



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

N-Channel Silicon MOSFET

SFT1445 — General-Purpose Switching Device Applications

Features

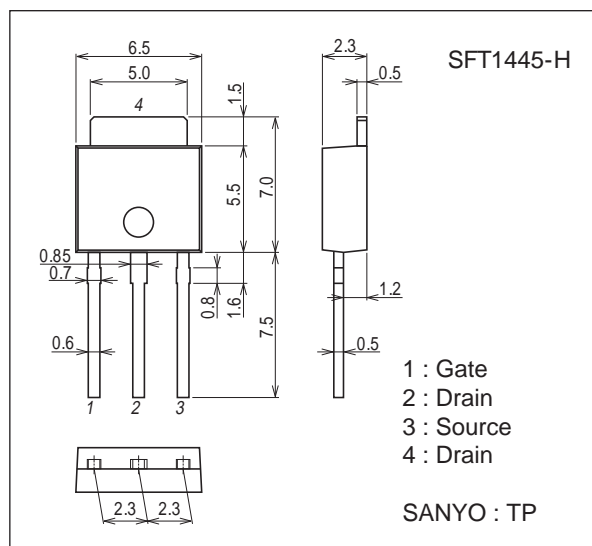
- ON-resistance $R_{DS(on)} = 85\text{m}\Omega$ (typ.)
- Input Capacitance $C_{iss} = 1030\text{pF}$ (typ.)
- 4V drive
- Halogen free compliance
- Protection diode in

Specifications

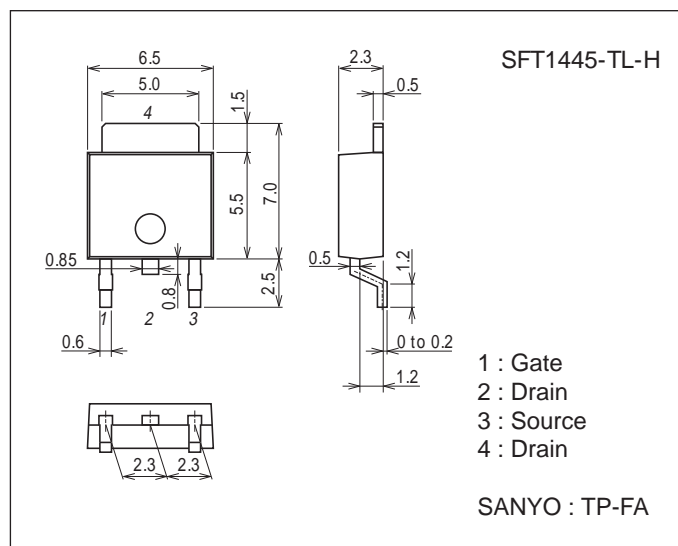
Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DS}		100	V
Gate-to-Source Voltage	V_{GS}		± 20	V
Drain Current (DC)	I_D		17	A
Drain Current ($PW \leq 10\mu\text{s}$)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$	68	A
Allowable Power Dissipation	P_D		1.0	W
		$T_c = 25^\circ\text{C}$	35	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



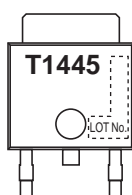
Package Dimensions unit : mm (typ)
7003-004



Product & Package Information

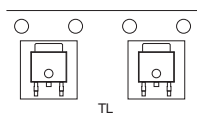
- Package : TP
- JEITA, JEDEC : SC-64, TO-251
- Minimum Packing Quantity : 500 pcs./bag

Marking (TP, TP-FA)

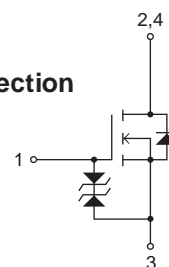


- Package : TP-FA
- JEITA, JEDEC : SC-63, TO-252
- Minimum Packing Quantity : 700 pcs./reel

Packing Type (TP-FA) : TL



Electrical Connection



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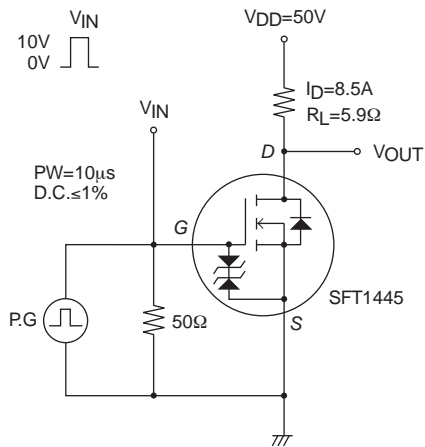
<http://semicon.sanyo.com/en/network>

