



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

N-Channel Silicon MOSFET

SFT1452 — General-Purpose Switching Device Applications

Features

- ON-resistance $R_{DS(on)}=1.8\Omega(\text{typ.})$
- Input Capacitance $C_{iss}=210\text{pF}(\text{typ.})$
- 10V drive
- Halogen free compliance
- Protection diode in

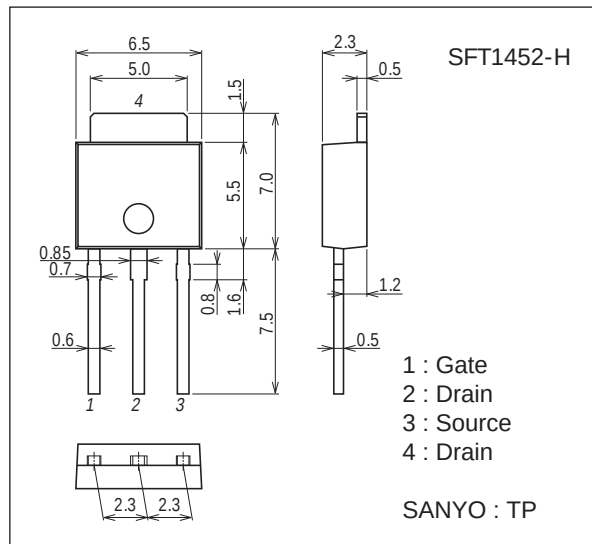
Specifications

Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DS}		250	V
Gate-to-Source Voltage	V_{GS}		± 30	V
Drain Current (DC)	I_D		3	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$	12	A
Allowable Power Dissipation	P_D		1	W
		$T_c=25^\circ\text{C}$	26	W
Channel Temperature	T_{ch}		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

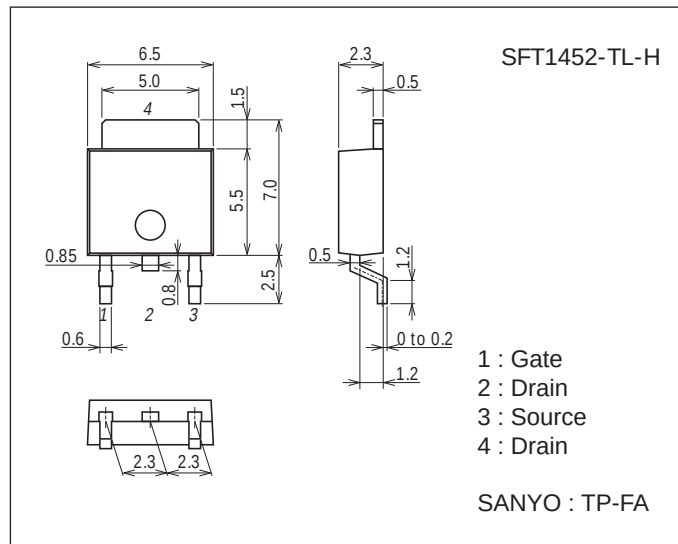
Package Dimensions unit : mm (typ)

7518-004



Package Dimensions unit : mm (typ)

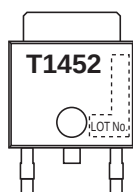
7003-004



Product & Package Information

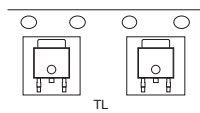
- Package : TP
- JEITA, JEDEC : SC-64, TO-251
- Minimum Packing Quantity : 500 pcs./bag

Marking (TP, TP-FA)

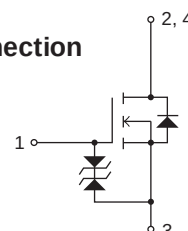


- Package : TP-FA
- JEITA, JEDEC : SC-63, TO-252
- Minimum Packing Quantity : 700 pcs./reel

Packing Type (TP-FA) : TL



Electrical Connection (TP, TP-FA)



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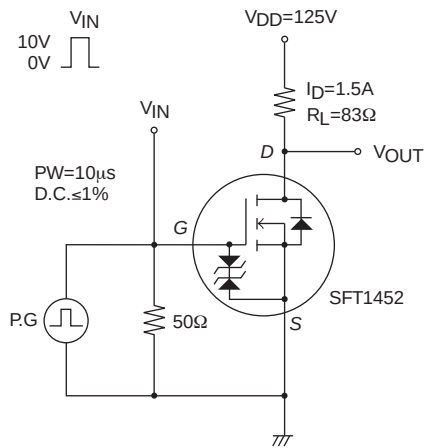
<http://semicon.sanyo.com/en/network>

