



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

SFT1445 — N-Channel Silicon MOSFET General-Purpose Switching Device Applications

Features

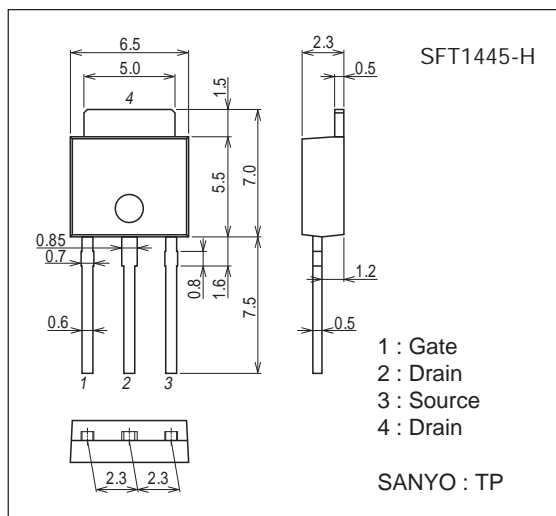
- ON-resistance $R_{DS(on)1}=85m\Omega(\text{typ.})$
- Input Capacitance $C_{iss}=1030pF(\text{typ.})$
- 4V drive
- Halogen free compliance
- Protection diode in

Specifications

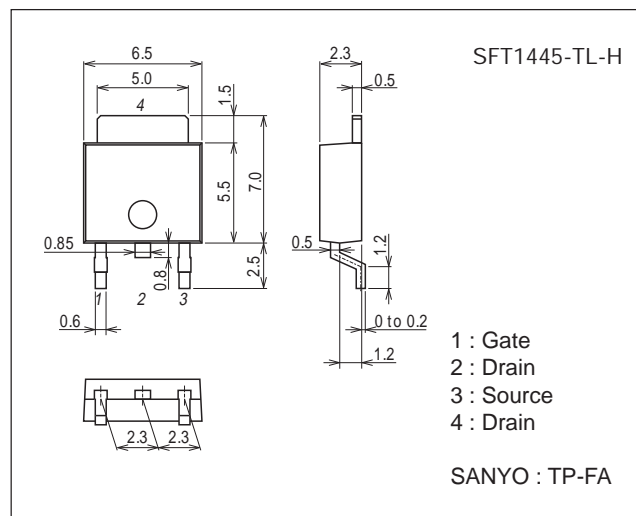
Absolute Maximum Ratings at $T_a=25^\circ C$

| 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} | $PW \leq 10\mu s, \text{ duty cycle} \leq 1\%$ | 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 | $^\circ C$ |

Package Dimensions unit : mm (typ)
7518-004



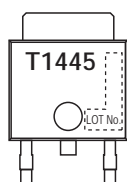
Package Dimensions unit : mm (typ)
7003-004



Product & Package Information

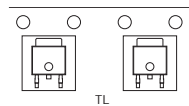
- Package : TP
- JEITA, JEDEC : SC-64, TO-251
- Minimum Packing Quantity : 500 pcs./bag

Marking
(TP, TP-FA)

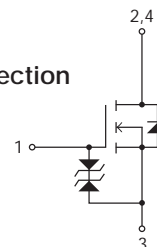


- Package : TP-FA
- JEITA, JEDEC : SC-63, TO-252
- Minimum Packing Quantity : 700 pcs./reel

Packing Type (TP-FA) : TL



Electrical Connection



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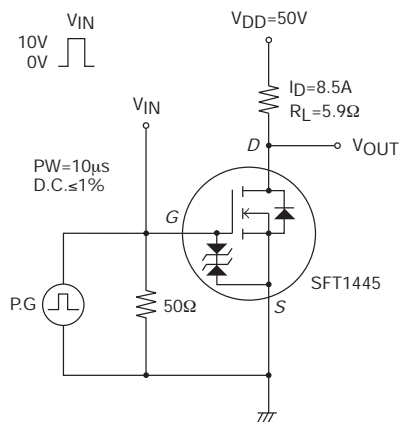
<http://semicon.sanyo.com/en/network>

