



SFT1446 — N-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- ON-resistance $R_{DS(on)1}=39m\Omega$ (typ.)
- 4V drive
- Protection diode in
- Input Capacitance $C_{iss}=750pF$ (typ.)
- Halogen free compliance

Specifications

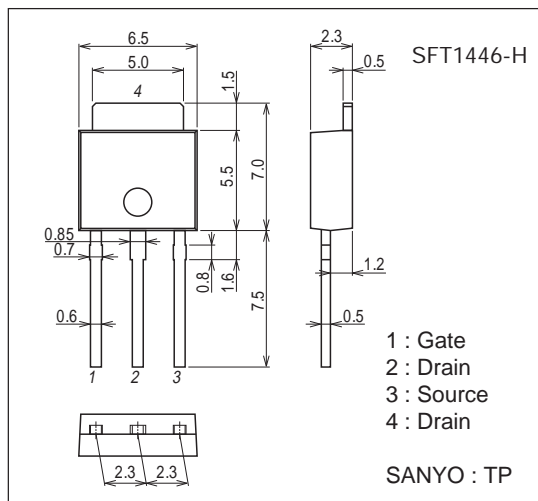
Absolute Maximum Ratings at $T_a=25^\circ C$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		60	V
Gate-to-Source Voltage	V_{GSS}		± 20	V
Drain Current (DC)	I_D		20	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$	80	A
Allowable Power Dissipation	PD		1	W
		$T_c=25^\circ C$	23	W
Channel Temperature	T_{ch}		150	$^\circ C$
Storage Temperature	T_{stg}		-55 to +150	$^\circ C$

Package Dimensions

unit : mm (typ)

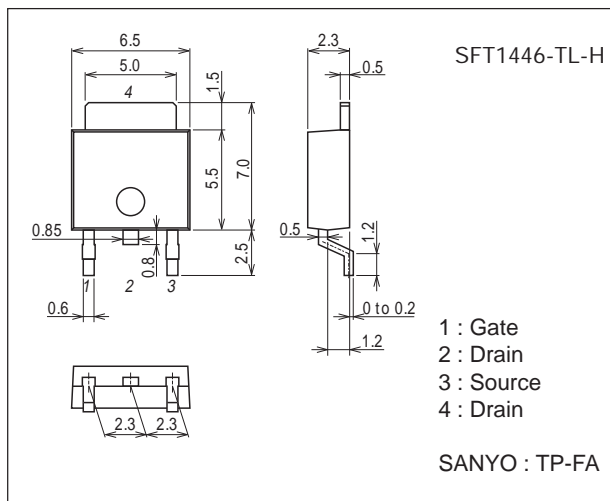
7518-004



Package Dimensions

unit : mm (typ)

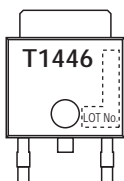
7003-004



Product & Package Information

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

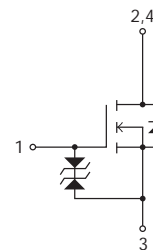
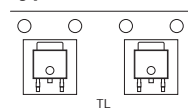
Marking(TP, TP-FA)



Product & Package Information

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

Taping Type(TP-FA) : TL

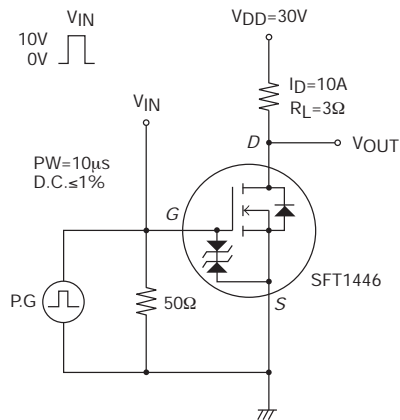


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Electrical Characteristics at Ta=25°C

