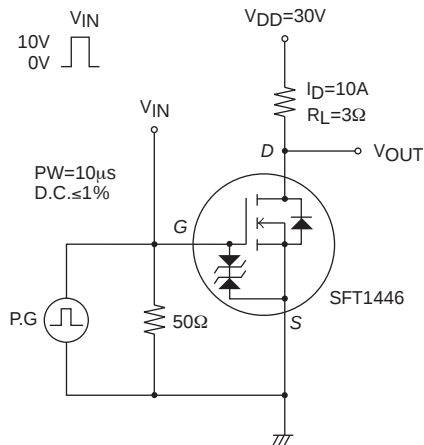


## Electrical Characteristics at Ta=25°C

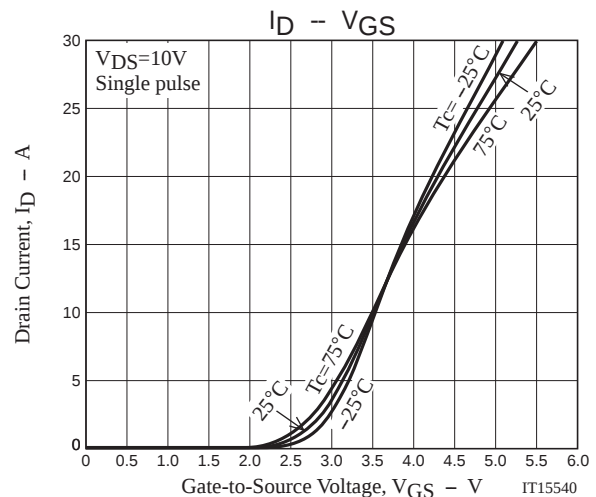
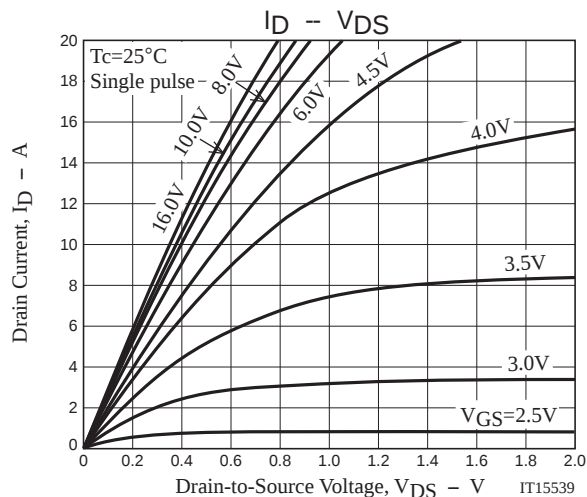
| Parameter                                  | Symbol        | Conditions                        | Ratings |      |          | Unit       |
|--------------------------------------------|---------------|-----------------------------------|---------|------|----------|------------|
|                                            |               |                                   | min     | typ  | max      |            |
| Drain-to-Source Breakdown Voltage          | $V_{(BR)DSS}$ | $I_D=1mA, V_{GS}=0V$              | 60      |      |          | V          |
| Zero-Gate Voltage Drain Current            | $I_{DSS}$     | $V_{DS}=60V, V_{GS}=0V$           |         |      | 1        | $\mu A$    |
| Gate-to-Source Leakage Current             | $I_{GSS}$     | $V_{GS}=\pm 16V, V_{DS}=0V$       |         |      | $\pm 10$ | $\mu A$    |
| Cutoff Voltage                             | $V_{GS(off)}$ | $V_{DS}=10V, I_D=1mA$             | 1.2     |      | 2.6      | V          |
| Forward Transfer Admittance                | $ y_{fs} $    | $V_{DS}=10V, I_D=10A$             |         | 7.0  |          | S          |
| Static Drain-to-Source On-State Resistance | $R_{DS(on)1}$ | $I_D=10A, V_{GS}=10V$             |         | 39   | 51       | m $\Omega$ |
|                                            | $R_{DS(on)2}$ | $I_D=5A, V_{GS}=4.5V$             |         | 54   | 76       | m $\Omega$ |
|                                            | $R_{DS(on)3}$ | $I_D=5A, V_{GS}=4V$               |         | 62   | 87       | m $\Omega$ |
| Input Capacitance                          | $C_{iss}$     | $V_{DS}=20V, f=1MHz$              |         | 750  |          | pF         |
| Output Capacitance                         | $C_{oss}$     |                                   |         | 59   |          | pF         |
| Reverse Transfer Capacitance               | $C_{rss}$     |                                   |         | 47   |          | pF         |
| Turn-ON Delay Time                         | $t_{d(on)}$   | See specified Test Circuit.       |         | 8.5  |          | ns         |
| Rise Time                                  | $t_r$         |                                   |         | 31   |          | ns         |
| Turn-OFF Delay Time                        | $t_{d(off)}$  |                                   |         | 60   |          | ns         |
| Fall Time                                  | $t_f$         |                                   |         | 48   |          | ns         |
| Total Gate Charge                          | $Q_g$         | $V_{DS}=30V, V_{GS}=10V, I_D=14A$ |         | 16   |          | nC         |
| Gate-to-Source Charge                      | $Q_{gs}$      |                                   |         | 3.3  |          | nC         |
| Gate-to-Drain "Miller" Charge              | $Q_{gd}$      |                                   |         | 3.6  |          | nC         |
| Diode Forward Voltage                      | $V_{SD}$      | $I_S=20A, V_{GS}=0V$              |         | 1.01 | 1.2      | V          |

