



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

SFT1440 — N-Channel Silicon MOSFET General-Purpose Switching Device Applications

Features

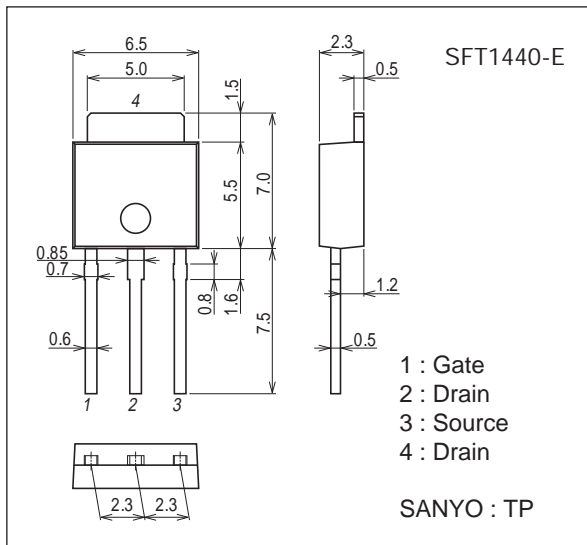
- ON-resistance $R_{DS(on)}=6.2\Omega(\text{typ.})$
- Protection diode in

Specifications

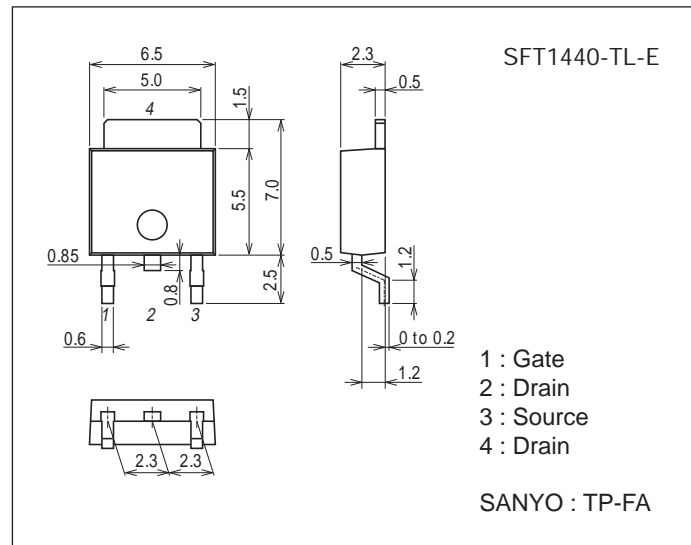
Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		600	V
Gate-to-Source Voltage	V_{GSS}		± 30	V
Drain Current (DC)	I_D		1.5	A
Drain Current ($PW \leq 10\mu\text{s}$)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycles $\leq 1\%$	6.0	A
Allowable Power Dissipation	P_D		1.0	W
		$T_c=25^\circ\text{C}$	20	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



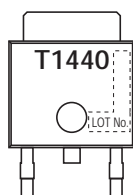
Package Dimensions unit : mm (typ)
7003-004



Product & Package Information

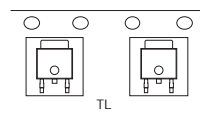
- Package : TP
- JEITA, JEDEC : SC-64, TO-251
- Minimum Packing Quantity : 500 pcs./bag

Marking
(TP, TP-FA)

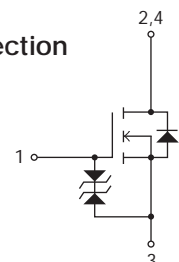


- Package : TP-FA
- JEITA, JEDEC : SC-63, TO-252
- Minimum Packing Quantity : 700 pcs./reel

Packing Type (TP-FA) : TL



Electrical Connection
(TP, TP-FA)

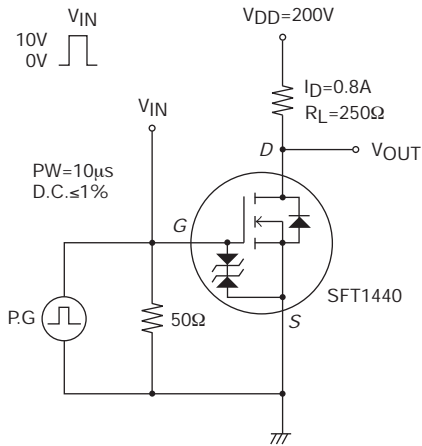


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Electrical Characteristics at Ta=25°C