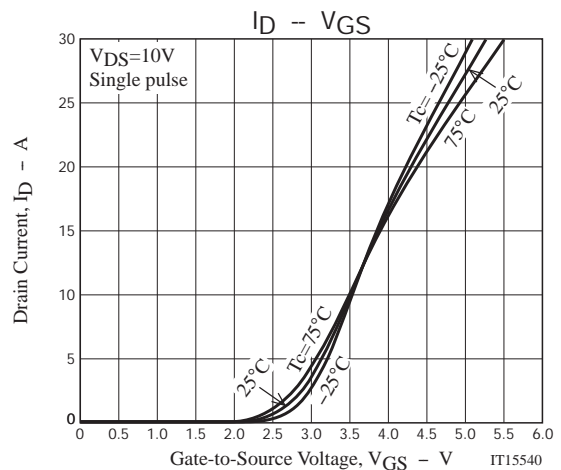
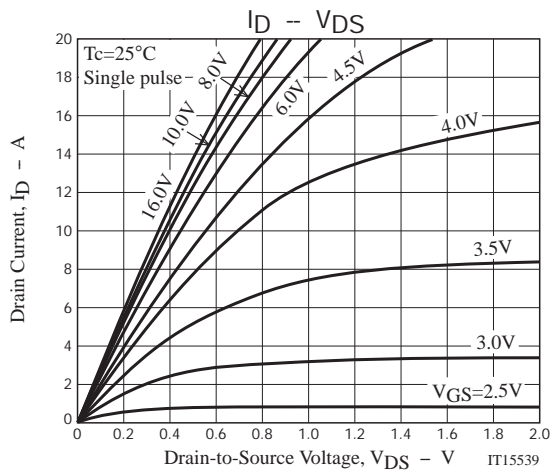
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=1mA, VGS=0V	60			V
Zero-Gate Voltage Drain Current	IDSS	VDS=60V, VGS=0V			1	μA
Gate-to-Source Leakage Current	IGSS	VGS=±16V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=10V, ID=1mA	1.2		2.6	V
Forward Transfer Admittance	yfs	VDS=10V, ID=10A		7.0		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=10A, VGS=10V		39	51	mΩ
	RDS(on)2	ID=5A, VGS=4.5V		54	76	mΩ
	RDS(on)3	ID=5A, VGS=4V		62	87	mΩ
Input Capacitance	Ciss	VDS=20V, f=1MHz		750		pF
Output Capacitance	Coss			59		pF
Reverse Transfer Capacitance	Crss			47		pF
Turn-ON Delay Time	t _{d(on)}		See specified Test Circuit.		8.5	
Rise Time	t _r			31		ns
Turn-OFF Delay Time	t _{d(off)}			60		ns
Fall Time	t _f			48		ns
Total Gate Charge	Qg	VDS=30V, VGS=10V, ID=14A			16	
Gate-to-Source Charge	Qgs			3.3		nC
Gate-to-Drain "Miller" Charge	Qgd			3.6		nC
Diode Forward Voltage	VSD	IS=20A, VGS=0V		1.01	1.2	V

