



SFT1445

N-Channel Power MOSFET 100V, 17A, 111mΩ, Single TP/TP-FA

ON Semiconductor®

<http://onsemi.com>

Features

- ON-resistance $R_{DS(on)1}=85m\Omega$ (typ.)
- Input Capacitance $C_{iss}=1030pF$ (typ.)
- 4V drive
- Halogen free compliance
- Protection diode in

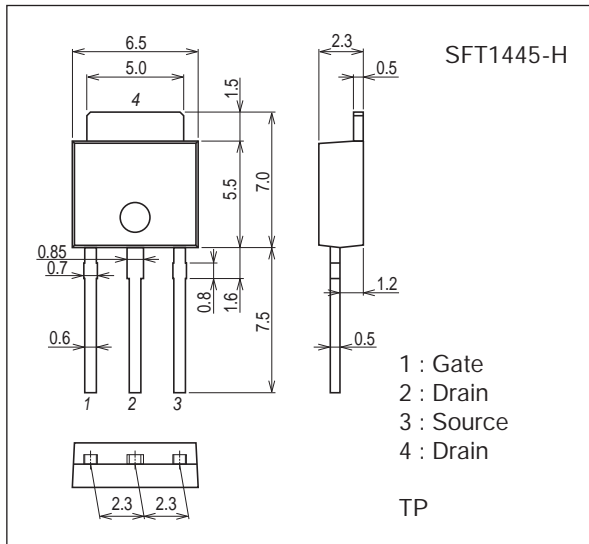
Specifications

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

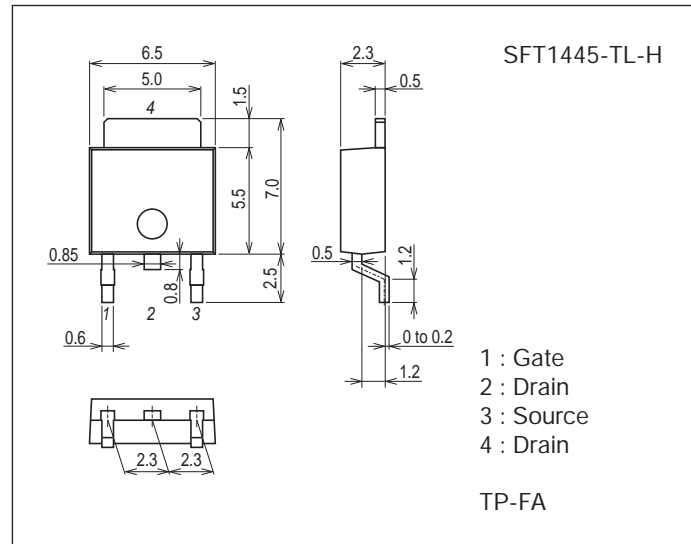
Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		100	V
Gate-to-Source Voltage	V_{GSS}		± 20	V
Drain Current (DC)	I_D		17	A
Drain Current (PW $\leq 10\mu s$)	I_{DP}	PW $\leq 10\mu s$, duty cycle $\leq 1\%$	68	A
Allowable Power Dissipation	P_D		1.0	W
		$T_c=25^\circ C$	35	W
Channel Temperature	T_{ch}		150	$^\circ C$
Storage Temperature	T_{stg}		-55 to +150	$^\circ C$

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

Package Dimensions unit : mm (typ) 7518-004



Package Dimensions unit : mm (typ) 7003-004

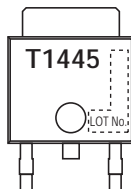


Product & Package Information

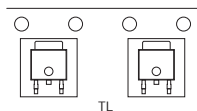
- Package : TP
- JEITA, JEDEC : SC-64, TO-251
- Minimum Packing Quantity : 500 pcs./bag

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

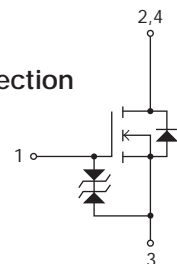
Marking (TP, TP-FA)