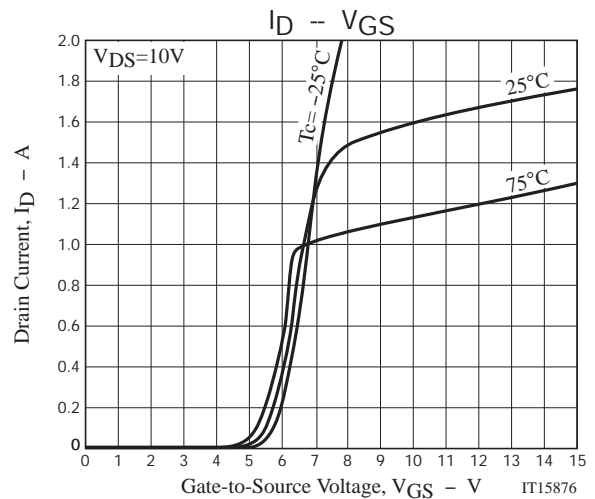
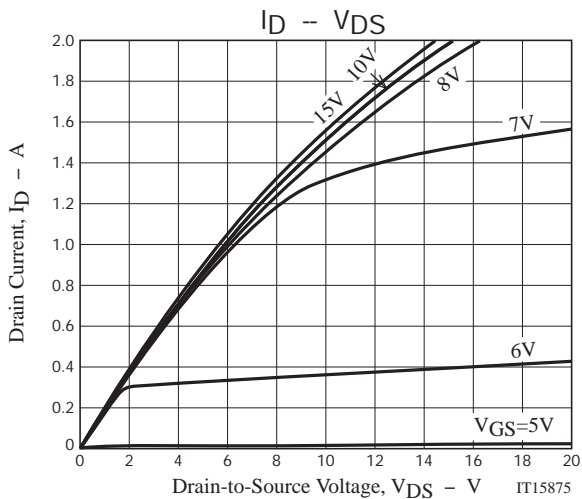
Parameter	Symbol	Conditions	Ratings			Unit	
			min	typ	max		
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=10mA, V_{GS}=0V$	600			V	
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=480V, V_{GS}=0V$			100	μA	
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 24V, V_{DS}=0V$			± 10	μA	
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	3.0		5.0	V	
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=0.8A$		1.0		S	
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=0.8A, V_{GS}=10V$		6.2	8.1	Ω	
Input Capacitance	C_{iss}	$V_{DS}=30V, f=1MHz$		130		pF	
Output Capacitance	C_{oss}				25		pF
Reverse Transfer Capacitance	C_{rss}				4.0		pF
Turn-ON Delay Time	$t_{d(on)}$				9.1		ns
Rise Time	t_r	See specified Test Circuit.			15	ns	
Turn-OFF Delay Time	$t_{d(off)}$				18	ns	
Fall Time	t_f				19	ns	
Total Gate Charge	Q_g	$V_{DS}=300V, V_{GS}=10V, I_D=1.5A$		6.3		nC	
Gate-to-Source Charge	Q_{gs}				1.4	nC	
Gate-to-Drain "Miller" Charge	Q_{gd}				3.6	nC	
Diode Forward Voltage	V_{SD}	$I_S=1.5A, V_{GS}=0V$		0.85	1.2	V	