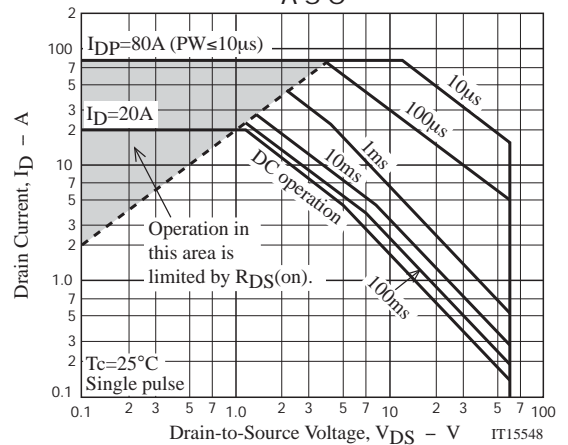
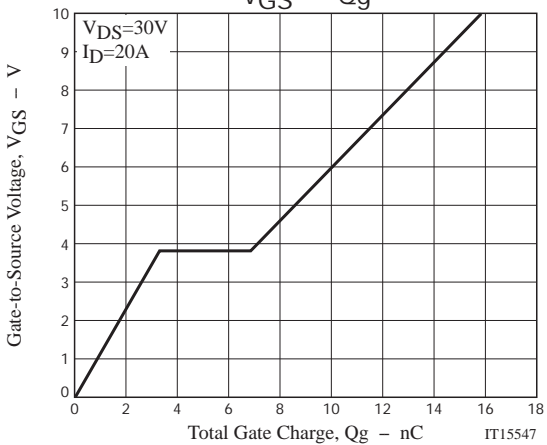
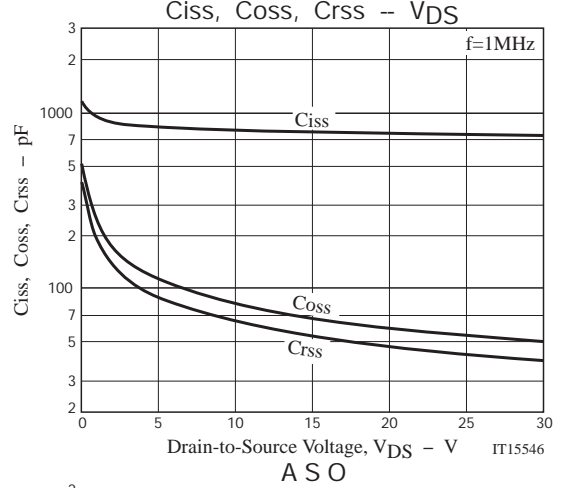
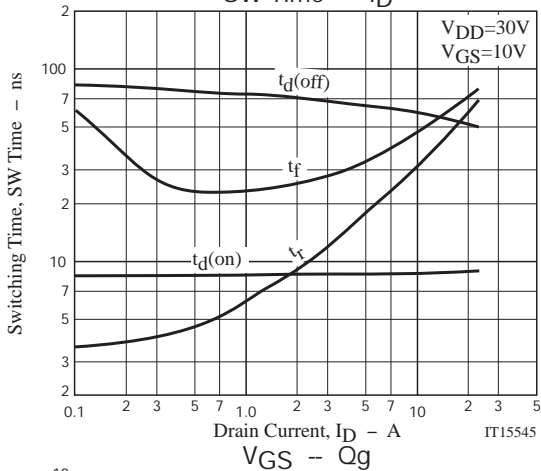
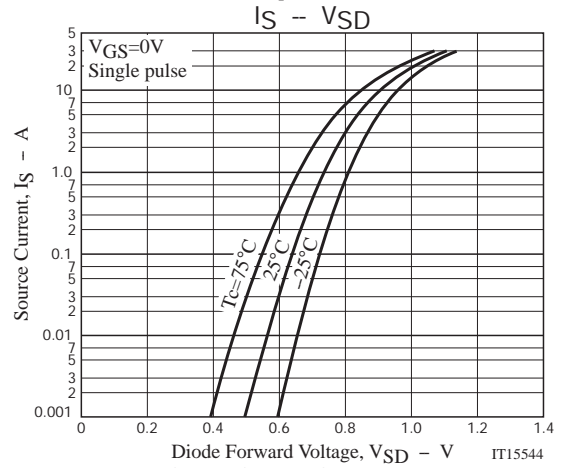
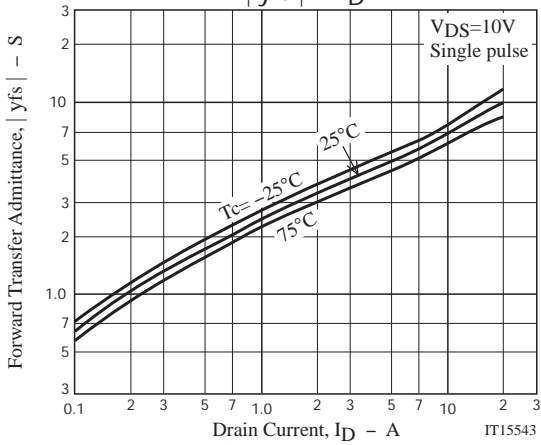
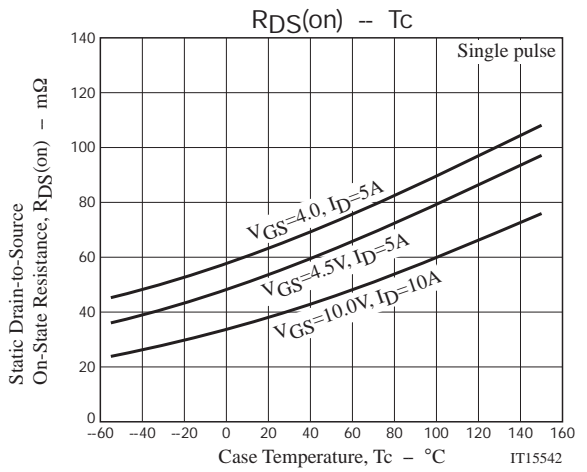
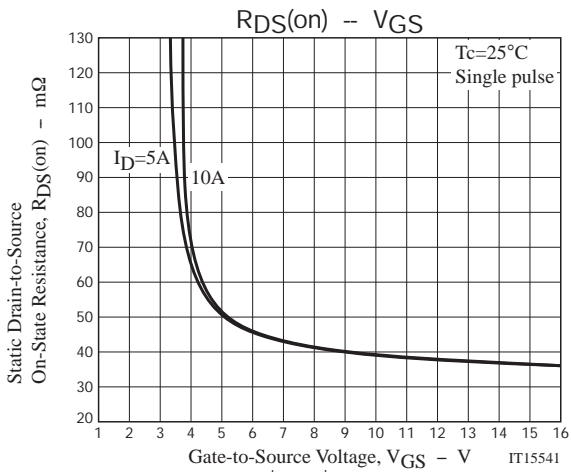
Switching Time Test Circuit

