



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

SFT1443 — N-Channel Silicon MOSFET General-Purpose Switching Device Applications

Features

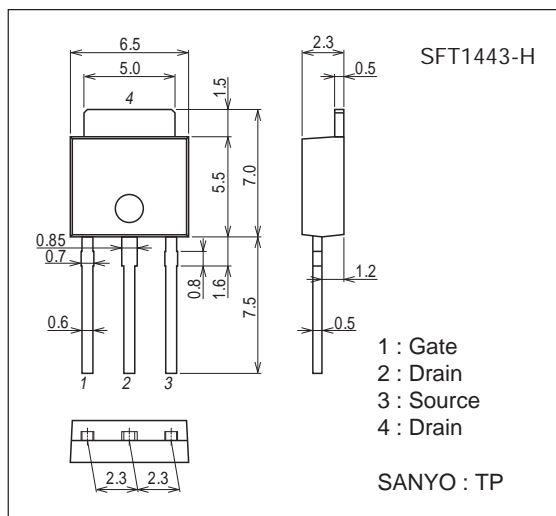
- ON-resistance $R_{DS(on)1}=180m\Omega$ (typ.)
- Input Capacitance $C_{iss}=490pF$ (typ.)
- 4V drive
- Halogen free compliance
- Protection diode in

Specifications

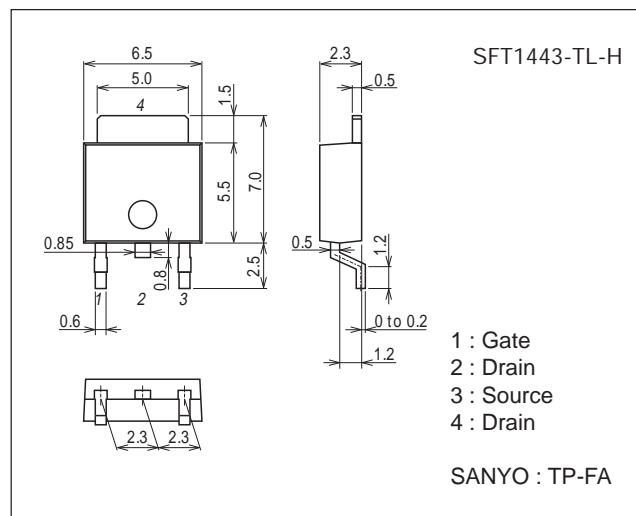
Absolute Maximum Ratings at $T_a=25^\circ C$

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		9	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$	36	A
Allowable Power Dissipation	P_D		1	W
		$T_c=25^\circ C$	19	W
Channel Temperature	T_{ch}		150	$^\circ C$
Storage Temperature	T_{stg}		-55 to +150	$^\circ C$

Package Dimensions unit : mm (typ)
7518-004



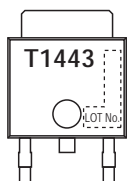
Package Dimensions unit : mm (typ)
7003-004



Product & Package Information

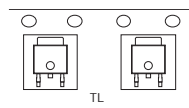
- Package : TP
- JEITA, JEDEC : SC-64, TO-251
- Minimum Packing Quantity : 500 pcs./bag

Marking
(TP, TP-FA)

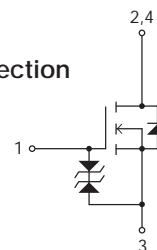


- Package : TP-FA
- JEITA, JEDEC : SC-63, TO-252
- Minimum Packing Quantity : 700 pcs./reel

Packing Type (TP-FA) : TL



Electrical Connection



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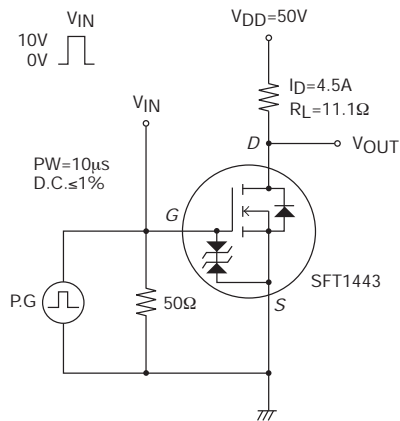
<http://semicon.sanyo.com/en/network>