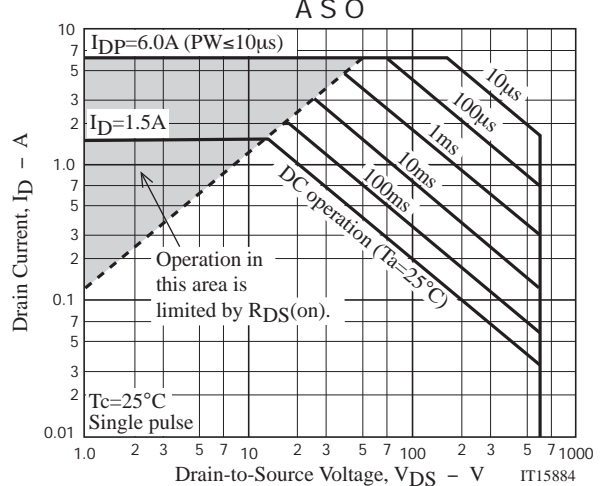
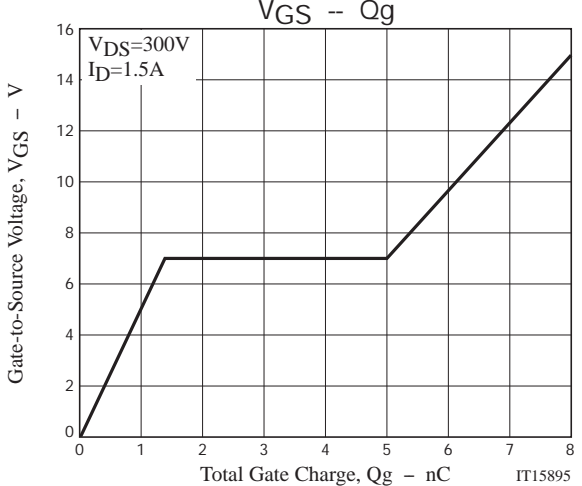
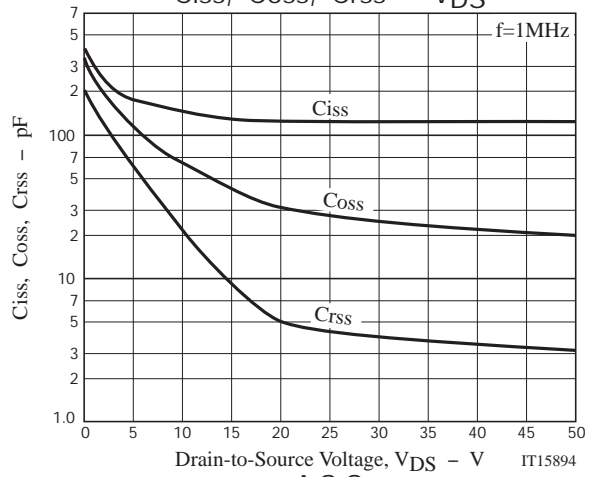
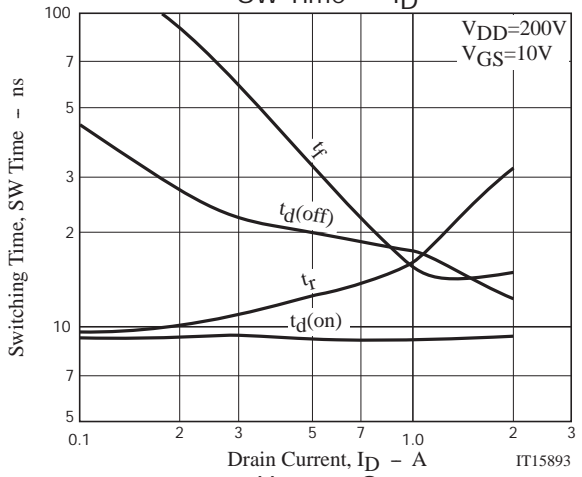
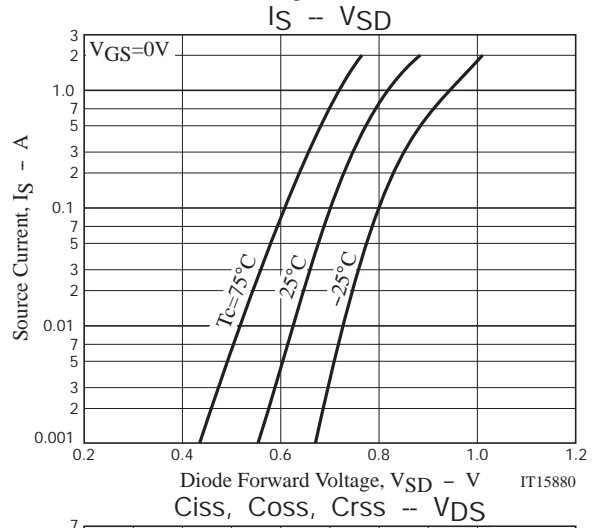
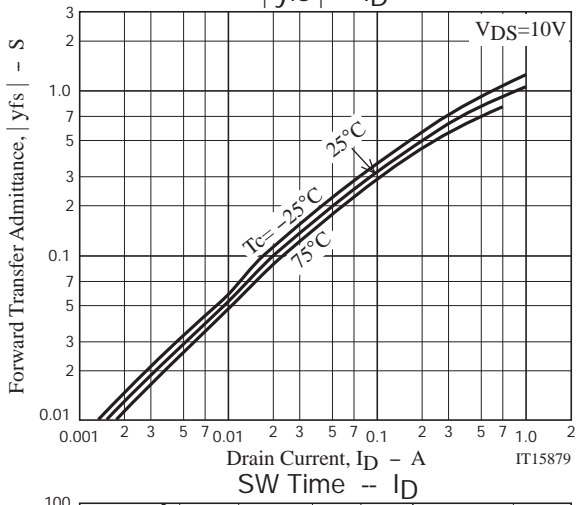
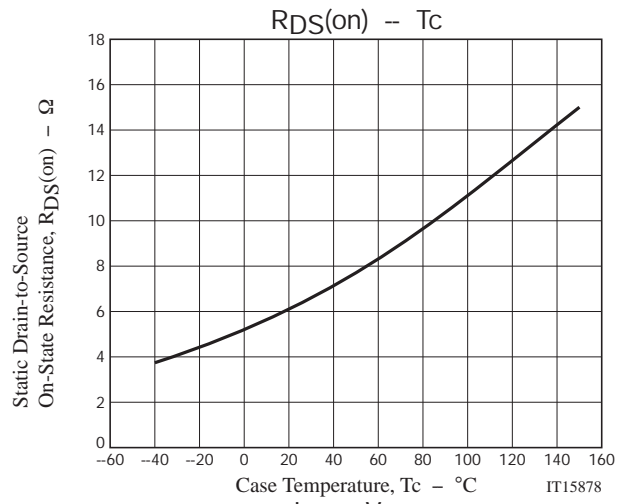
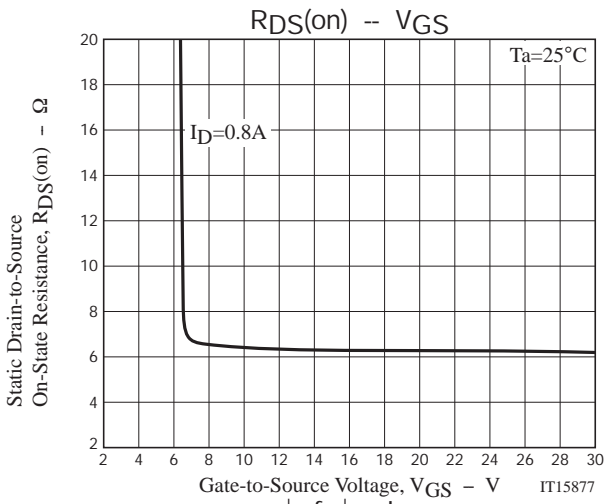
Switching Time Test Circuit