SFT1452

Electrical Characteristics at Ta=25°C

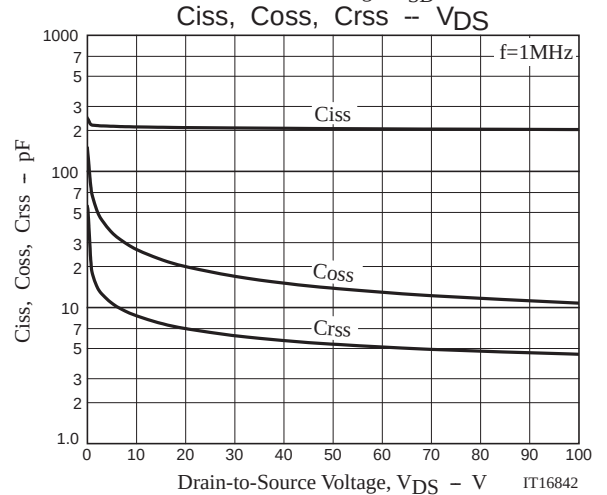
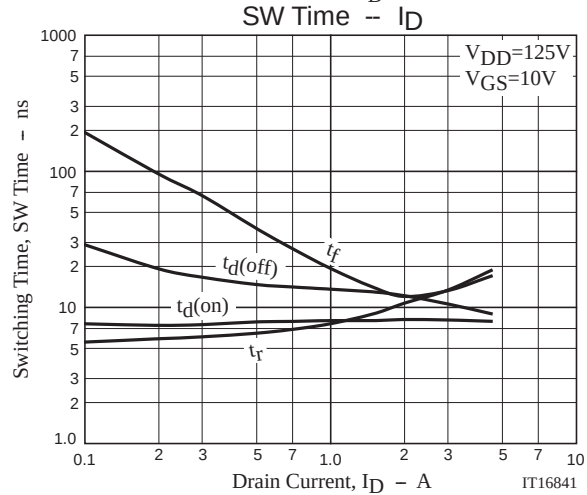
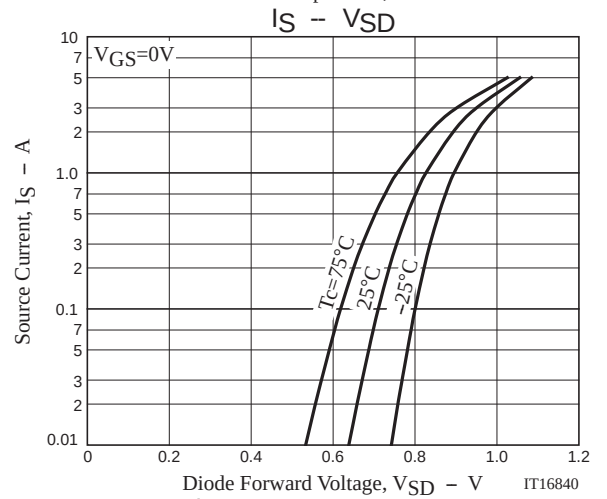
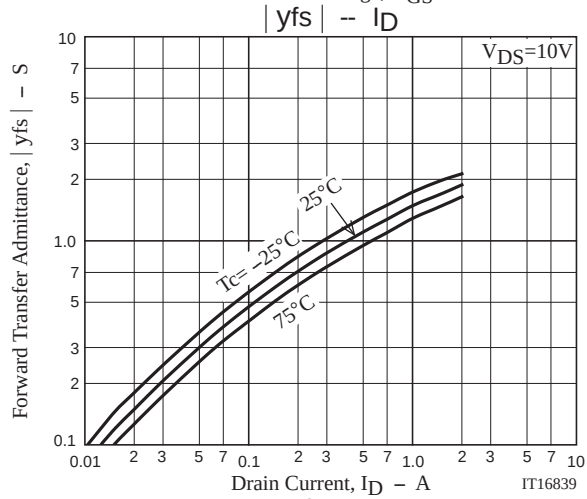
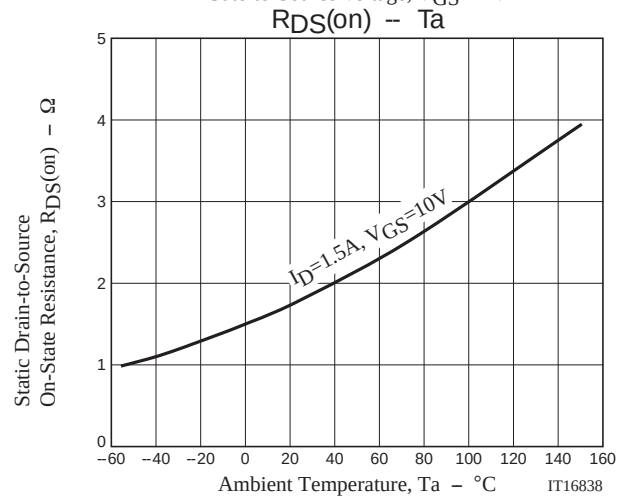
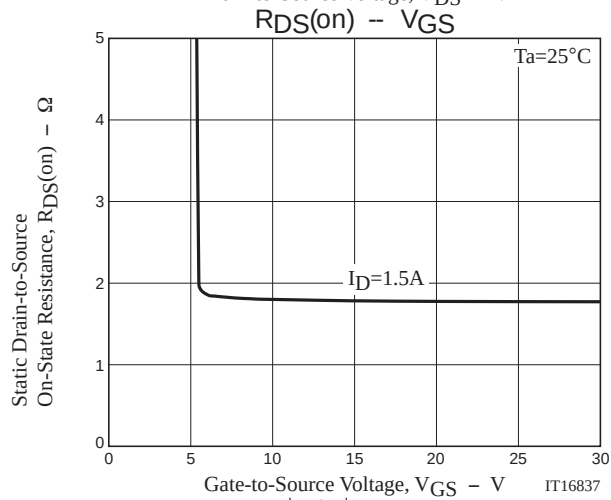
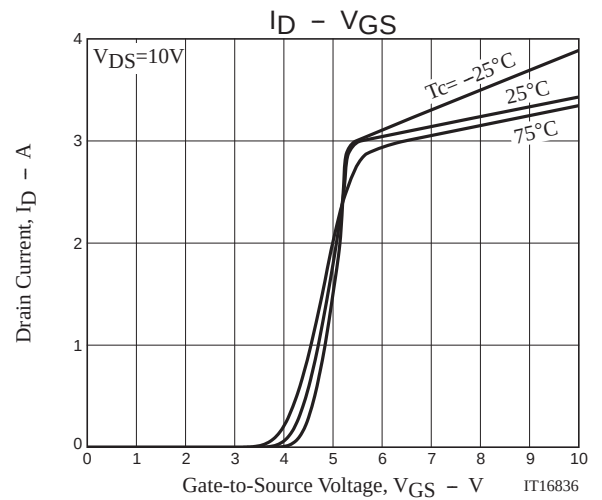
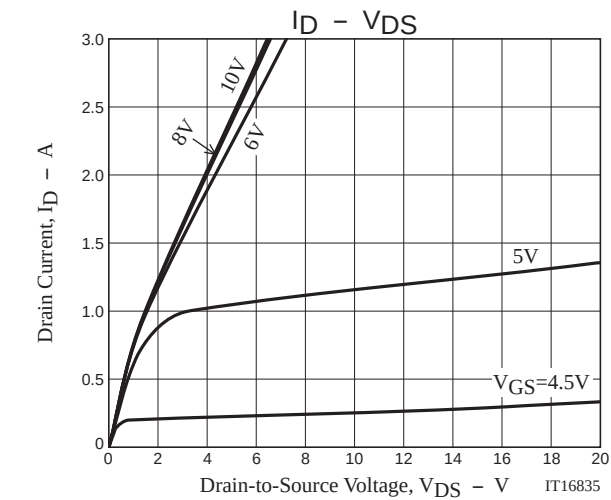
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1mA, V_{GS}=0V$	250			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=250V, V_{GS}=0V$			1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 24V, V_{DS}=0V$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	2.5		4.5	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=1.5A$		1.7		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)}$	$I_D=1.5A, V_{GS}=10V$		1.8	2.4	Ω
Input Capacitance	C_{iss}	$V_{DS}=20V, f=1MHz$		210		pF
Output Capacitance	C_{oss}			20		pF
Reverse Transfer Capacitance	C_{rss}			7		pF
Turn-ON Delay Time	$t_{d(on)}$			8		ns
Rise Time	t_r	See specified Test Circuit.		9		ns
Turn-OFF Delay Time	$t_{d(off)}$			13		ns
Fall Time	t_f			14		ns
Total Gate Charge	Q_g	$V_{DS}=125V, V_{GS}=10V, I_D=3A$		4.2		nC
Gate-to-Source Charge	Q_{gs}			1.4		nC
Gate-to-Drain "Miller" Charge	Q_{gd}			1.0		nC
Diode Forward Voltage	V_{SD}	$I_S=3A, V_{GS}=0V$		0.95	1.2	V