SFT1445

Electrical Characteristics at Ta=25°C

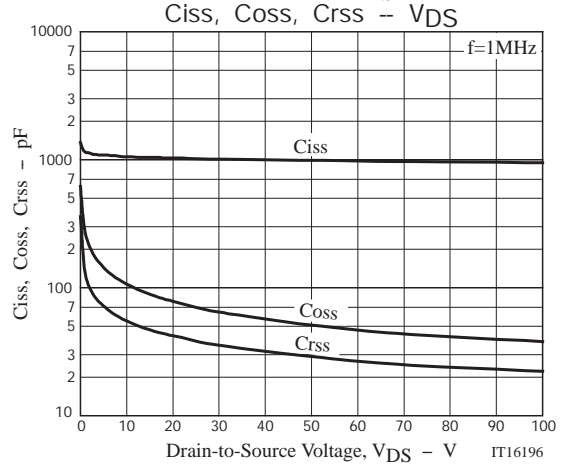
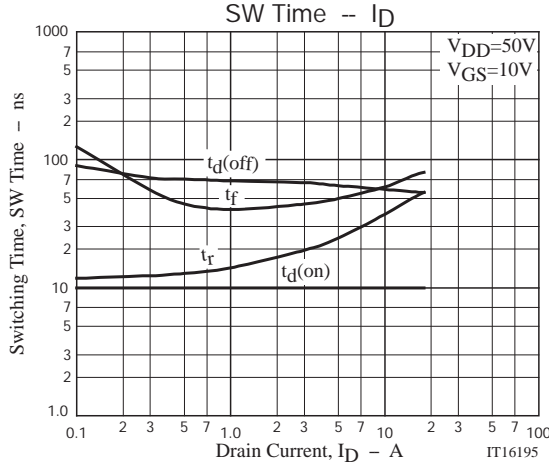
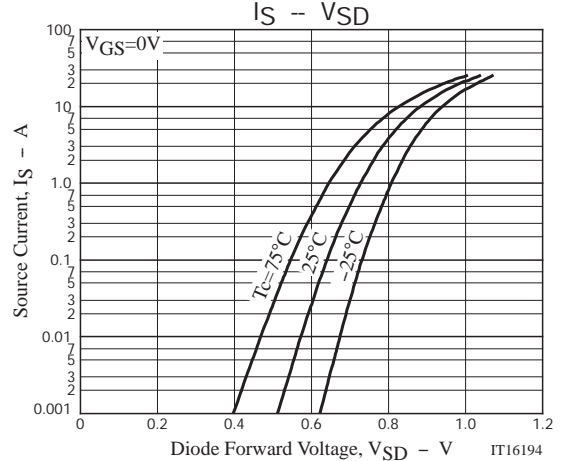
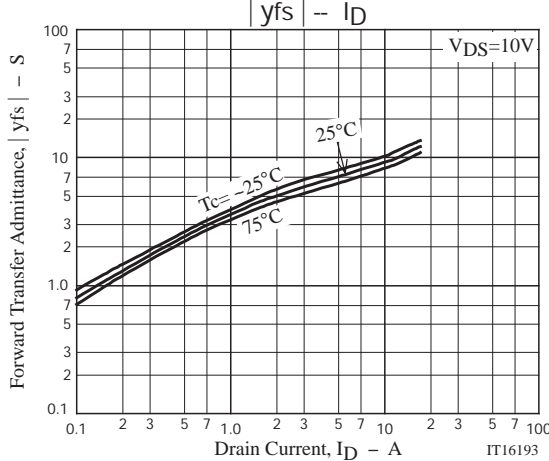
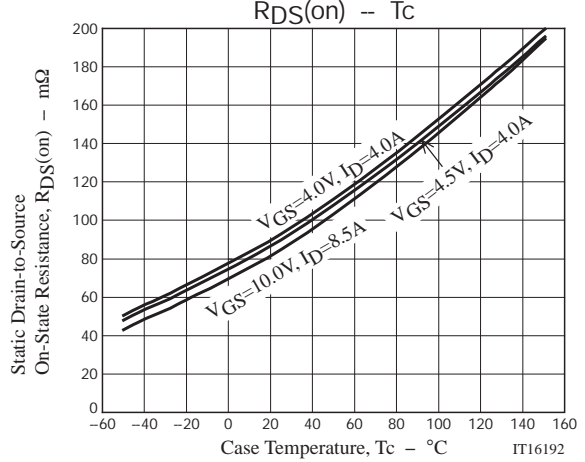
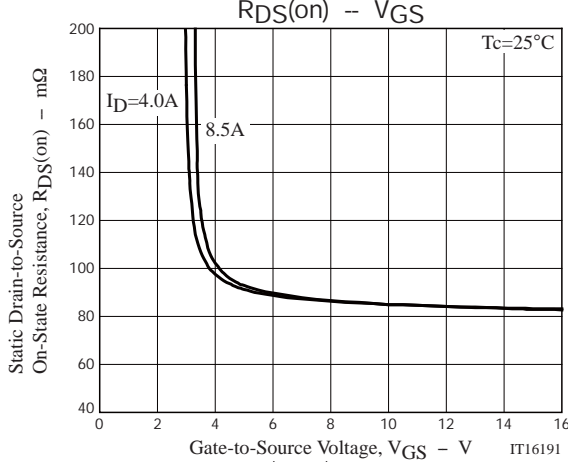
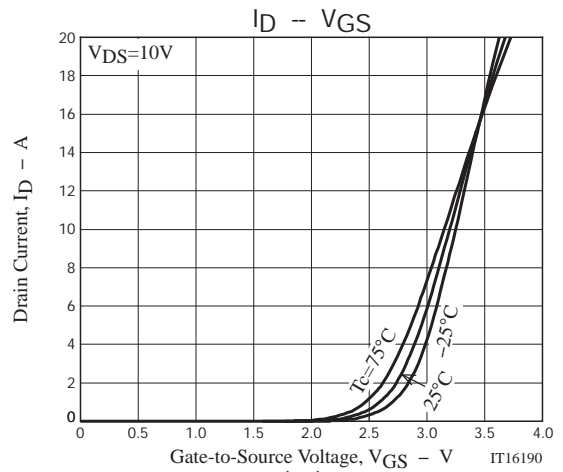
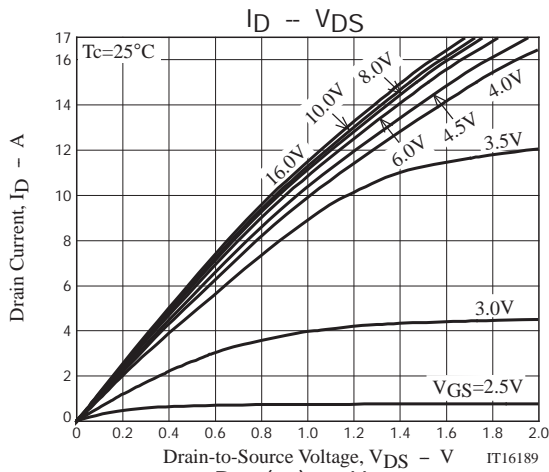
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--|---------------------|--------------------------|-----------------------------|------|-----|------|
| | | | min | typ | max | |
| Drain-to-Source Breakdown Voltage | V(BR)DSS | ID=1mA, VGS=0V | 100 | | | V |
| Zero-Gate Voltage Drain Current | 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 | t _{d(on)} | | See specified Test Circuit. | | 10 | |
| Rise Time | t _r | | | 35 | | ns |
| Turn-OFF Delay Time | t _{d(off)} | | | 60 | | ns |
| Fall Time | t _f | | | 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 | V |