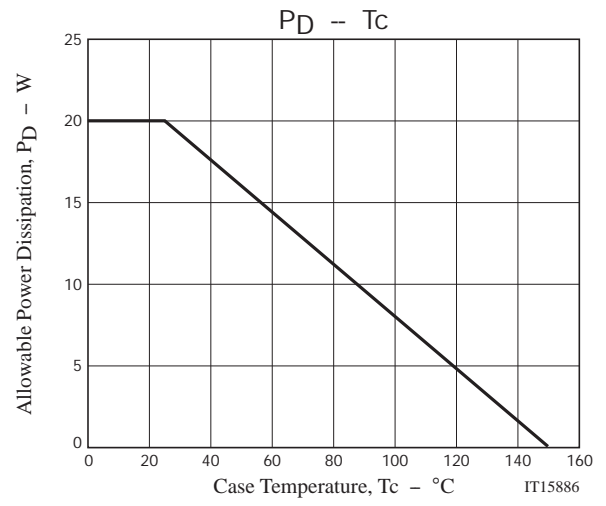
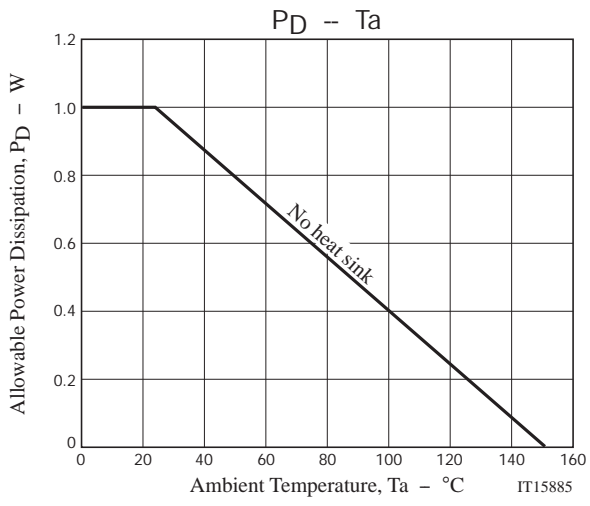
Ordering Information