SFT1445

Electrical Characteristics at Ta=25°C

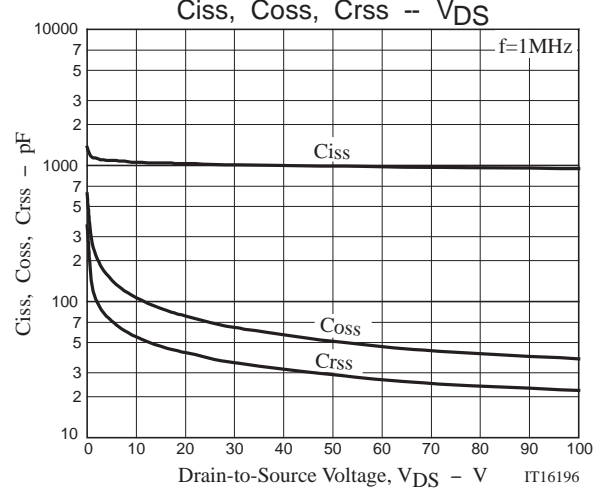
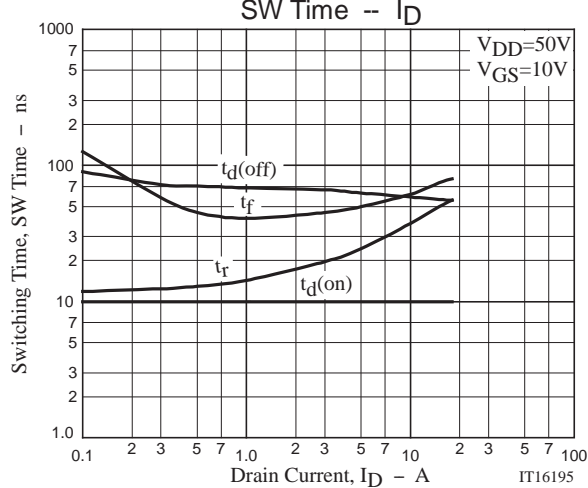
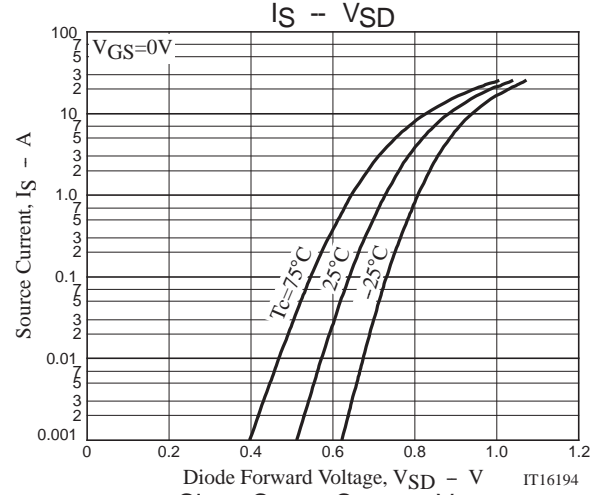
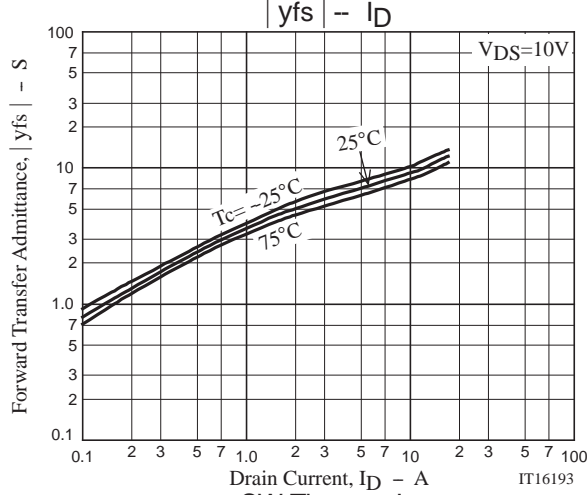
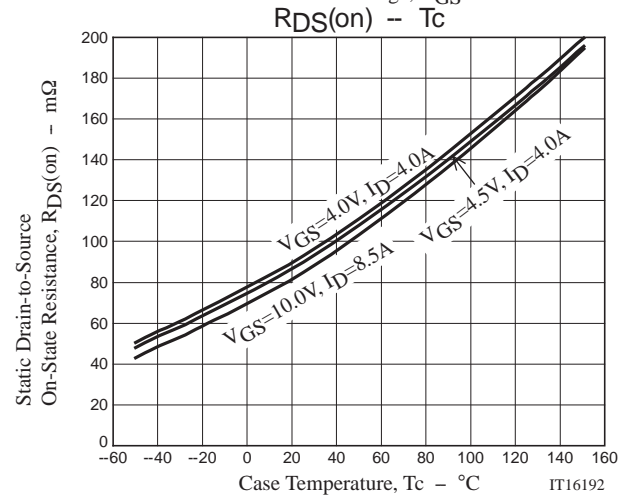
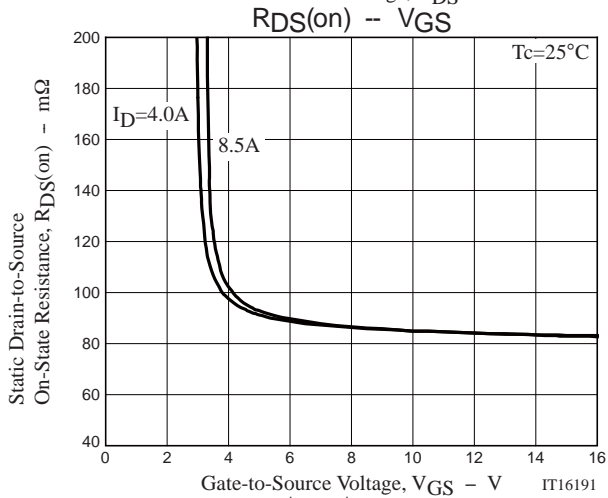
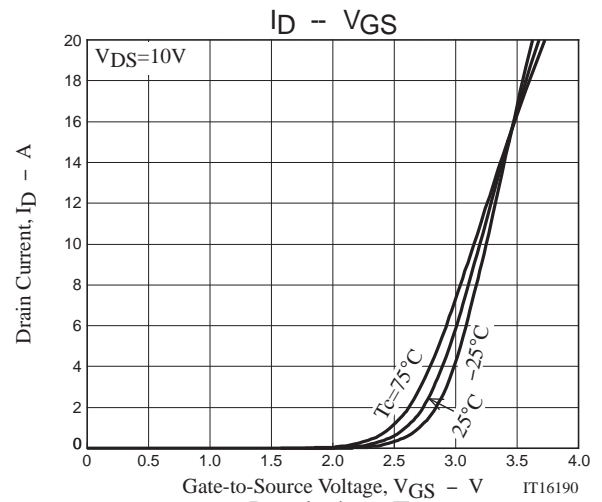
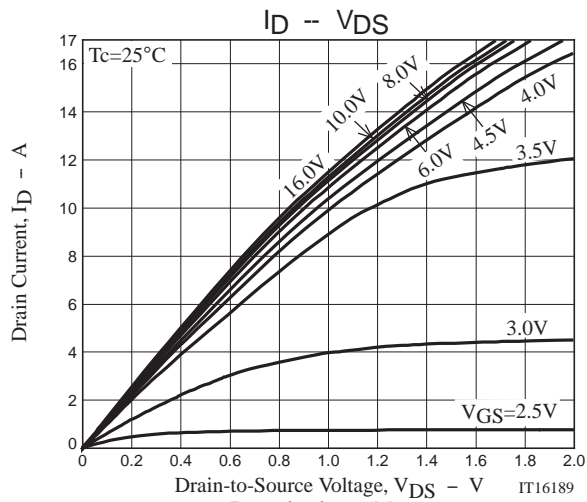
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1mA, V_{GS}=0V$	100			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=100V, V_{GS}=0V$			1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 16V, V_{DS}=0V$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	1.2		2.6	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=8.5A$		8.9		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=8.5A, V_{GS}=10V$		85	111	$m\Omega$
	$R_{DS(on)2}$	$I_D=4A, V_{GS}=4.5V$		90	126	$m\Omega$
	$R_{DS(on)3}$	$I_D=4A, V_{GS}=4V$		93	130	$m\Omega$
Input Capacitance	C_{iss}	$V_{DS}=20V, f=1MHz$		1030		pF
Output Capacitance	C_{oss}			78		pF
Reverse Transfer Capacitance	C_{rss}			42		pF
Turn-ON Delay Time	$t_d(on)$			10		ns
Rise Time	t_r	See specified Test Circuit.		35		ns
Turn-OFF Delay Time	$t_d(off)$			60		ns
Fall Time	t_f			60		ns
Total Gate Charge	Q_g	$V_{DS}=50V, V_{GS}=10V, I_D=17A$		19		nC
Gate-to-Source Charge	Q_{gs}			3.6		nC
Gate-to-Drain "Miller" Charge	Q_{gd}			3.8		nC
Diode Forward Voltage	V_{SD}	$I_S=17A, V_{GS}=0V$		0.96	1.2	V