SFT1443

Electrical Characteristics at $T_a=25^\circ\text{C}$

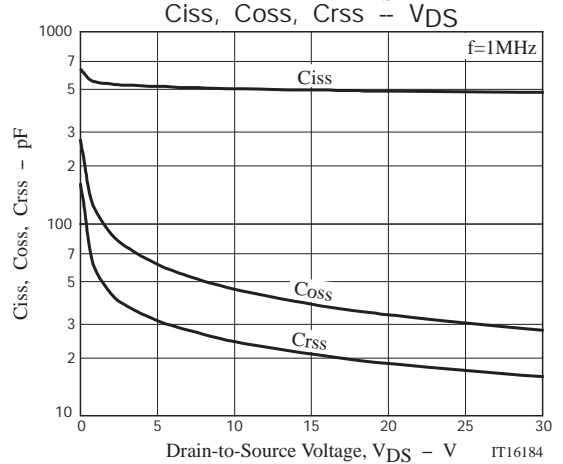
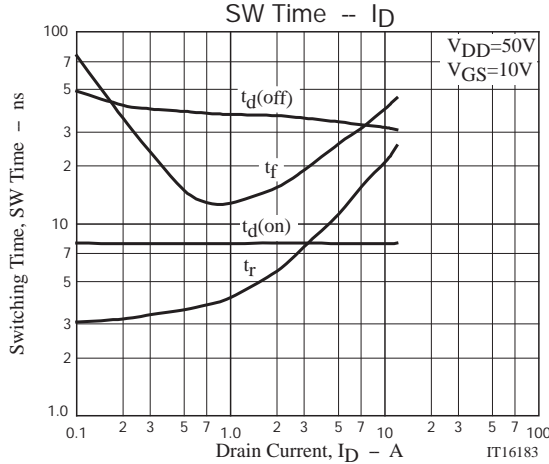
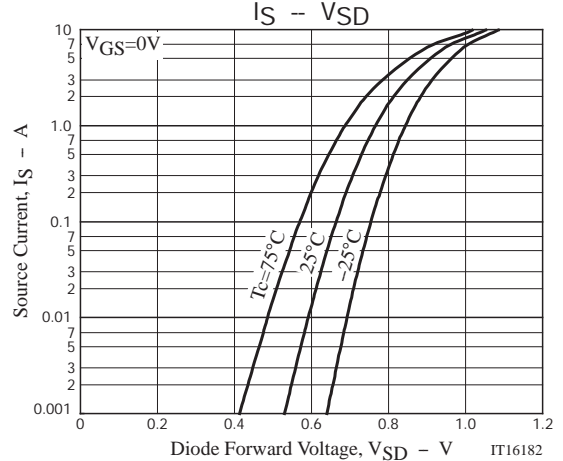
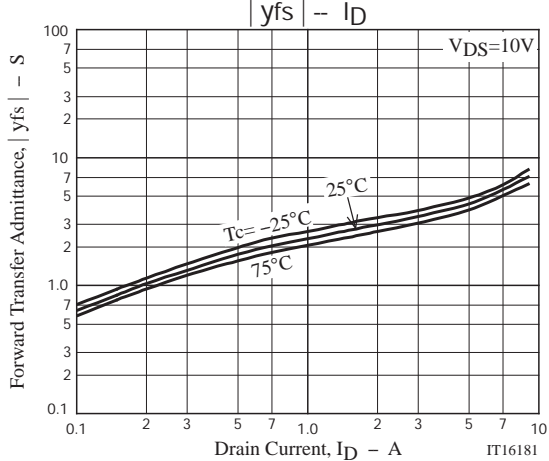
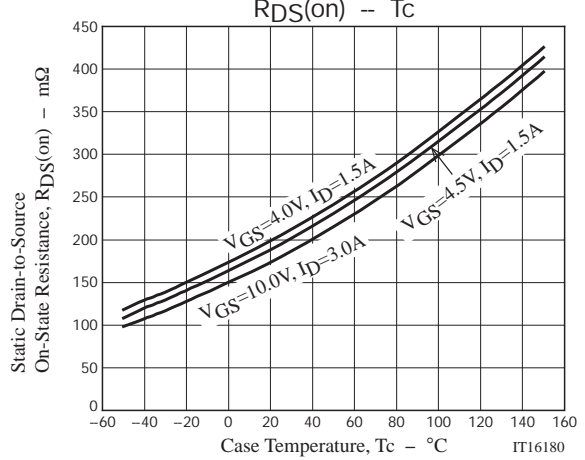
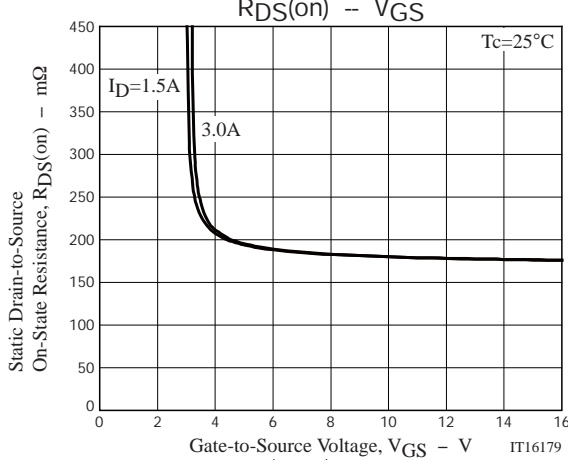
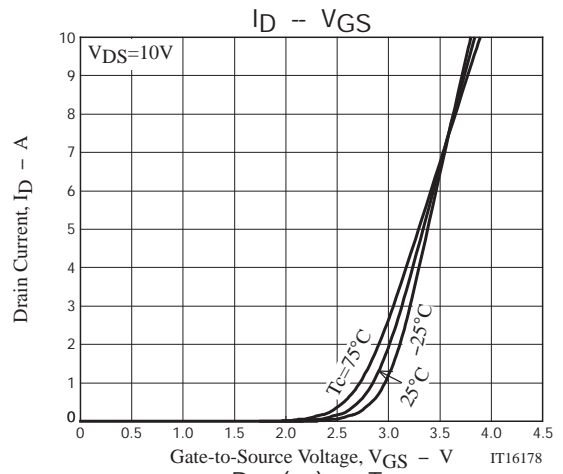
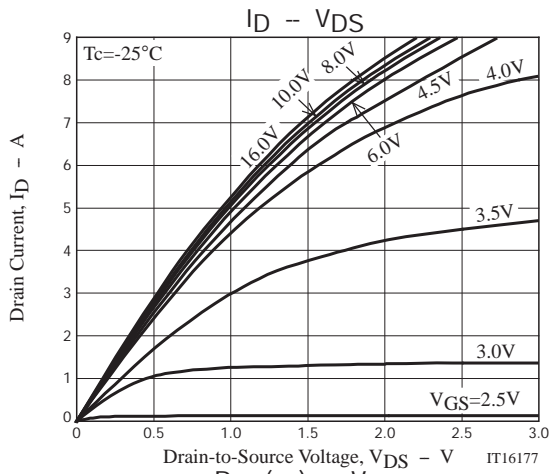
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V(\text{BR})_{\text{DSS}}$	$I_{\text{D}}=1\text{mA}, V_{\text{GS}}=0\text{V}$	100			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{\text{DS}}=100\text{V}, V_{\text{GS}}=0\text{V}$			1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{\text{GS}}=\pm 16\text{V}, V_{\text{DS}}=0\text{V}$			± 10	μA
Cutoff Voltage	$V_{\text{GS}}(\text{off})$	$V_{\text{DS}}=10\text{V}, I_{\text{D}}=1\text{mA}$	1.5		2.6	V
Forward Transfer Admittance	$ y_{\text{fs}} $	$V_{\text{DS}}=10\text{V}, I_{\text{D}}=4.5\text{A}$		4		S