Device	Package	Shipping	memo
SFT1440-E	TP	500pcs./bag	Pb Free
SFT1440-TL-E	TP-FA	700pcs./reel	





SFT1440



Taping Specification

SFT1440-TL-E

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



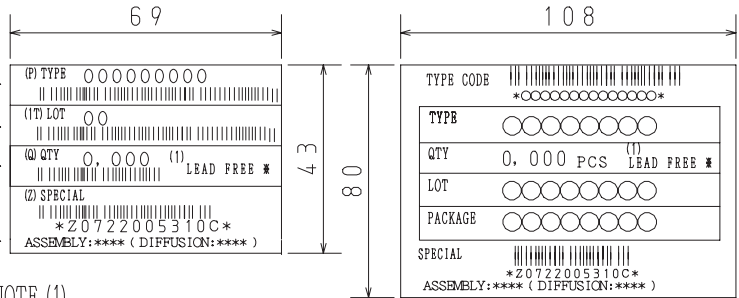
Type No.
LOT No.
Quantity
Origin

Reel label

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.



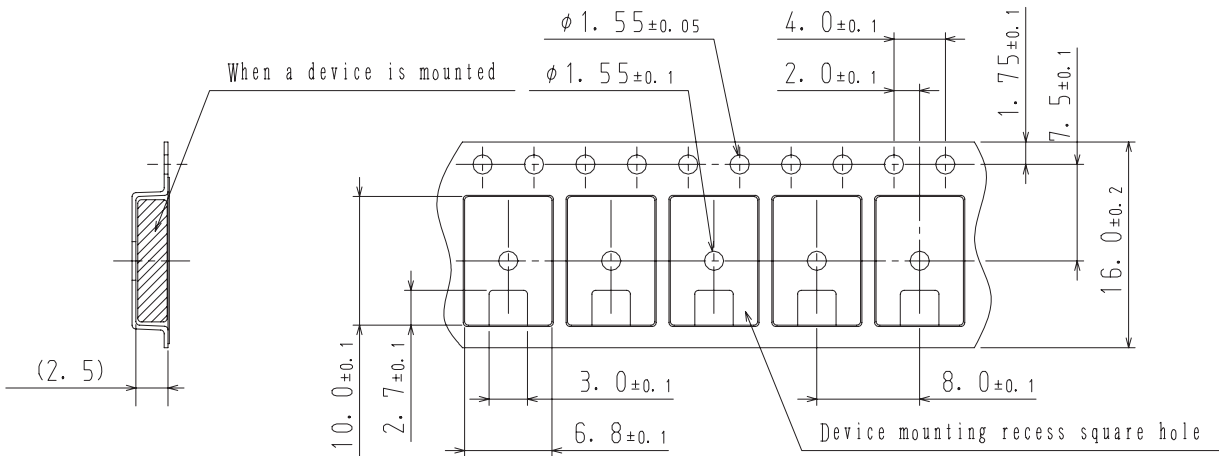
NOTE (1)