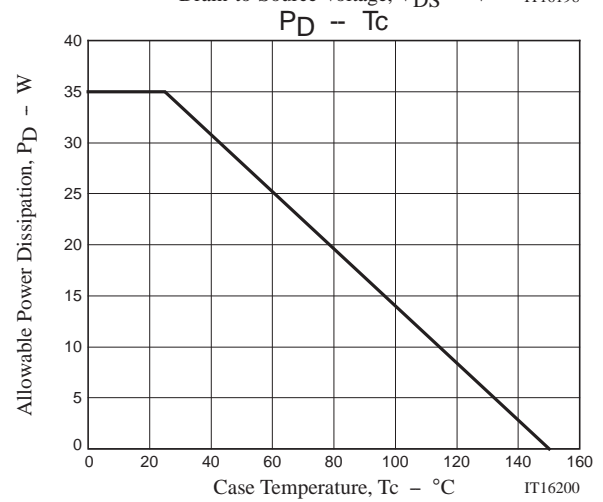
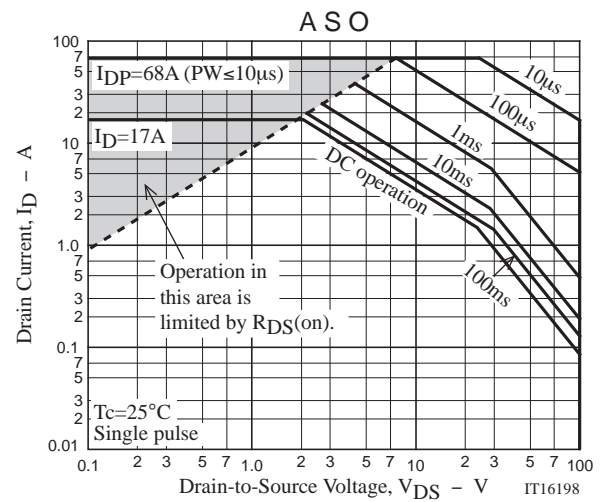
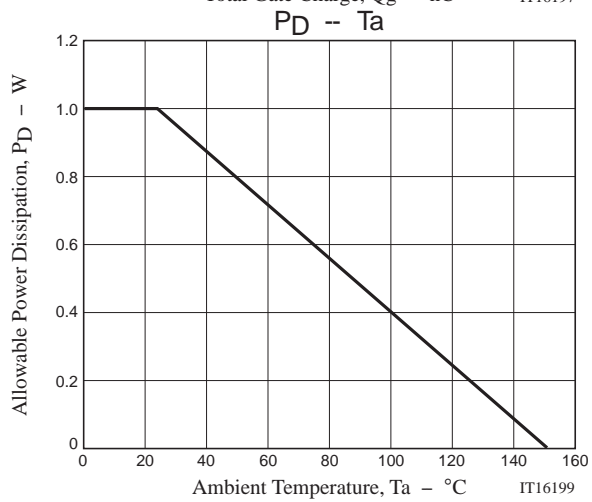
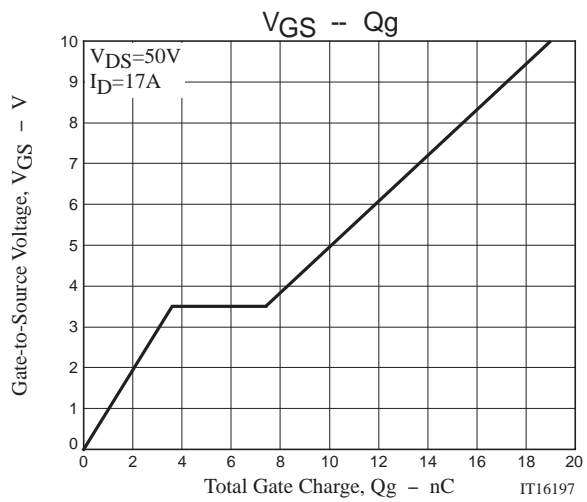
Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
SFT1445-H	TP	500pcs./bag	Pb Free and Halogen Free
SFT1445-TL-H	TP-FA	700pcs./reel	