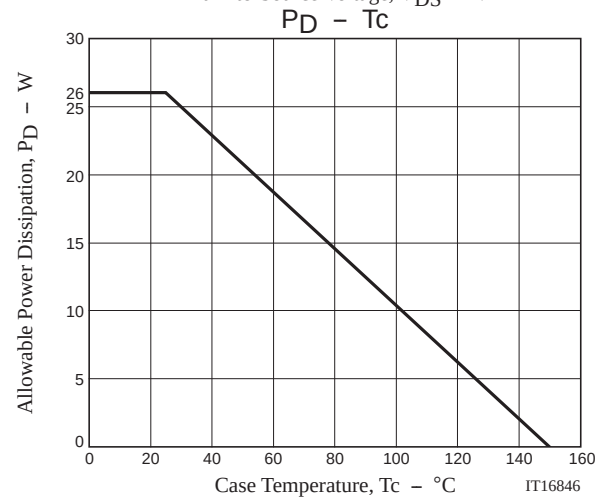
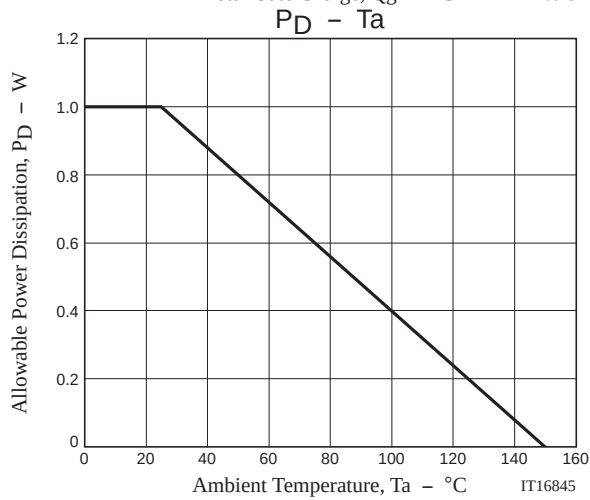
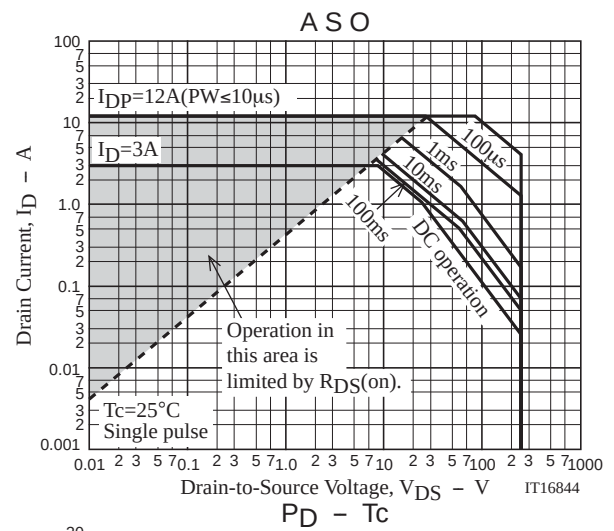
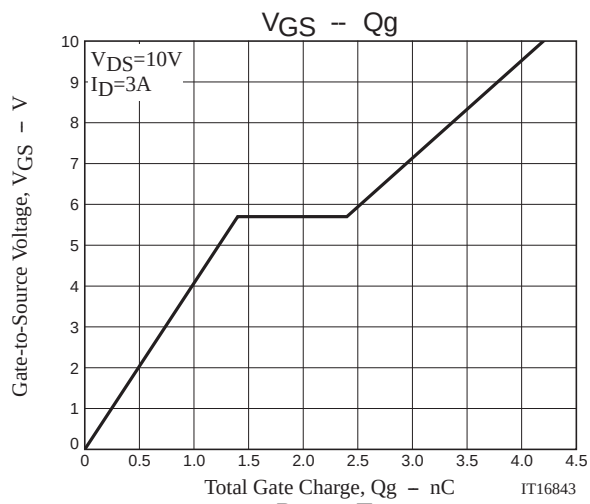
Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
SFT1452-H	TP	500pcs./bag	Pb Free and Halogen Free
SFT1452-TL-H	TP-FA	700pcs./reel	