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

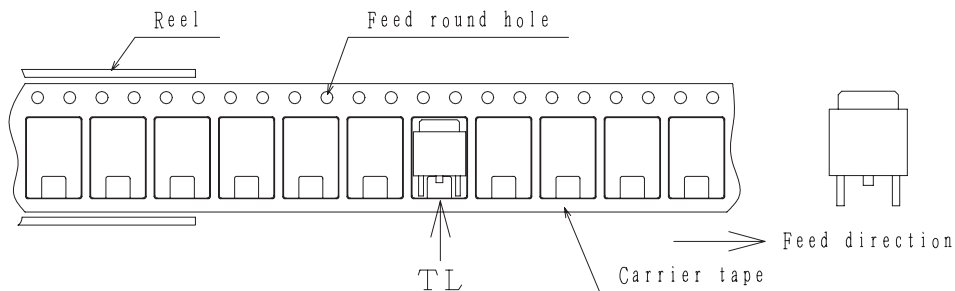
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

Taping configuration

1. Carrier tape size (unit:mm)



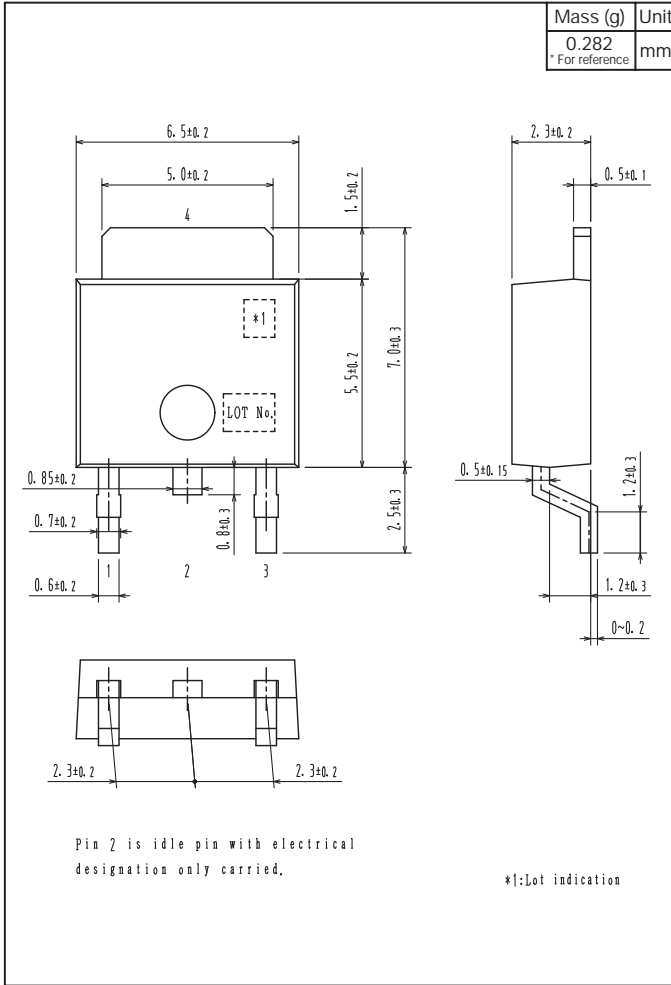
2. Device placement direction



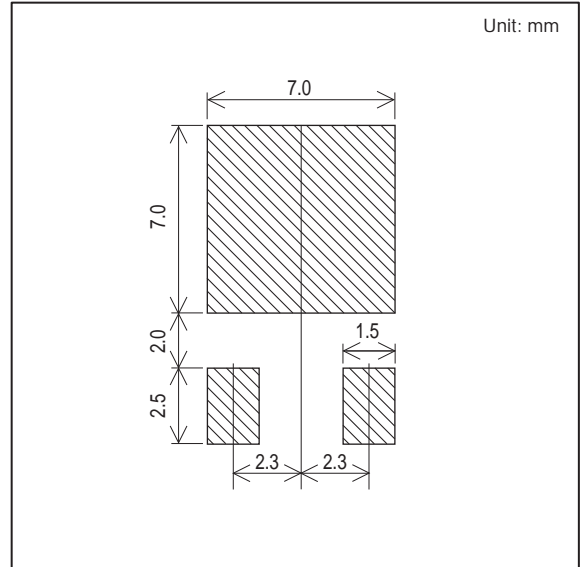
Those with one electrode terminal on the feed hole side.....TL