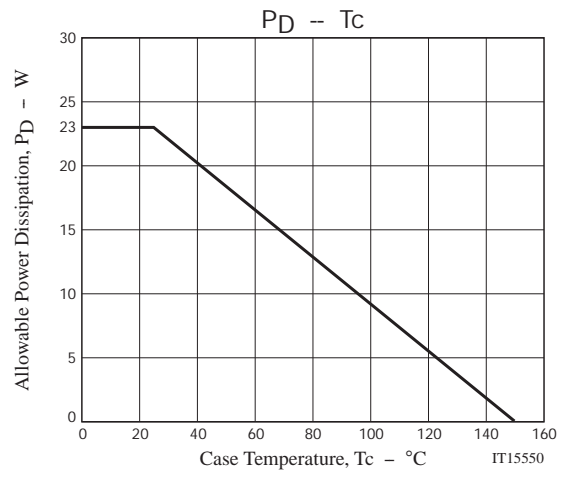
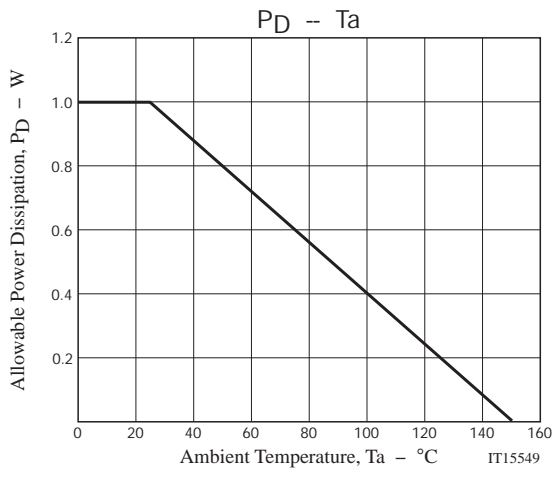


Ordering Information

Device	Package	Shipping	memo
SFT1446-H	TP	500pcs./bag	Pb Free and Halogen Free
SFT1446-TL-H	TP-FA	700pcs./reel	