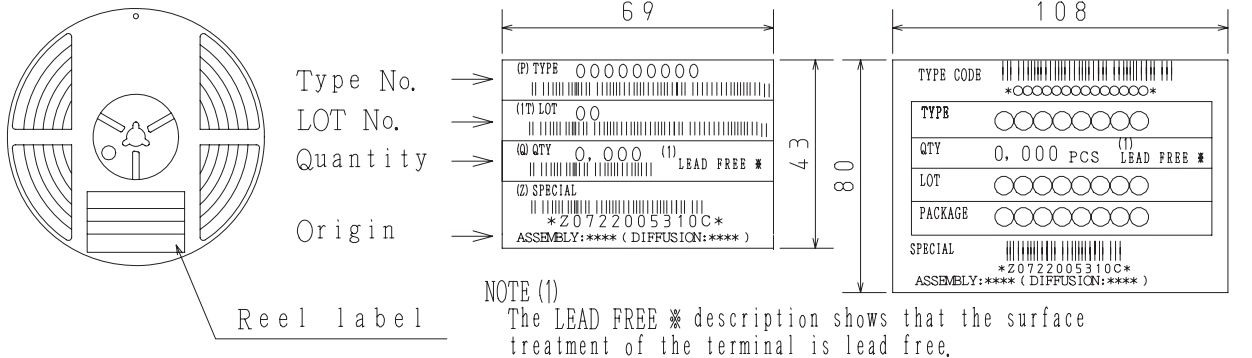
Taping Specification

SFT1452-TL-H

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)
TP-FA	TP	700	2, 100	12, 600	3 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimensions:mm (external) 440×195×210

