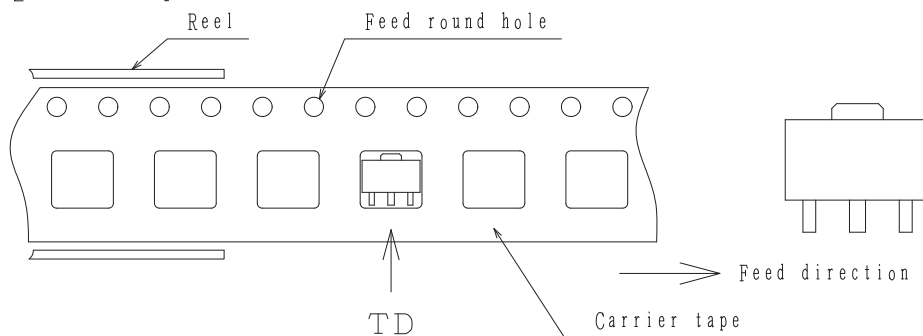
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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

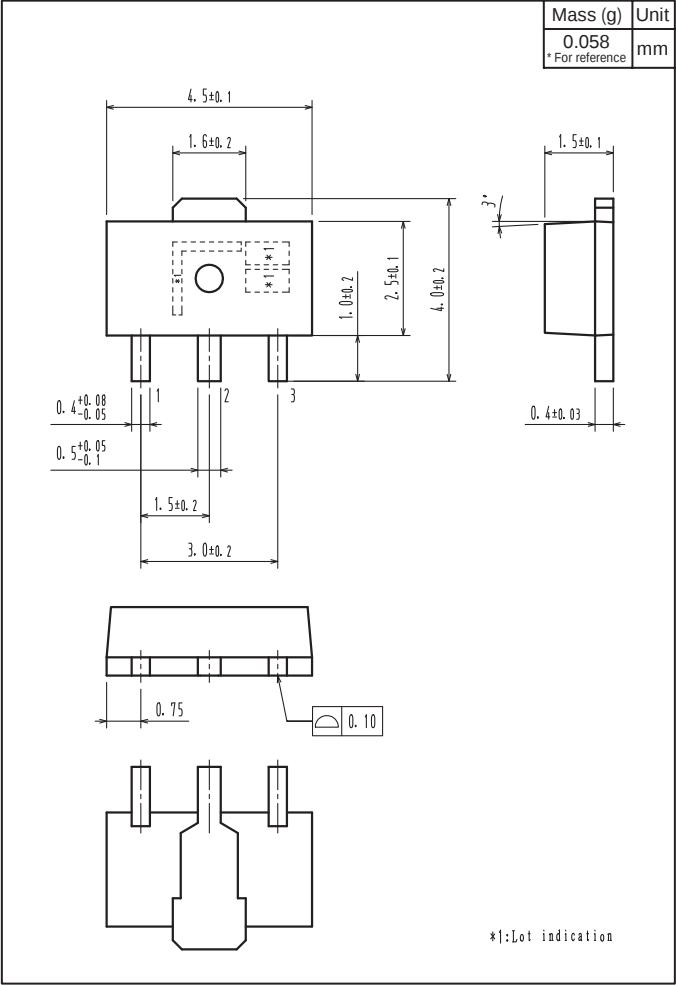


2-2. Device placement direction

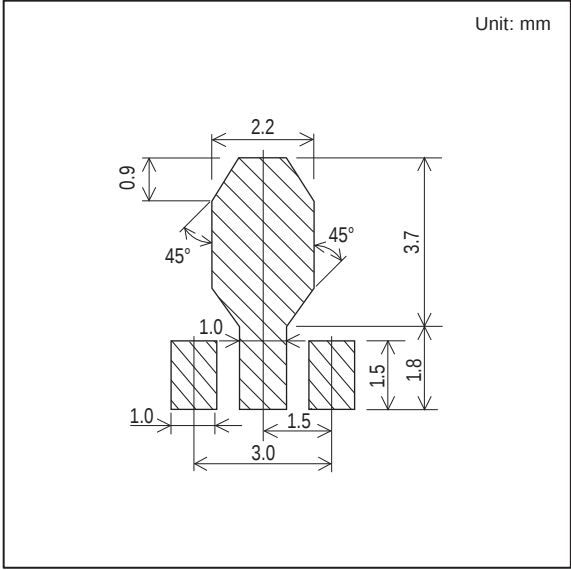


Outline Drawing

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



Land Pattern Example



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