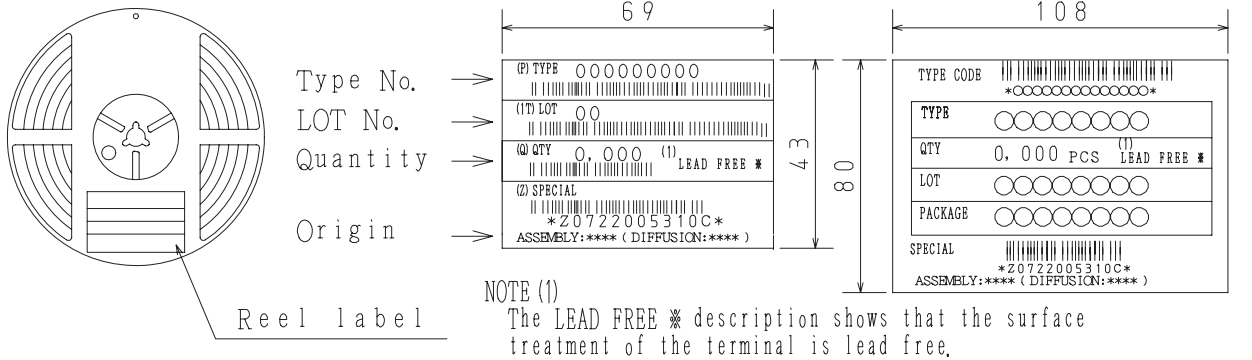
Taping Specification

SFT1445-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

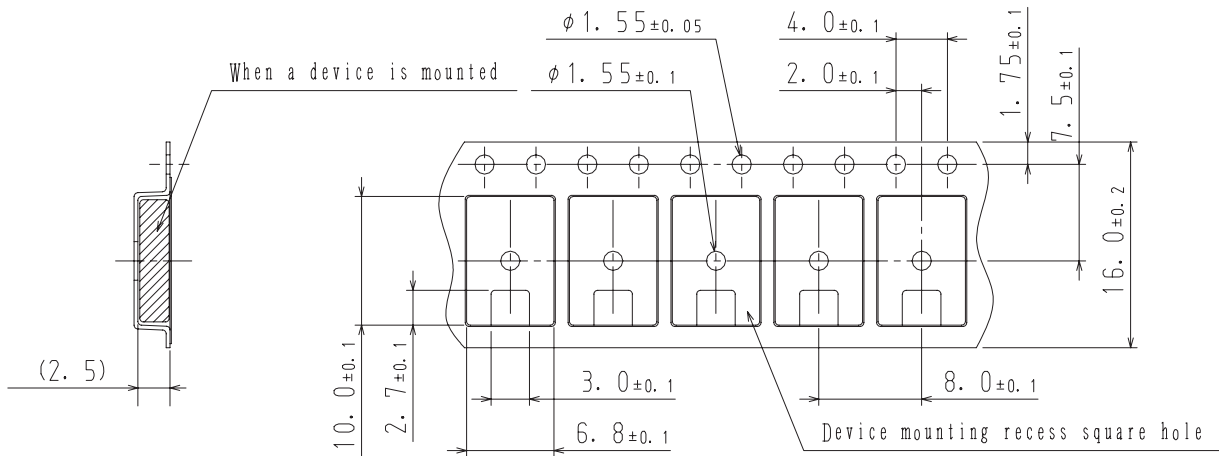
Packing method



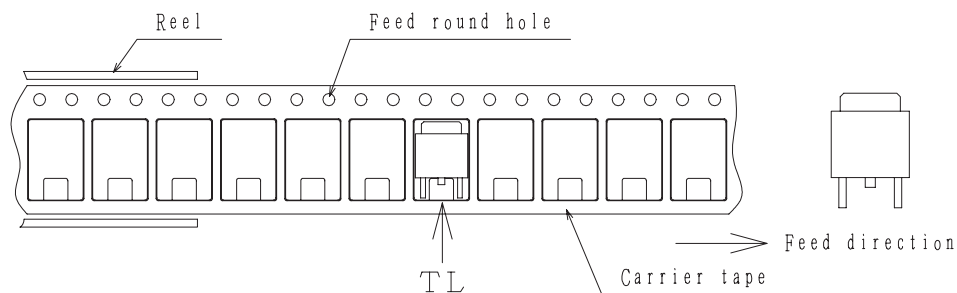