SFT1440

Outline Drawing SFT1440-TL-E



Land Pattern Example



SFT1440

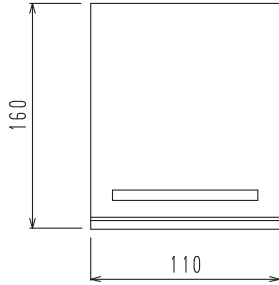
Bag Packing Specification

SFT1440-E

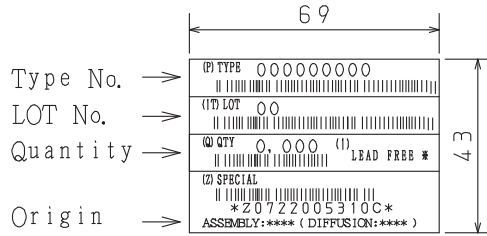
1. Packing Format

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)



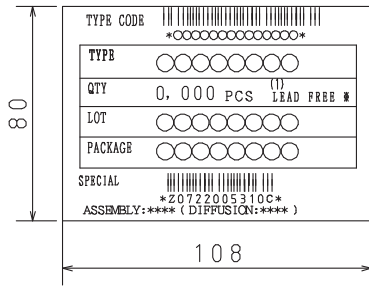
4. Outer box label (unit:mm)

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.

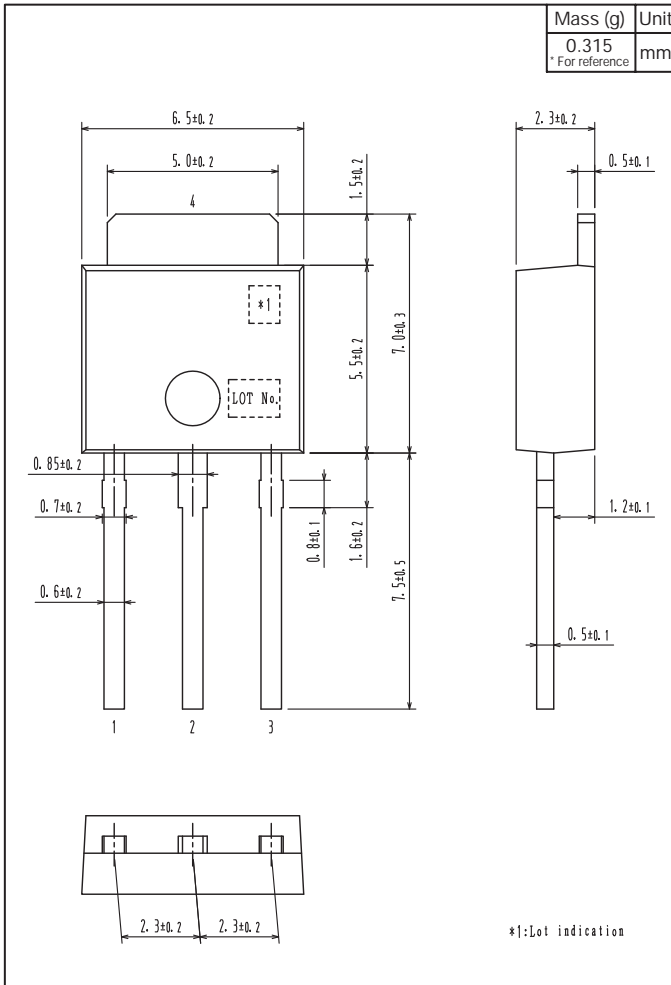
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3



SFT1440

Outline Drawing

SFT1440-E



Note on usage : Since the SFT1440 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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