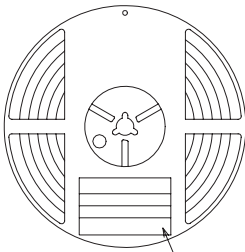
Taping Specification

SFT1446-TL-H

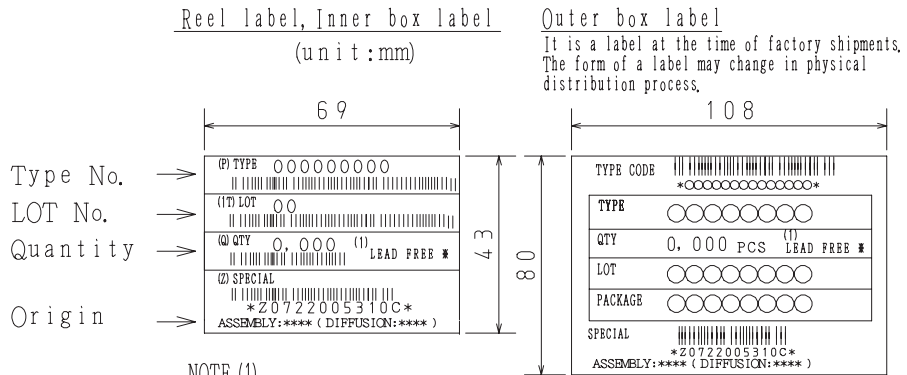
Packing Format

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



Reel label



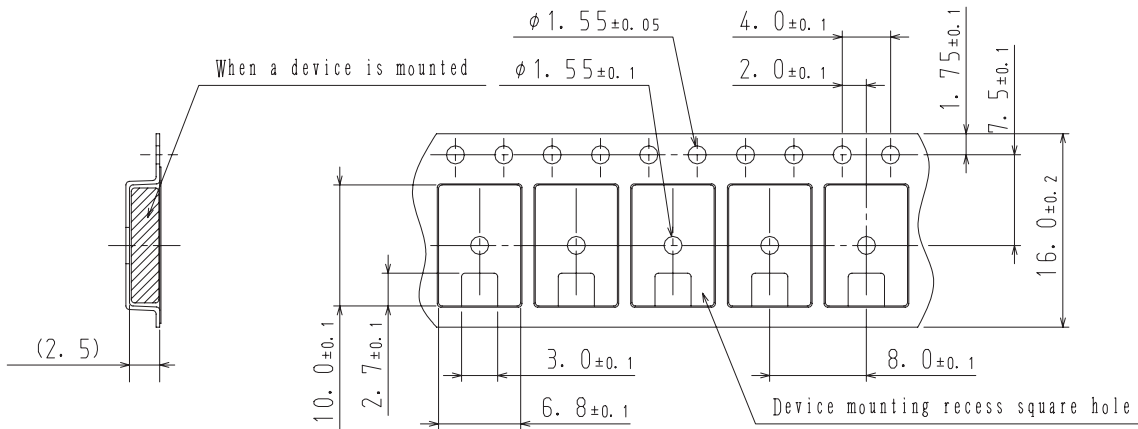
NOTE (1)

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

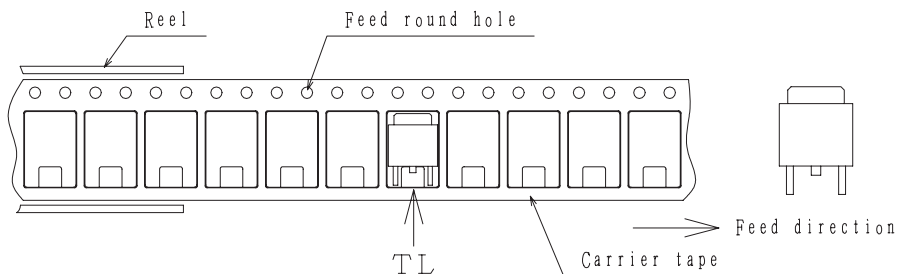
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