Packing Type (TP-FA) : TL



Electrical Connection

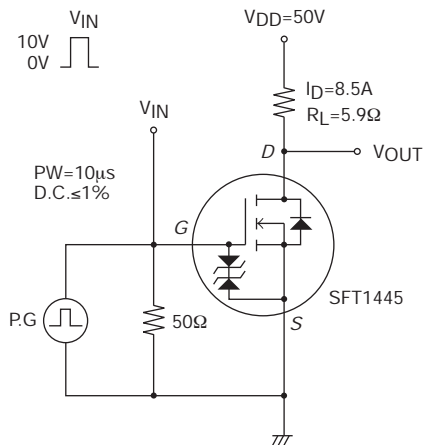


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Electrical Characteristics at Ta=25°C

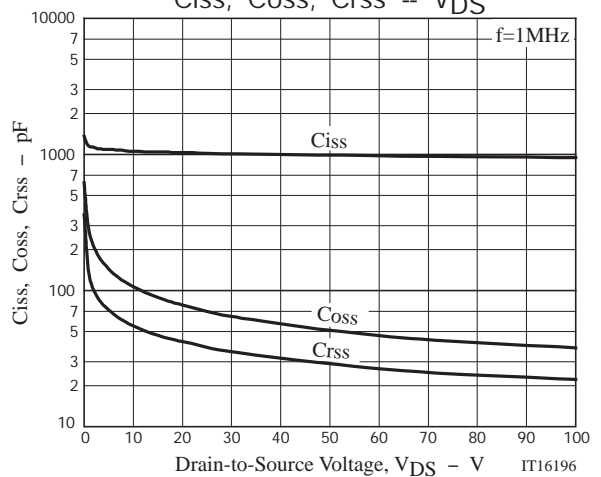
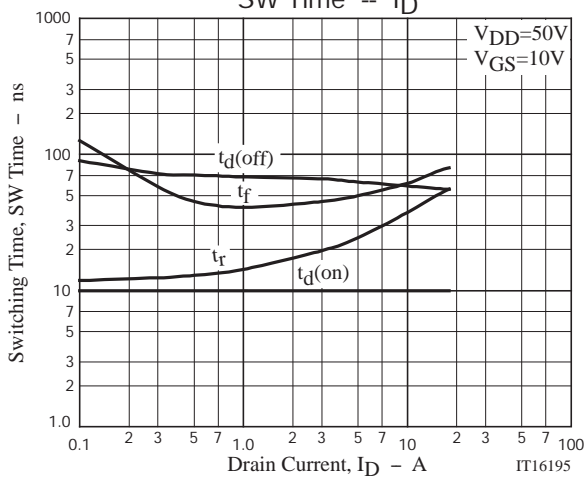
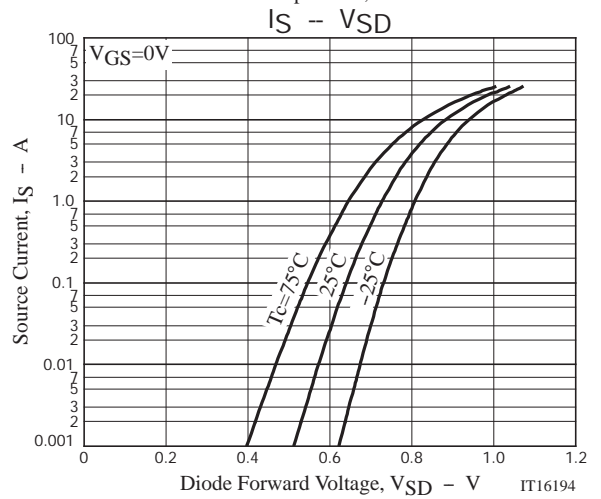
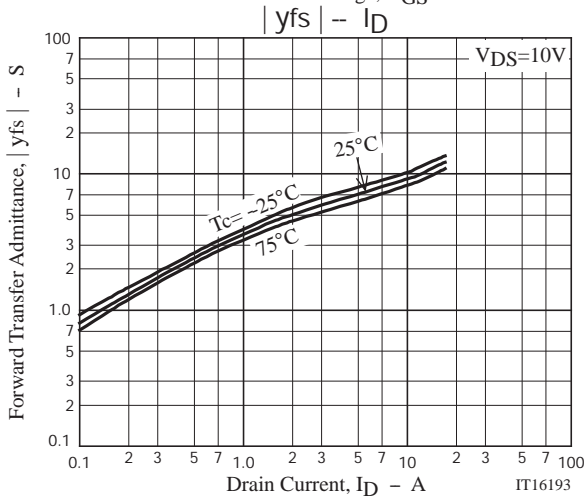
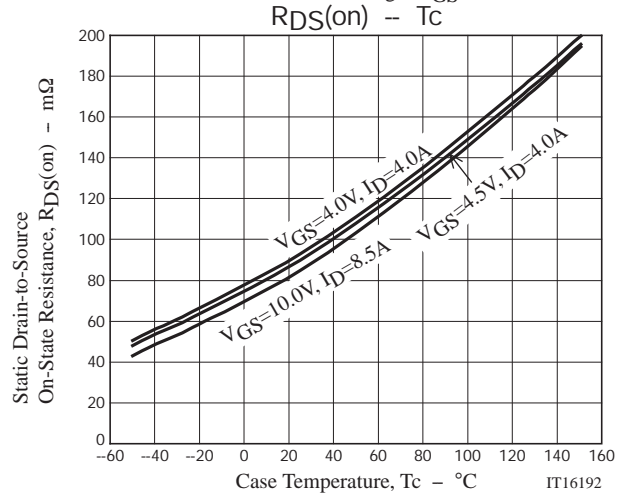
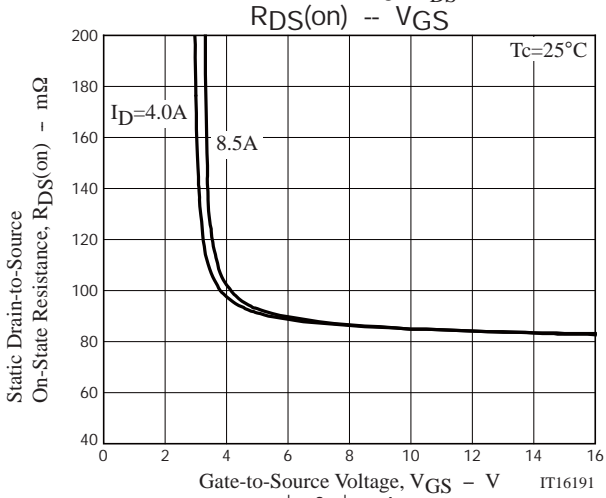
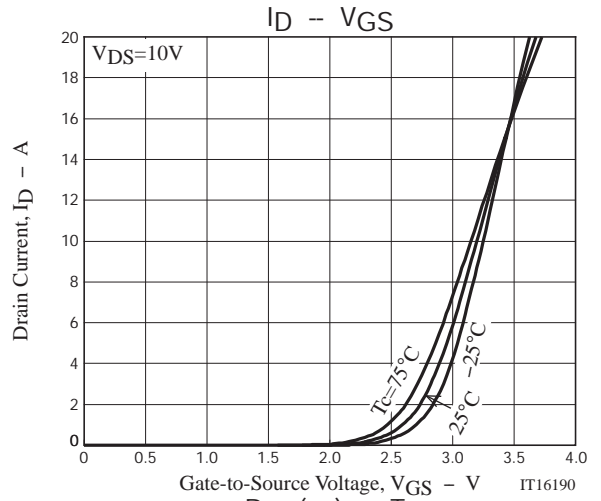