Static Drain-to-Source On-State Resistance	$R_{\text{DS}}(\text{on})1$	$I_{\text{D}}=3\text{A}, V_{\text{GS}}=10\text{V}$		180	225	$\text{m}\Omega$
	$R_{\text{DS}}(\text{on})2$	$I_{\text{D}}=1.5\text{A}, V_{\text{GS}}=4.5\text{V}$		195	275	$\text{m}\Omega$
	$R_{\text{DS}}(\text{on})3$	$I_{\text{D}}=1.5\text{A}, V_{\text{GS}}=4\text{V}$		205	290	$\text{m}\Omega$
Input Capacitance	C_{iss}	$V_{\text{DS}}=20\text{V}, f=1\text{MHz}$		490		pF
Output Capacitance	C_{oss}			34		pF
Reverse Transfer Capacitance	C_{rss}			19		pF
Turn-ON Delay Time	$t_{\text{d}}(\text{on})$		See specified Test Circuit.		8	
Rise Time	t_{r}			10		ns
Turn-OFF Delay Time	$t_{\text{d}}(\text{off})$			34		ns
Fall Time	t_{f}			24		ns
Total Gate Charge	Q_{g}	$V_{\text{DS}}=50\text{V}, V_{\text{GS}}=10\text{V}, I_{\text{D}}=9\text{A}$			9.8	
Gate-to-Source Charge	Q_{gs}			1.8		nC
Gate-to-Drain "Miller" Charge	Q_{gd}			1.6		nC
Diode Forward Voltage	V_{SD}	$I_{\text{S}}=9\text{A}, V_{\text{GS}}=0\text{V}$		1.03	1.2	V