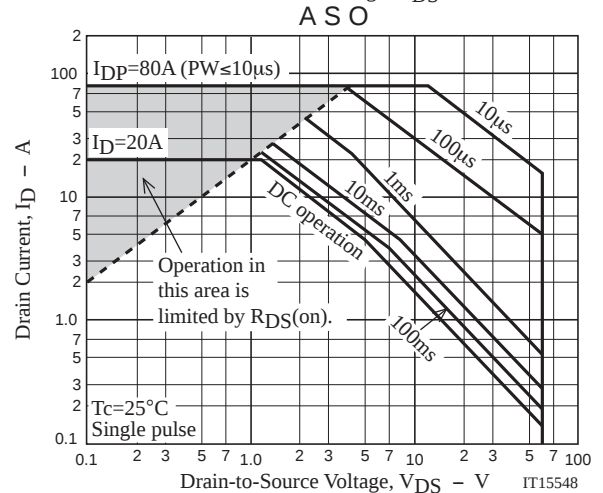
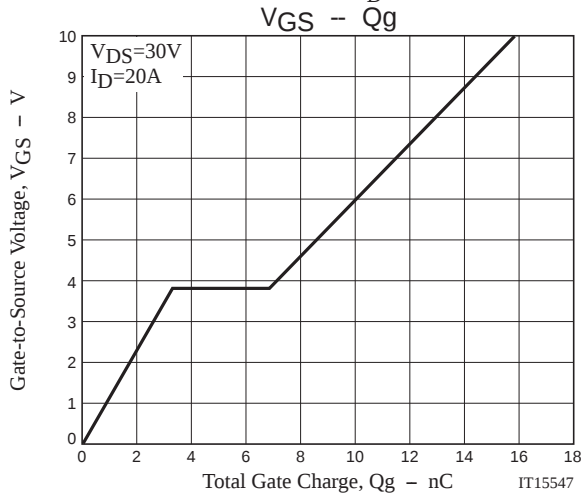
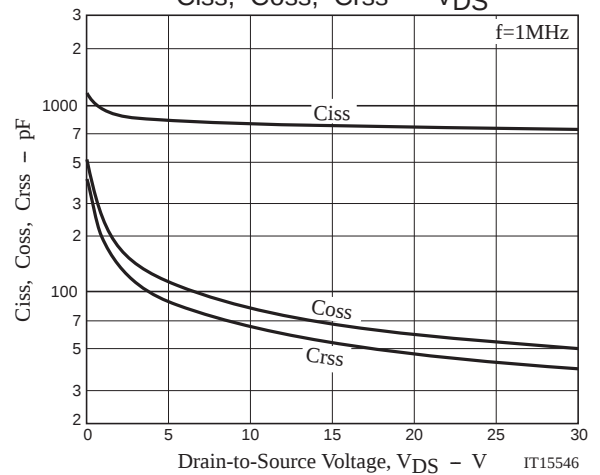
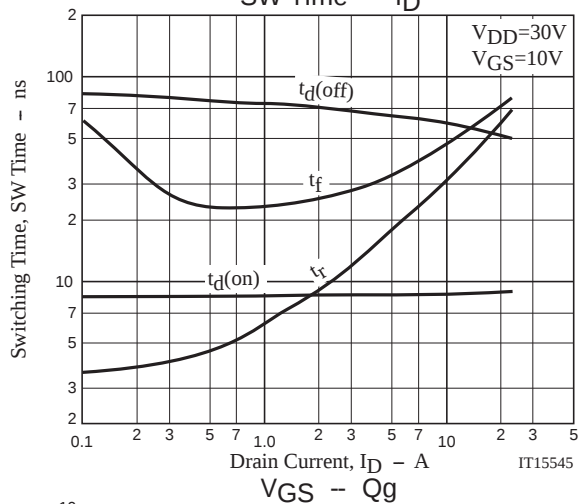