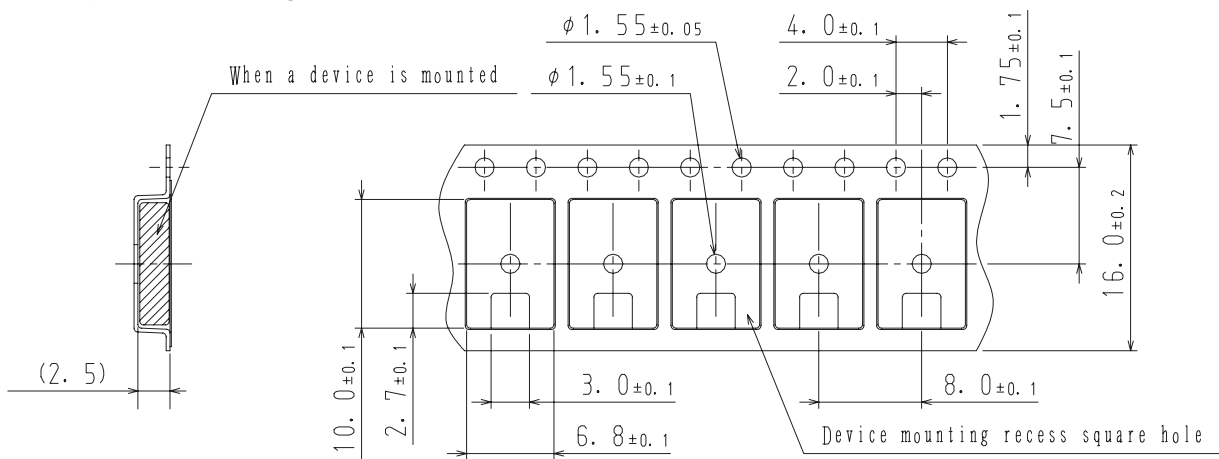
Packing method



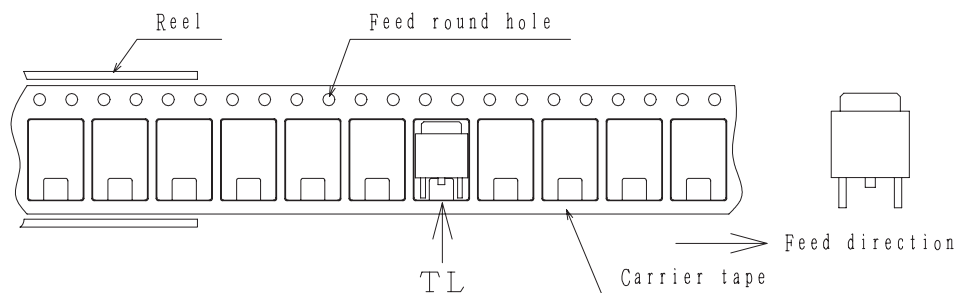
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

Taping configuration

1. Carrier tape size (unit:mm)



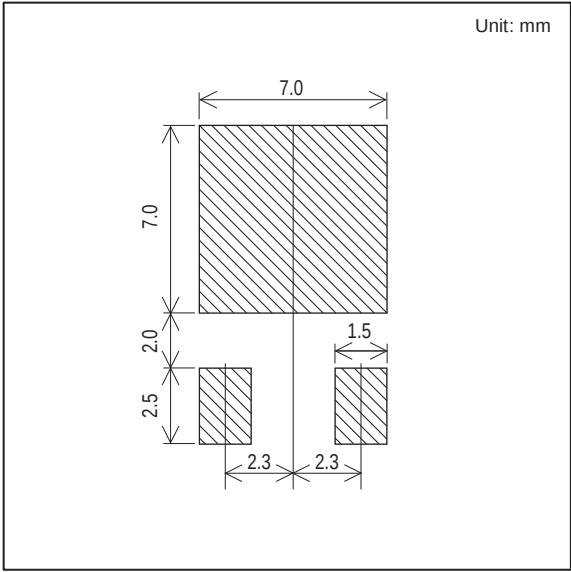
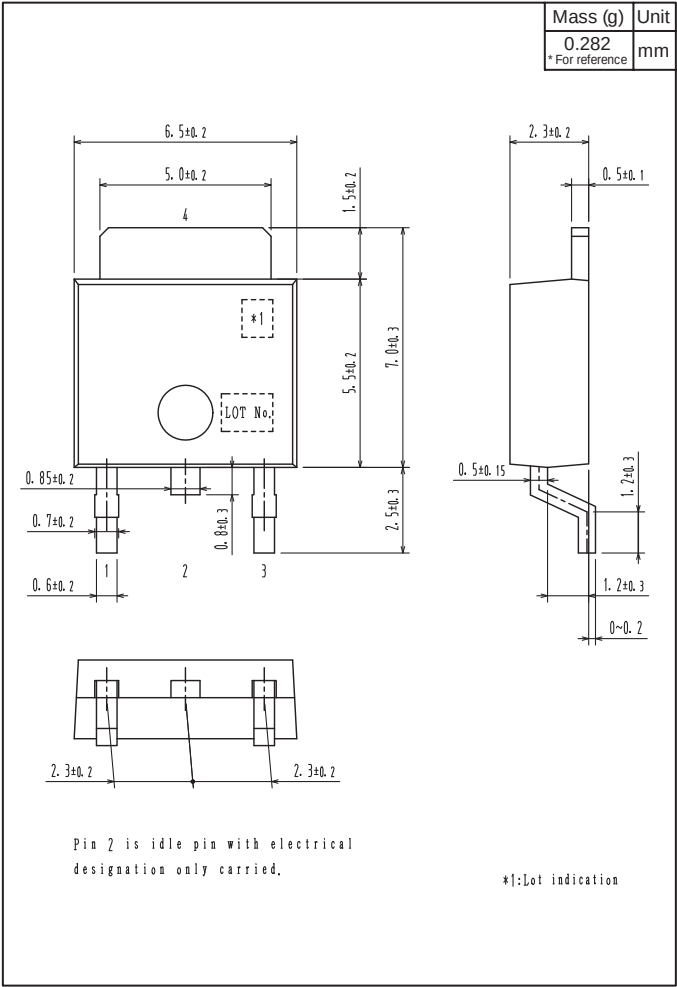
2. Device placement direction