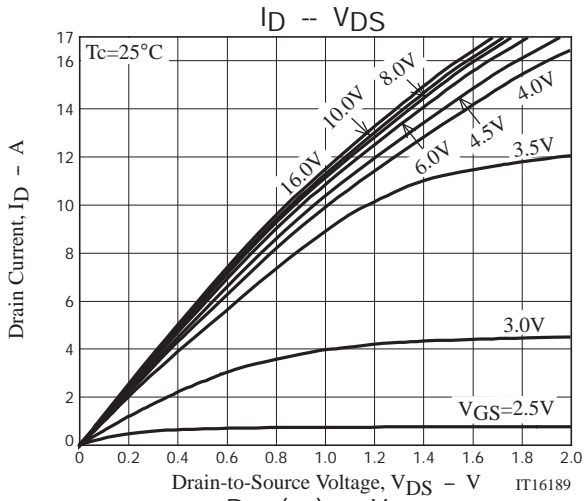
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=1mA, VGS=0V	100			V
Zero-Gate Voltage Drain Current	IDSS	VDS=100V, VGS=0V			1	μA
Gate-to-Source Leakage Current	IGSS	VGS=±16V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=10V, ID=1mA	1.2		2.6	V
Forward Transfer Admittance	yfs	VDS=10V, ID=8.5A		8.9		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=8.5A, VGS=10V		85	111	mΩ
	RDS(on)2	ID=4A, VGS=4.5V		90	126	mΩ
	RDS(on)3	ID=4A, VGS=4V		93	130	mΩ
Input Capacitance	Ciss	VDS=20V, f=1MHz		1030		pF
Output Capacitance	Coss			78		pF
Reverse Transfer Capacitance	Crss			42		pF
Turn-ON Delay Time	td(on)		See specified Test Circuit.		10	
Rise Time	tr			35		ns
Turn-OFF Delay Time	td(off)			60		ns
Fall Time	tf			60		ns
Total Gate Charge	Qg	VDS=50V, VGS=10V, ID=17A			19	
Gate-to-Source Charge	Qgs			3.6		nC
Gate-to-Drain "Miller" Charge	Qgd			3.8		nC
Diode Forward Voltage	VSD		IS=17A, VGS=0V		0.96	1.2