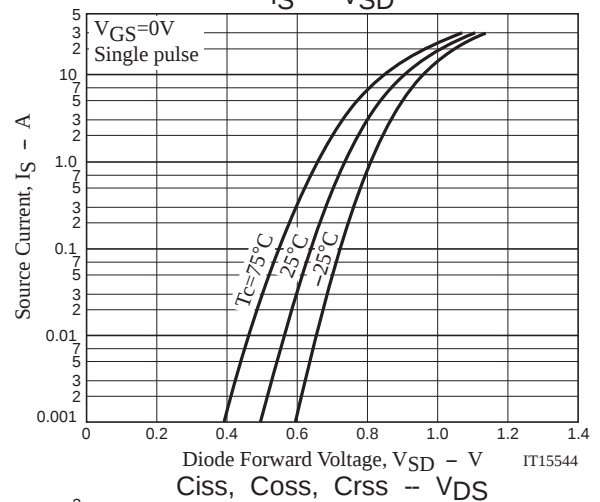
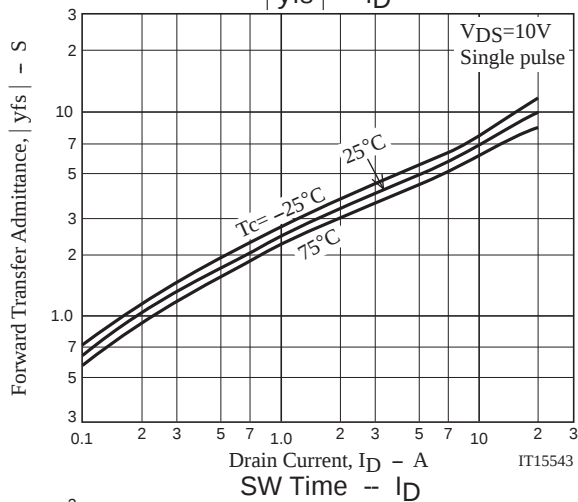
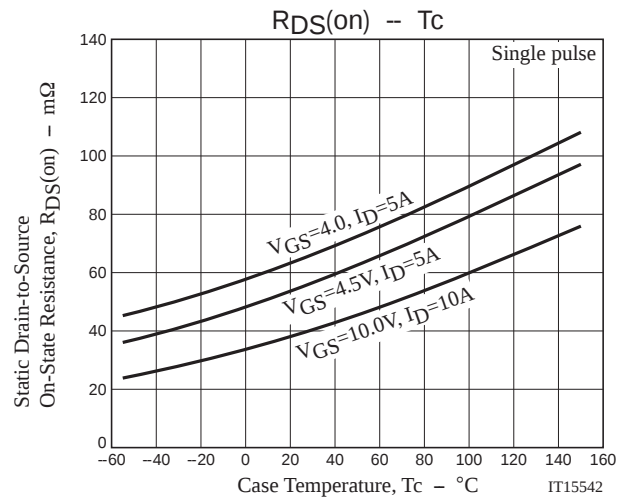
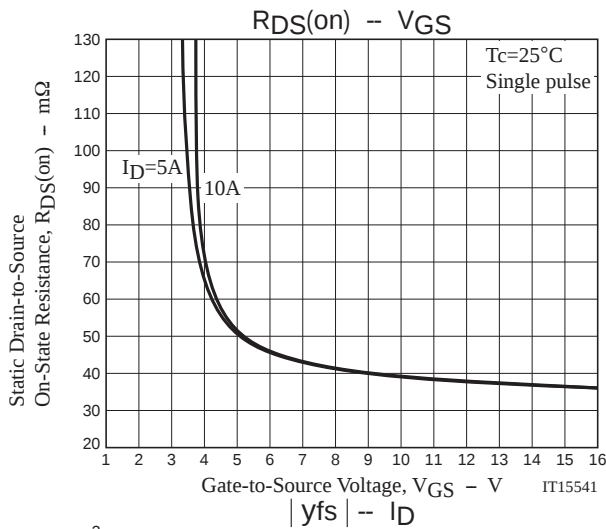
## Switching Time Test Circuit