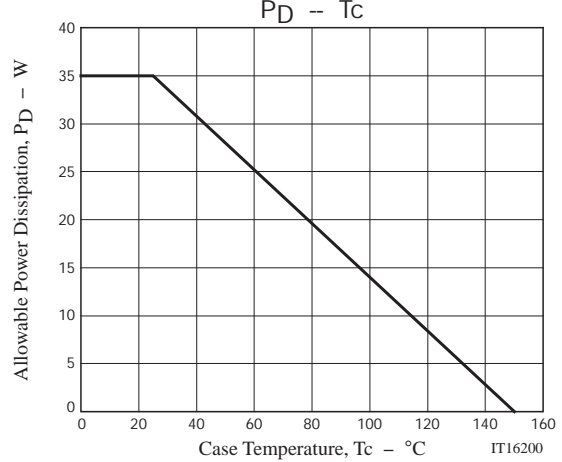
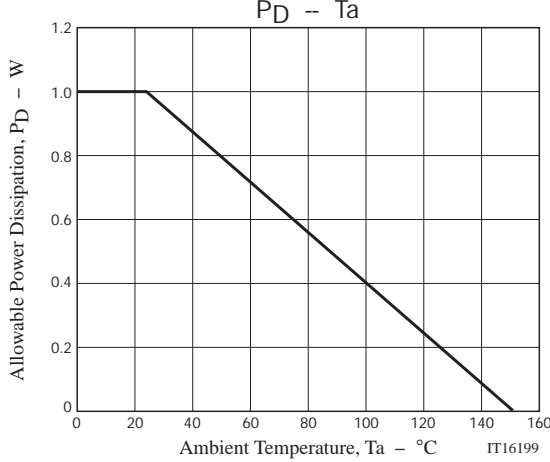
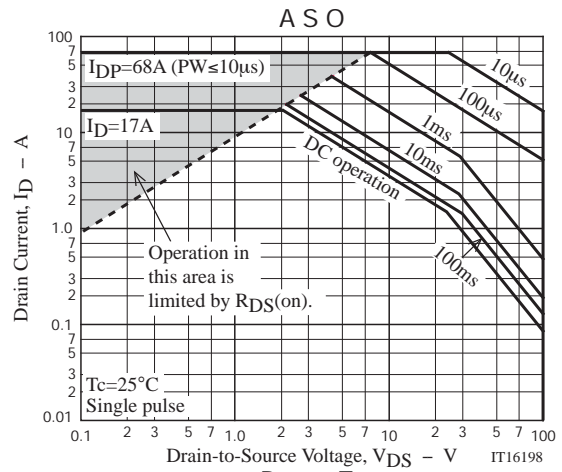
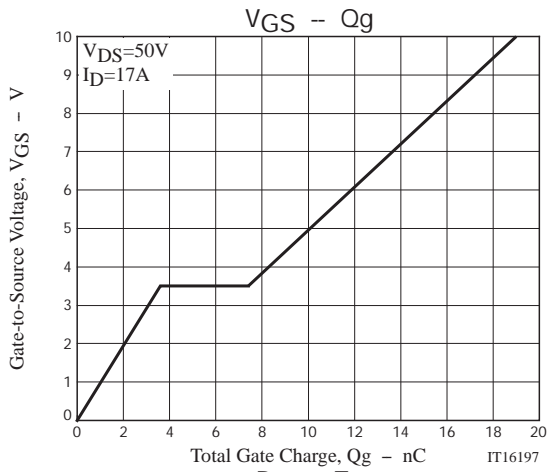
Switching Time Test Circuit