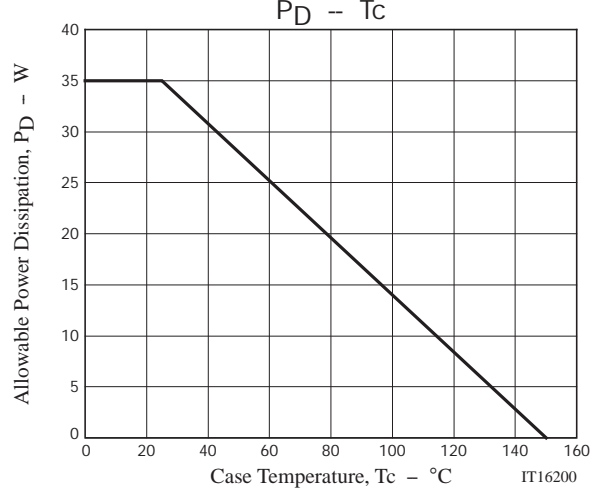
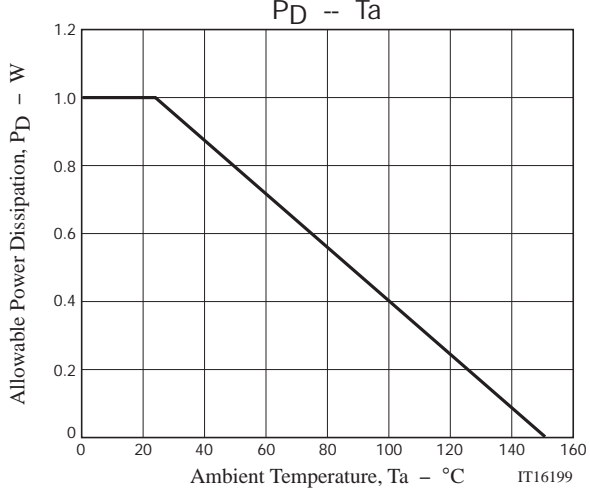
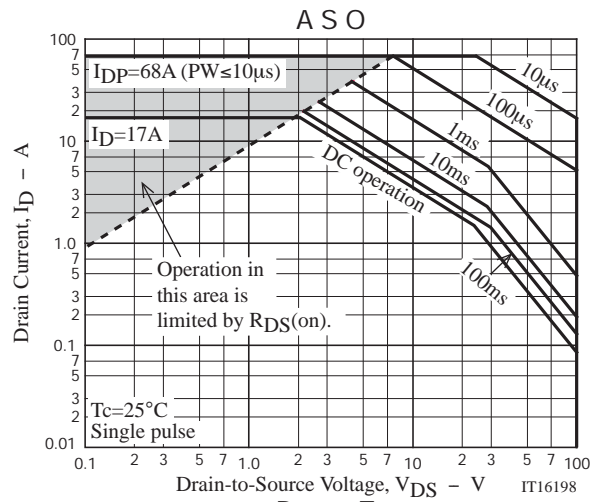
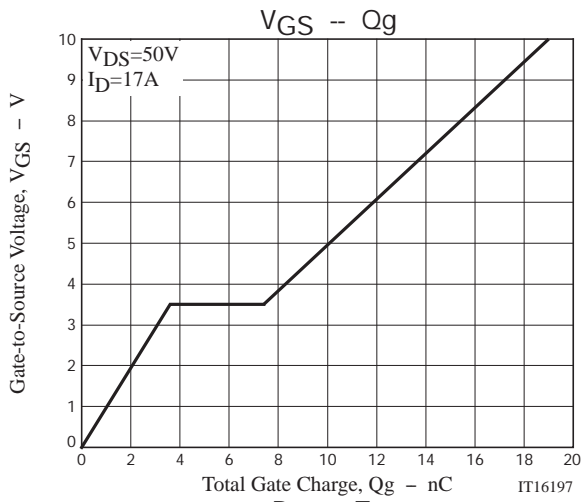
Switching Time Test Circuit