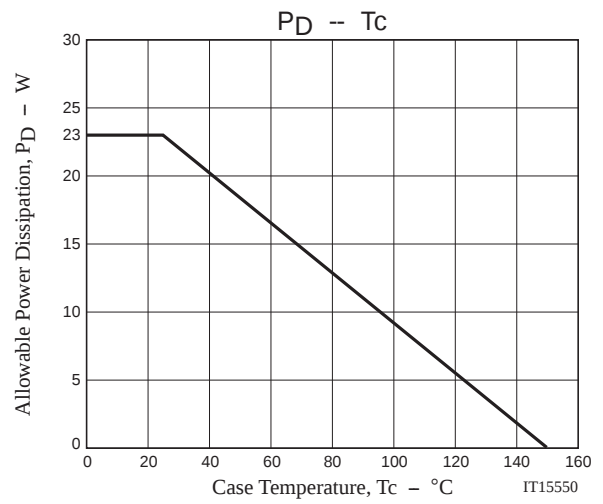
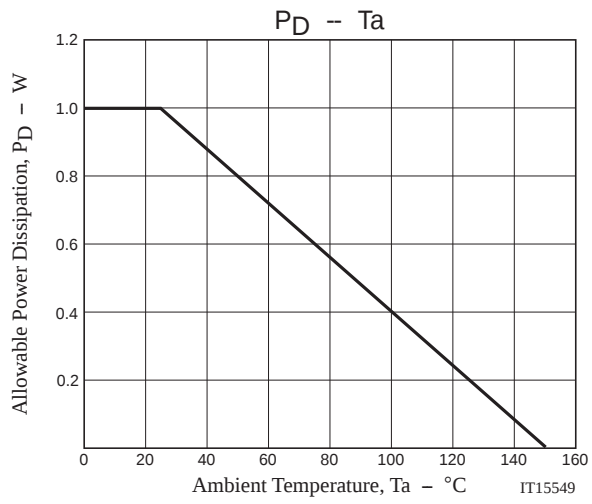