Taping configuration

1. Carrier tape size (unit:mm)



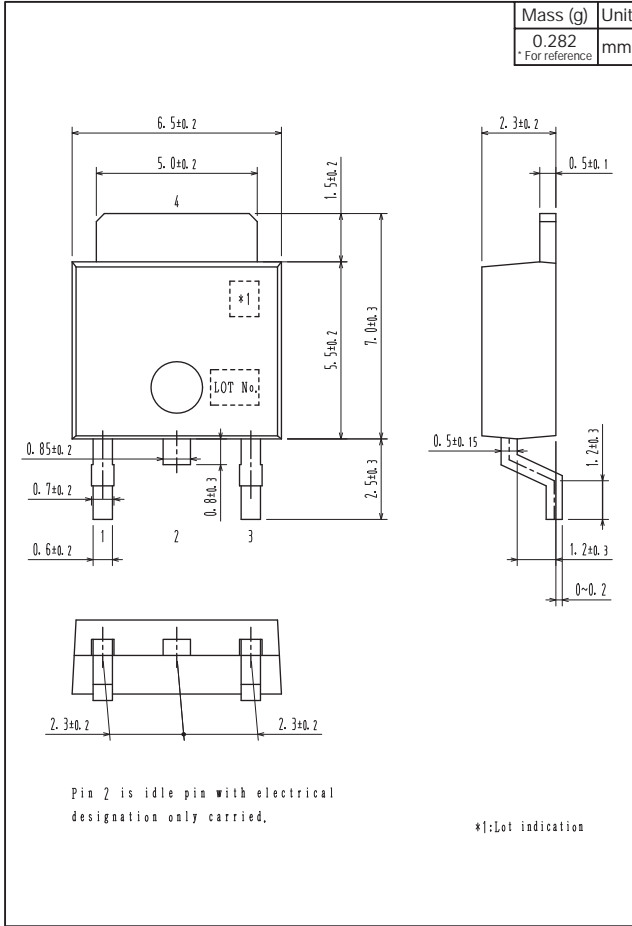
2. Device placement direction



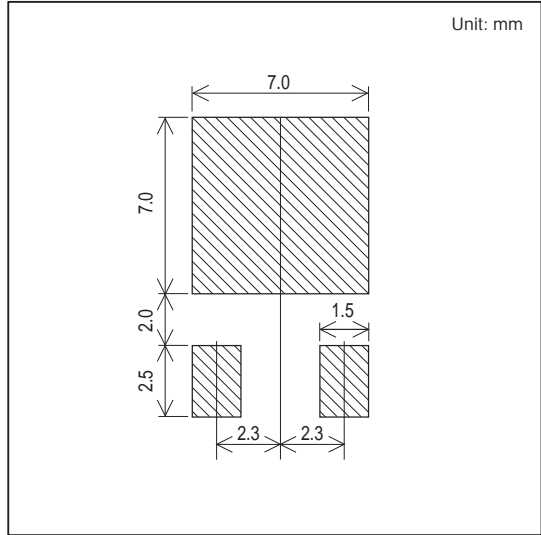
Those with one electrode terminal on the feed hole side.....TL

SFT1446

Outline Drawing SFT1446-TL-H



Land Pattern Example



SFT1446

Bag Packing Specification

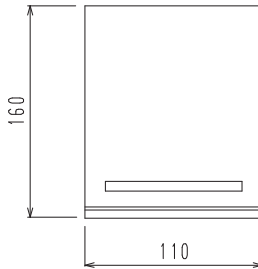
SFT1446-H

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

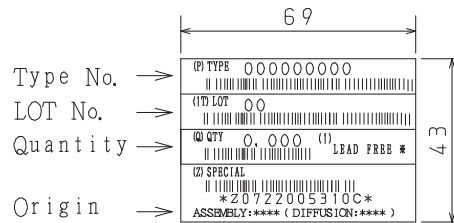
2. Bag dimensions

(unit:mm)



3. Bag label, Inner box label

(unit:mm)



4. Outer box label

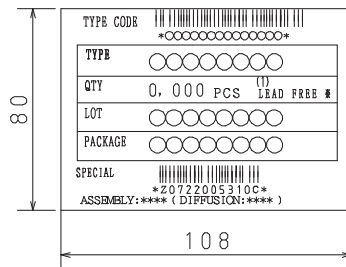
(unit:mm)

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

NOTE (1)

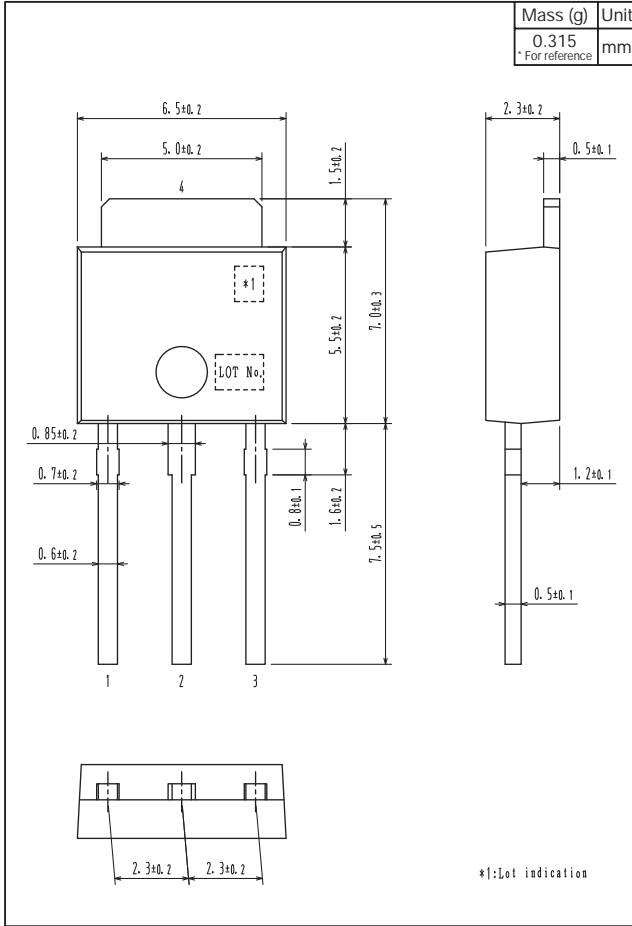
The LEAD FREE * description shows that the
surface treatment of the terminal is lead free.

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



SFT1446

Outline Drawing SFT1446-H



Note on usage : Since the SFT1446 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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