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

Taping configuration

1. Carrier tape size (unit:mm)



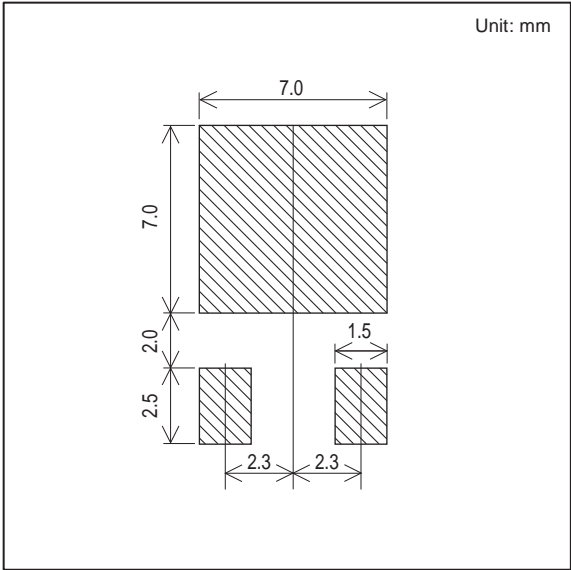
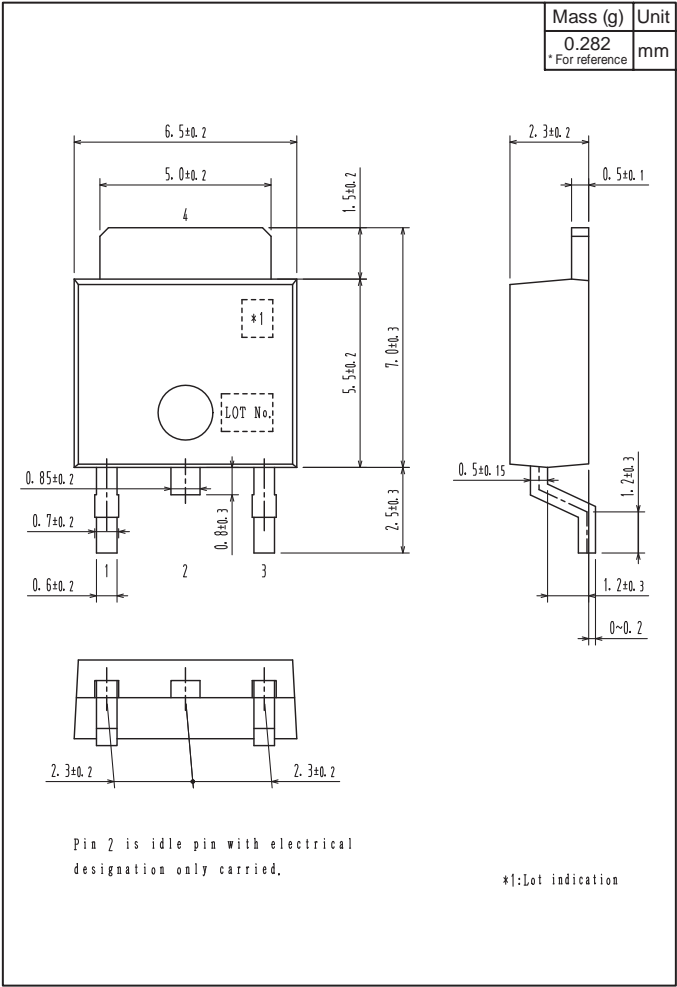
2. Device placement direction