Ordering Information

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





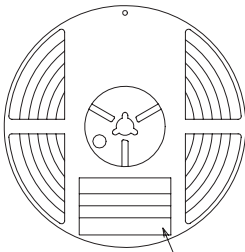
Taping Specification

SFT1445-TL-H

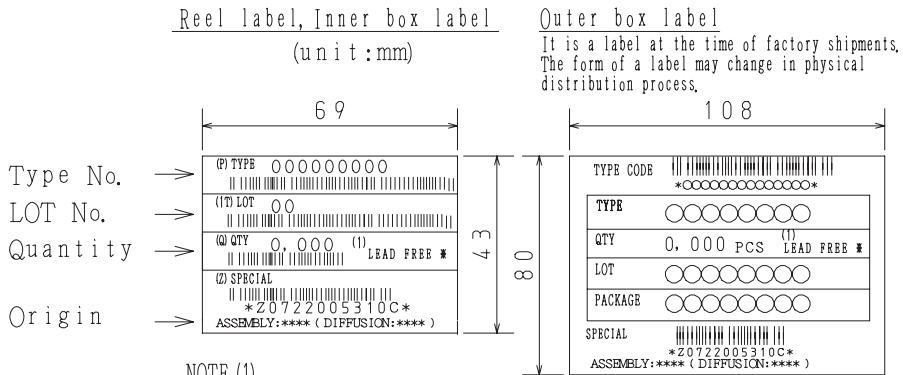
Packing Format

| 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



Reel label



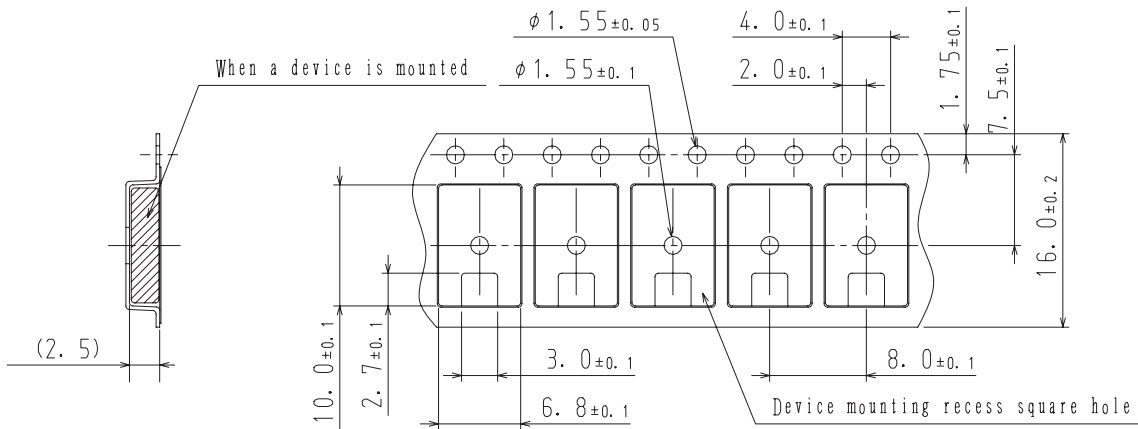
NOTE (1)

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

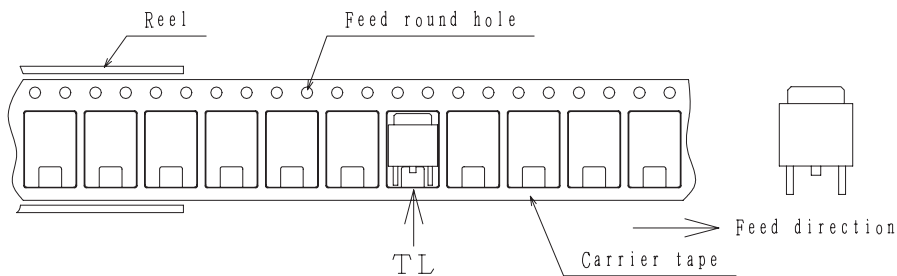
| Label | JEITA Phase |
|-------------|----------------|
| LEAD FREE 3 | JEITA Phase 3A |
| LEAD FREE 4 | JEITA Phase 3 |