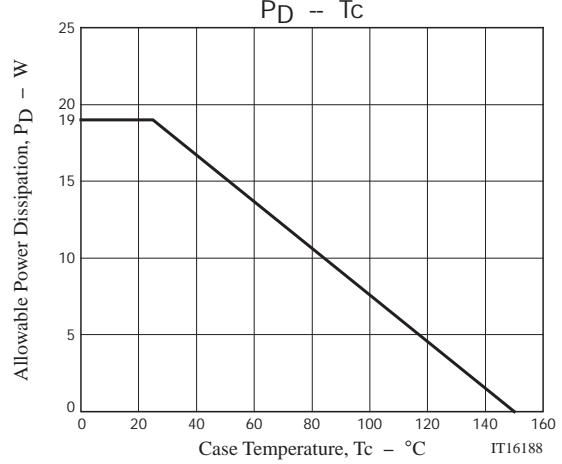
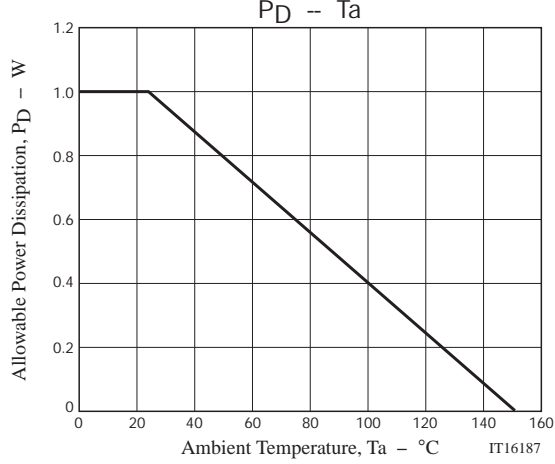
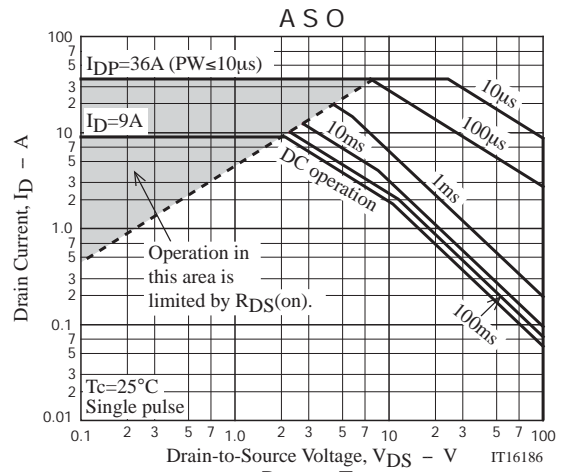
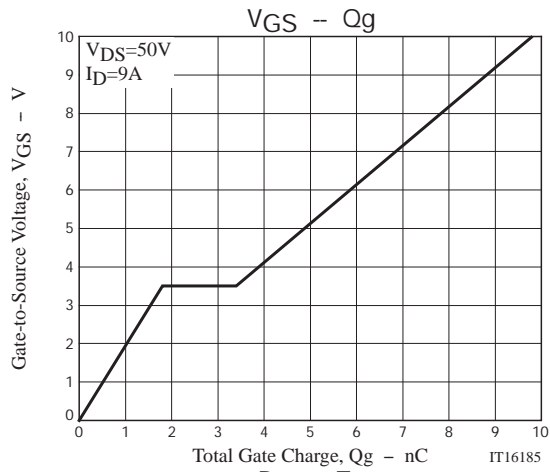
Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
SFT1443-H	TP	500pcs./bag	Pb Free and Halogen Free
SFT1443-TL-H	TP-FA	700pcs./reel	