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

Outline Drawing
SFT1445-TL-H

Land Pattern Example

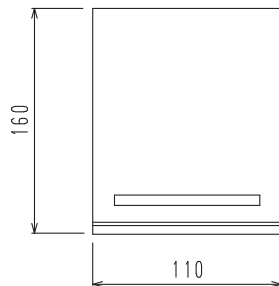
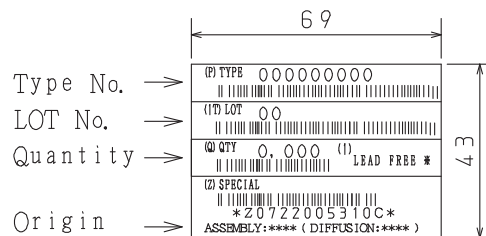


Bag Packing Specification

SFT1445-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

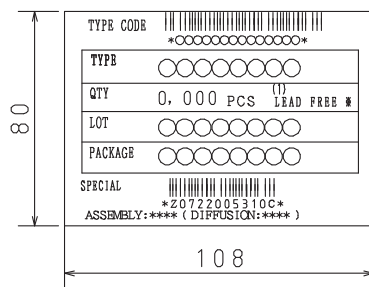
2. Bag dimensions
(unit:mm)3. Bag label, Inner box label
(unit:mm)4. Outer box label
(unit:mm)

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

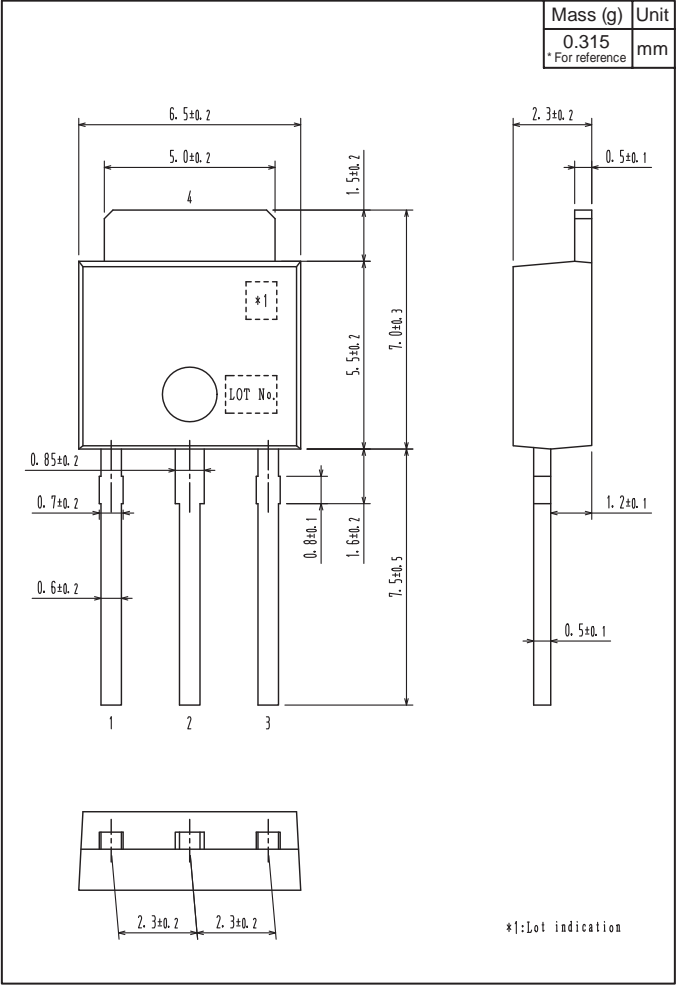
NOTE (1)

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
SFT1445-H



Note on usage : Since the SFT1445 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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