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

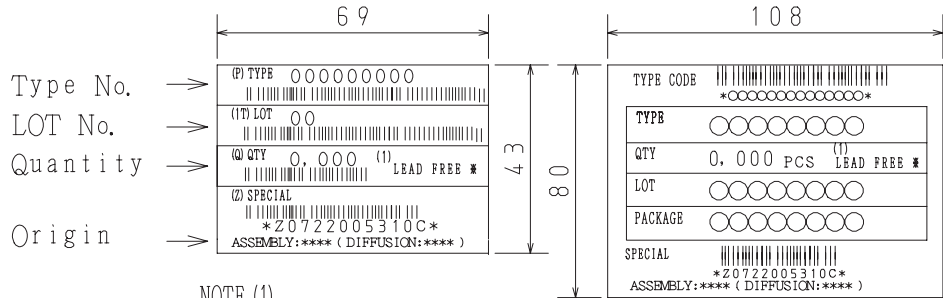
Packing Format

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



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.

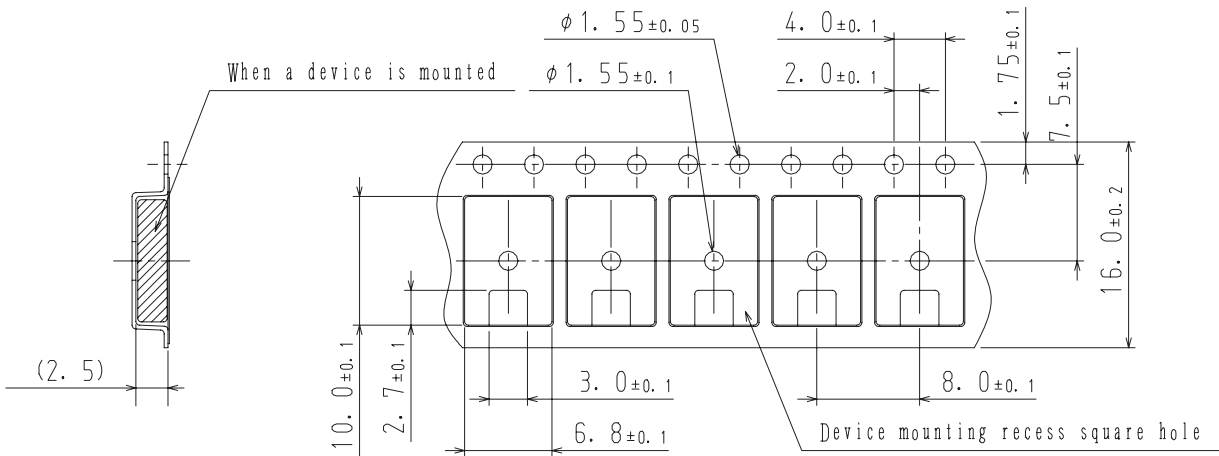


NOTE (1)
The LEAD FREE * description shows that the surface treatment of the terminal is lead free.

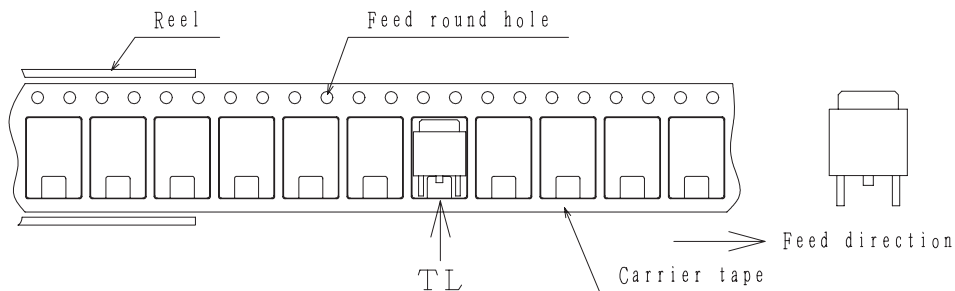
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