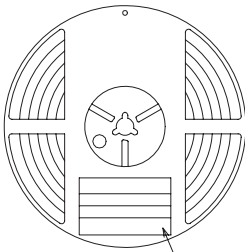
Taping Specification

SFT1443-TL-H

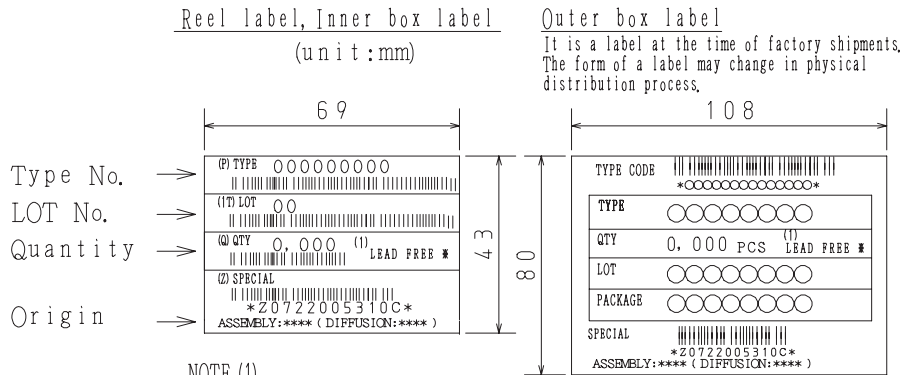
Packing Format

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



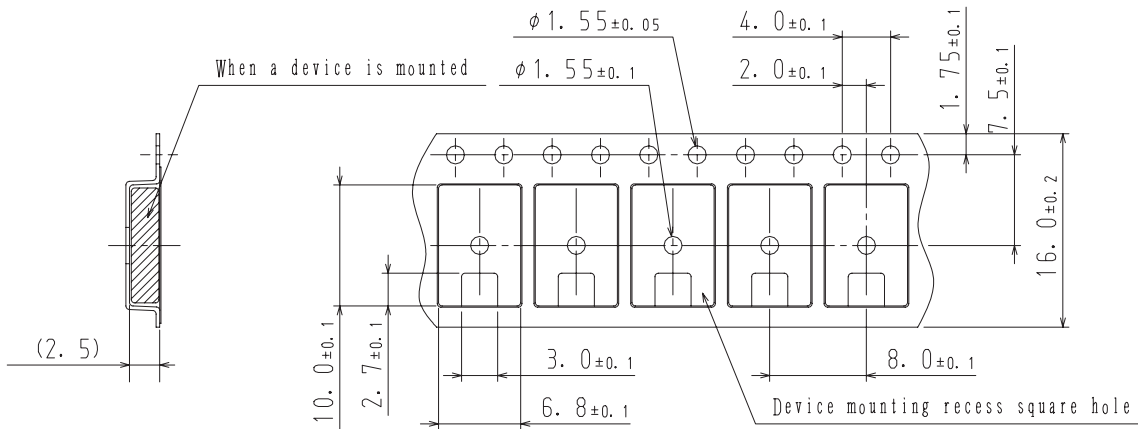
NOTE (1)