## Ordering Information

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







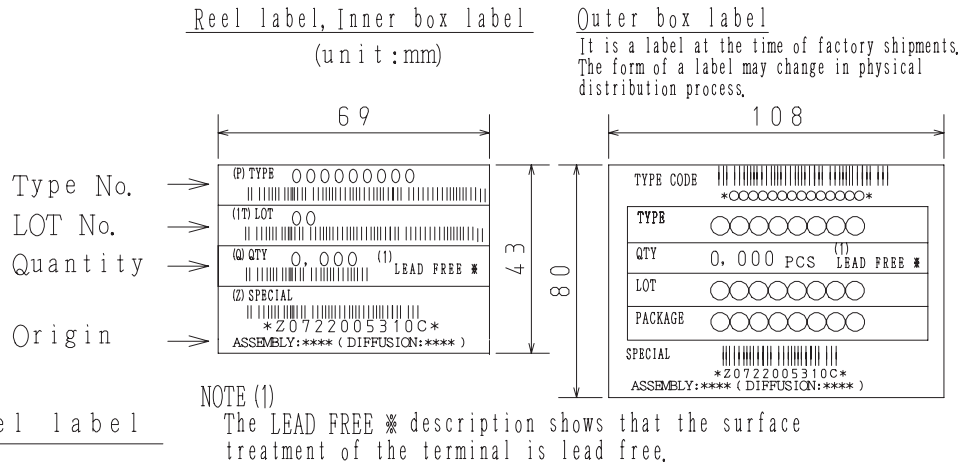
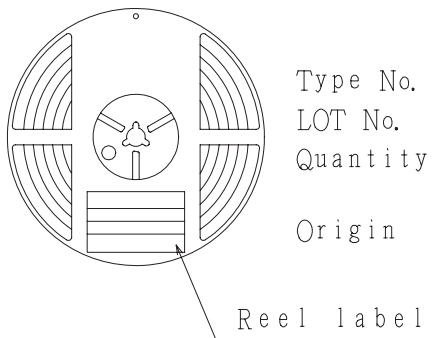
## Taping Specification

SFT1446-TL-H

## Packing Format

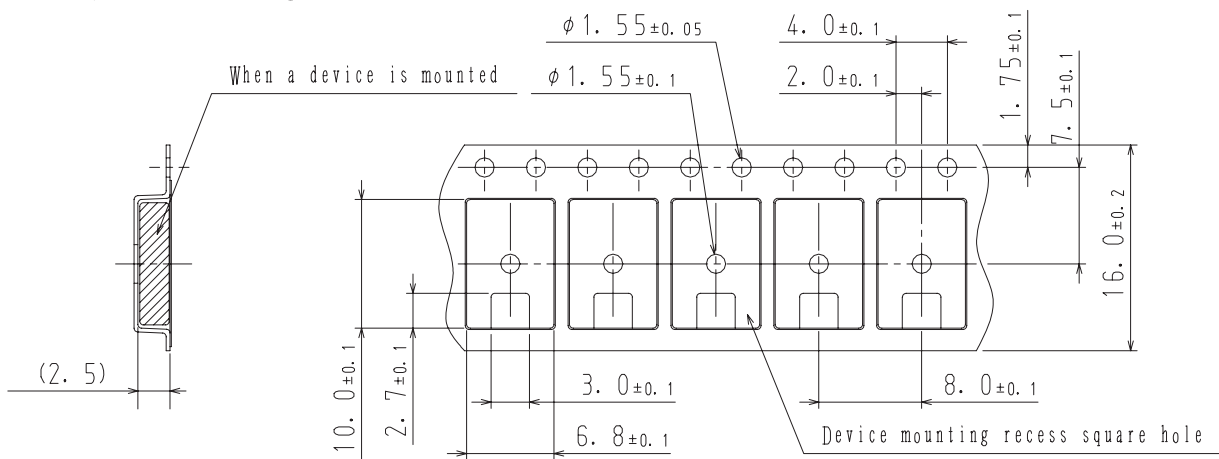
| Package Name | Carrier Tape Type | Maximum Number of devices contained (pcs) |           |           | Packing format                                              |                                                                    |
|--------------|-------------------|-------------------------------------------|-----------|-----------|-------------------------------------------------------------|--------------------------------------------------------------------|
|              |                   | Reel                                      | Inner box | Outer box | Inner BOX (C-1)                                             | Outer BOX (A-7)                                                    |
| TP-FA        | TP                | 700                                       | 2, 100    | 12, 600   | 3 reels contained<br>Dimensions:mm (external)<br>183×72×185 | 6 inner boxes contained<br>Dimensions:mm (external)<br>440×195×210 |