Taping configuration

1. Carrier tape size (unit:mm)



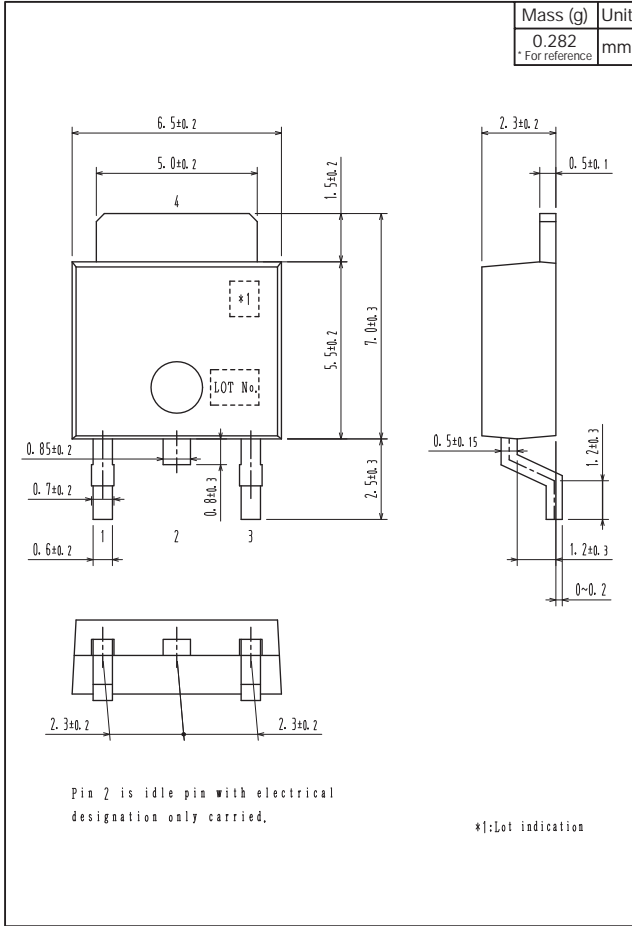
2. Device placement direction



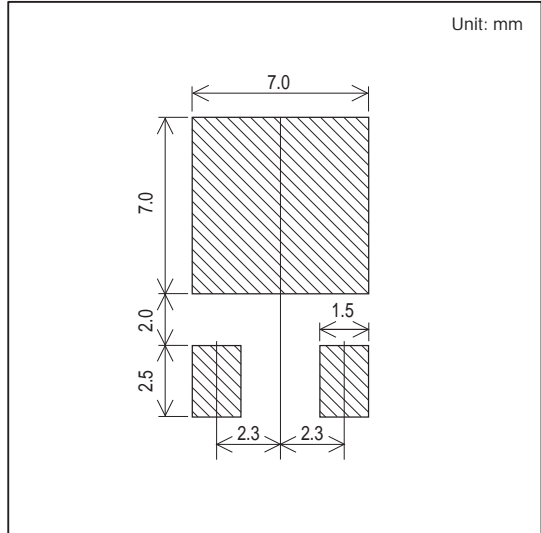
Those with one electrode terminal on the feed hole side.....TL

SFT1445

Outline Drawing SFT1445-TL-H



Land Pattern Example



SFT1445

Bag Packing Specification

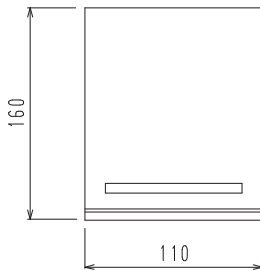
SFT1445-H

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 |

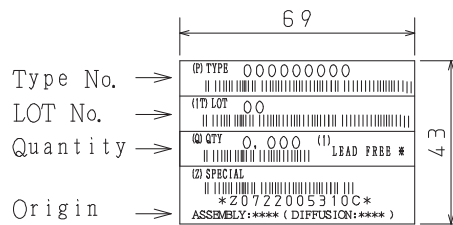
2. Bag dimensions

(unit:mm)



3. Bag label, Inner box label

(unit:mm)



4. Outer box label

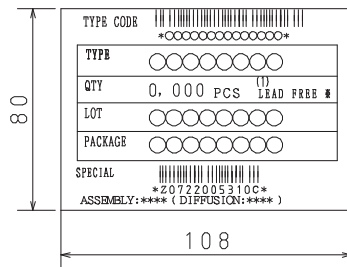
(unit:mm)

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

NOTE (1)

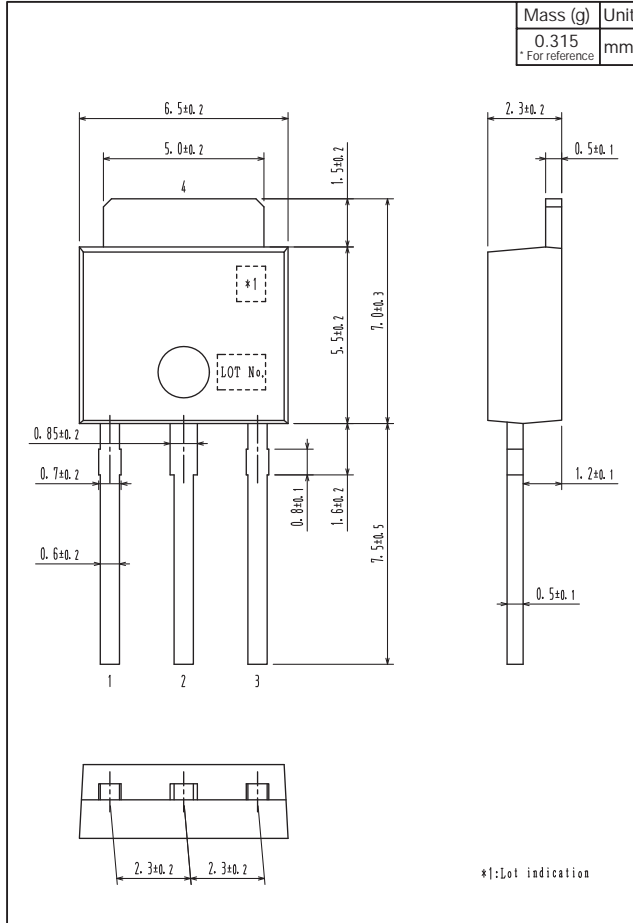
The LEAD FREE * description shows that the
surface treatment of the terminal is lead free.

| 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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