Those with one electrode terminal on the feed hole side.....TL

Outline Drawing
SFT1452-TL-H

Land Pattern Example

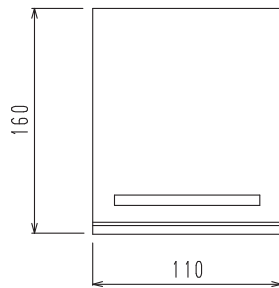
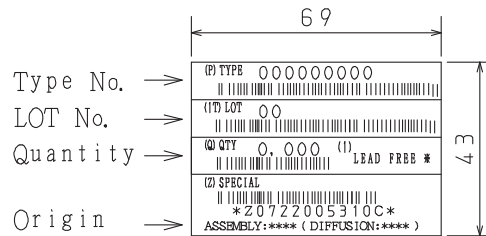


Bag Packing Specification

SFT1452-H

1. Packing Format

Package Name	Maximum Number of devices contained (pcs)			
	Bag	Inner box	Outer box	
TP	500	B-1	A-1	A-2
		10, 000	50, 000	30, 000
		Packing format (Dimensions:mm (external))		
		Inner box	Outer box	
		B-1	A-1	A-2
		445×225×55	470×250×300	470×250×190

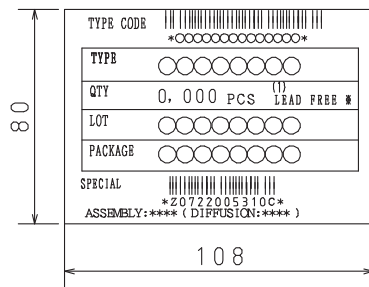
2. Bag dimensions
(unit:mm)3. Bag label, Inner box label
(unit:mm)4. Outer box label
(unit:mm)

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

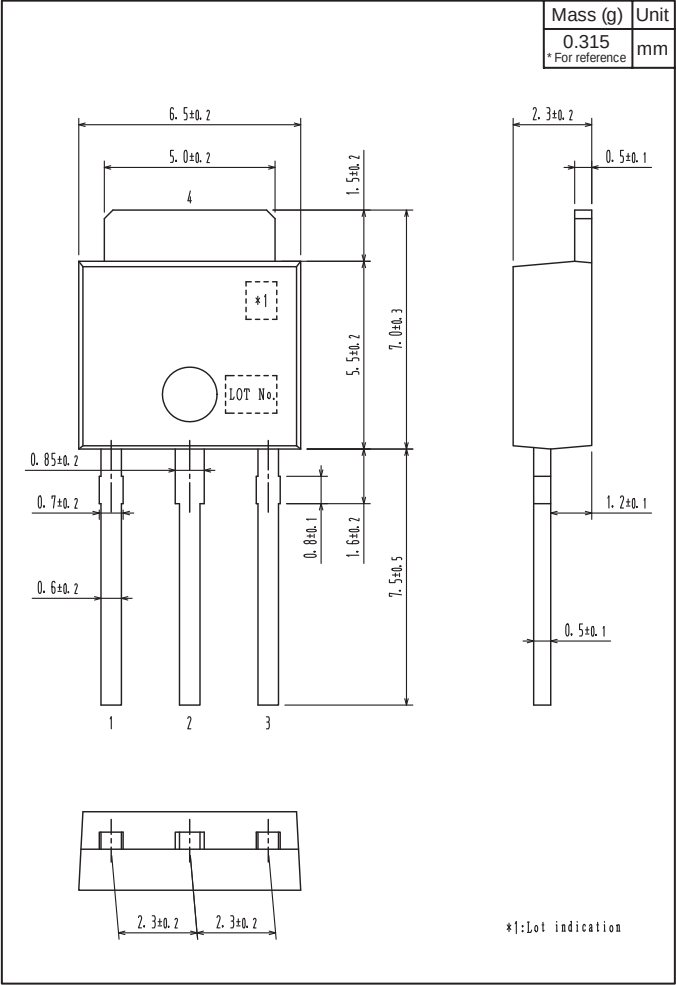
NOTE (1)

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



Outline Drawing
SFT1452-H



Note on usage : Since the SFT1452 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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