## Packing method

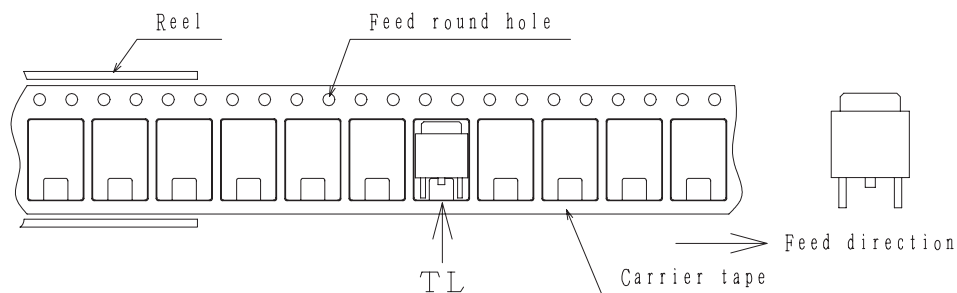


## Taping configuration

## 1. Carrier tape size (unit:mm)

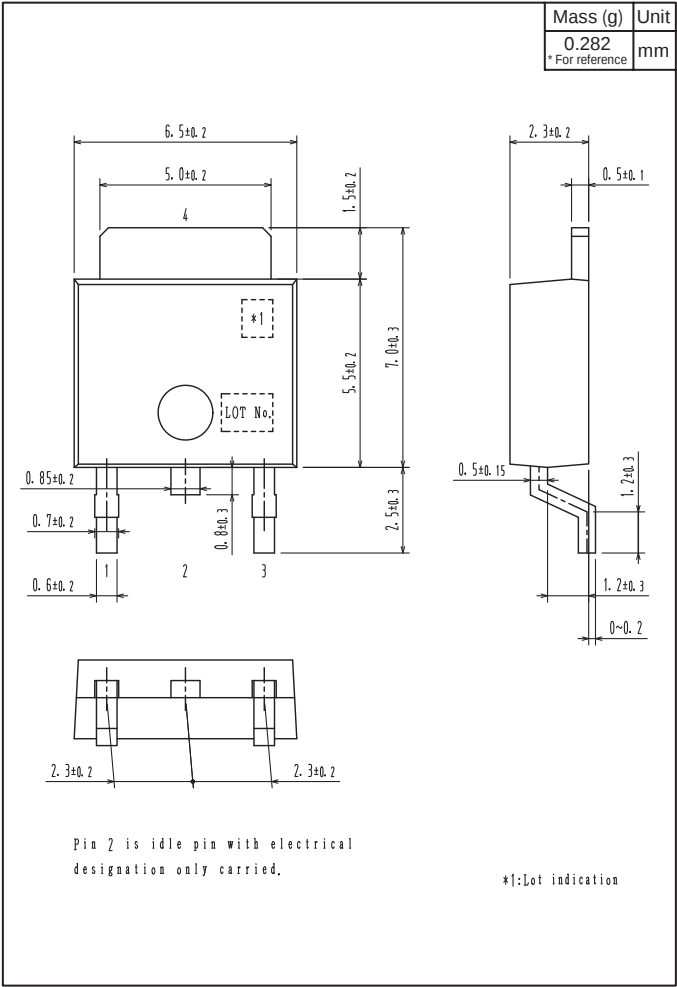


## 2. Device placement direction

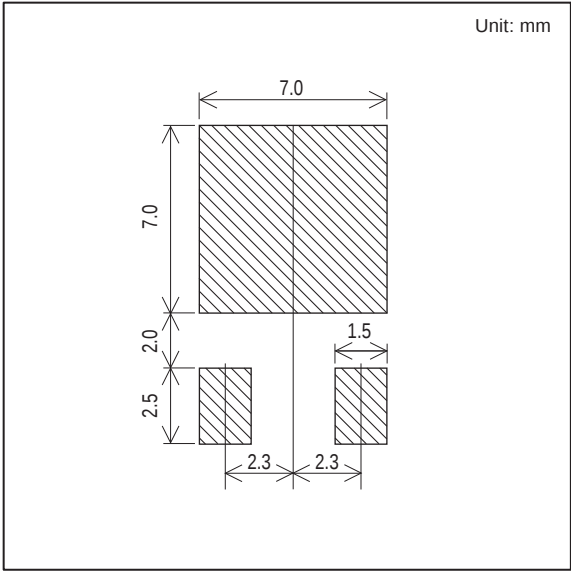


Those with one electrode terminal on the feed hole side.....TL

Outline Drawing  
SFT1446-TL-H



Land Pattern Example

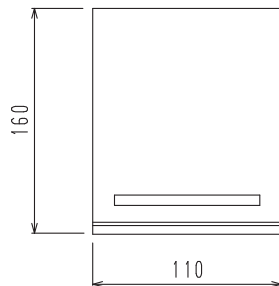
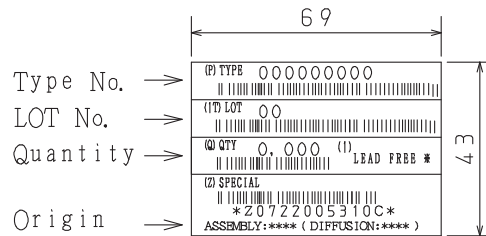


**Bag Packing Specification**

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 |