Taping configuration

1. Carrier tape size (unit:mm)



2. Device placement direction

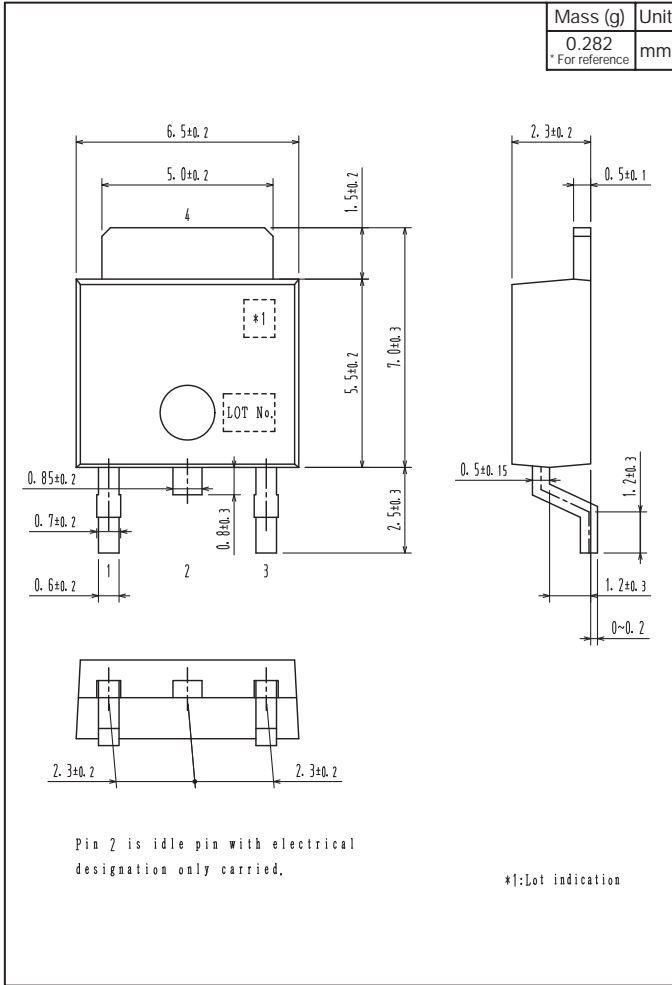


Those with one electrode terminal on the feed hole side.....TL

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Outline Drawing

SFT1445-TL-H



Land Pattern Example



SFT1445

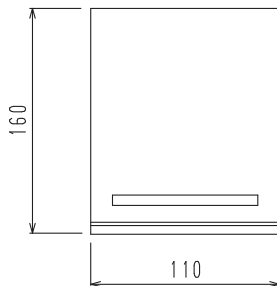
Bag Packing Specification

SFT1445-H

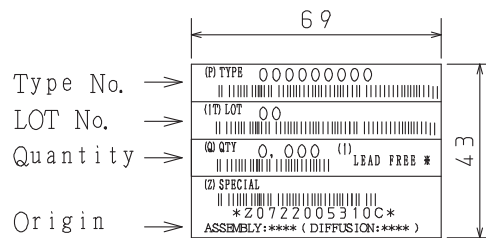
1. Packing Format

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)



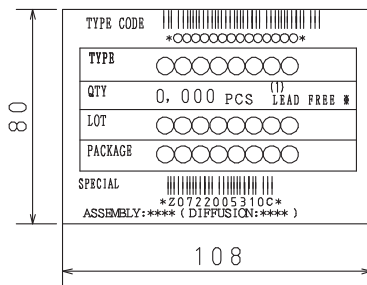
4. Outer box label (unit:mm)

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.

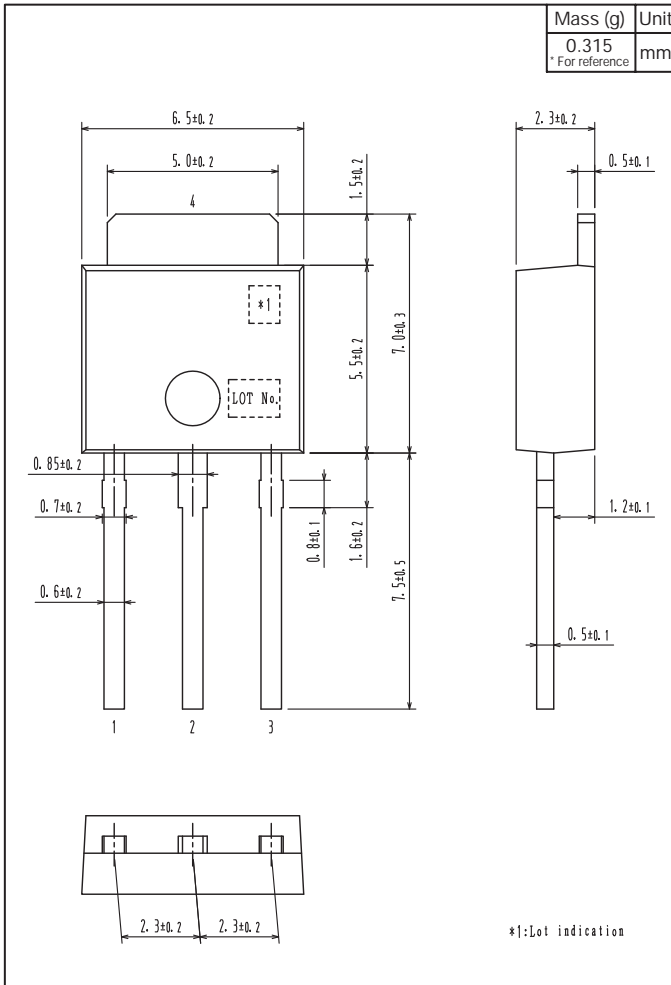
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3



SFT1445

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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