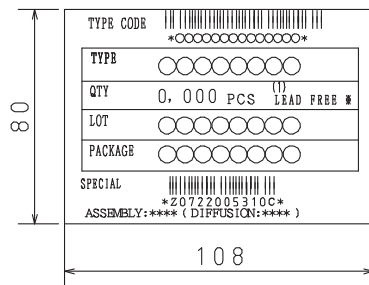
2. Bag dimensions  
(unit:mm)3. Bag label, Inner box label  
(unit:mm)4. Outer box label  
(unit:mm)

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

## NOTE (1)

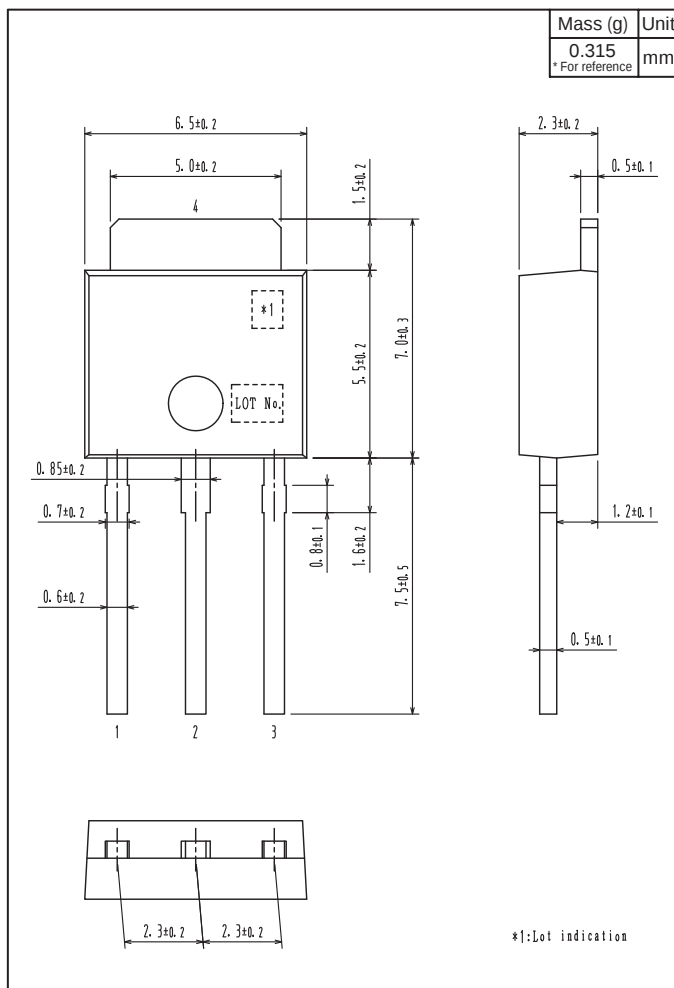
The LEAD FREE \* description shows that the  
surface treatment of the terminal is lead free.

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



## 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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