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

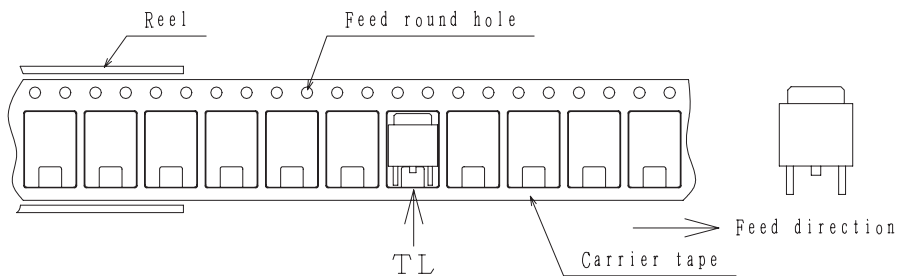
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

Taping configuration

1. Carrier tape size (unit:mm)



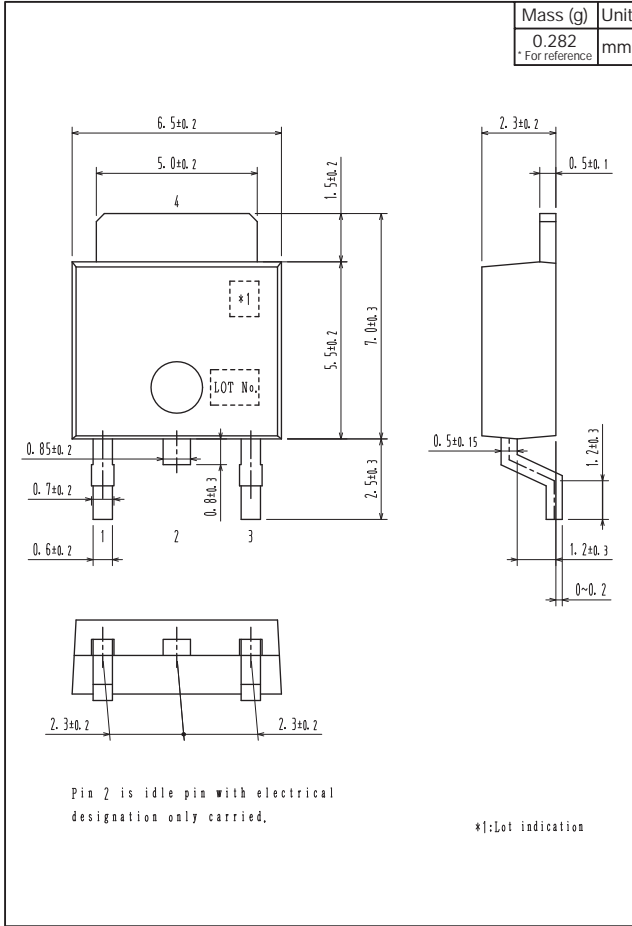
2. Device placement direction



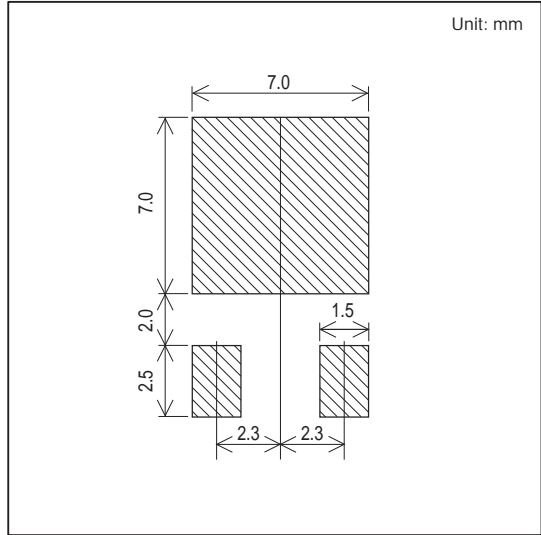
Those with one electrode terminal on the feed hole side.....TL

SFT1443

Outline Drawing SFT1443-TL-H



Land Pattern Example



Bag Packing Specification

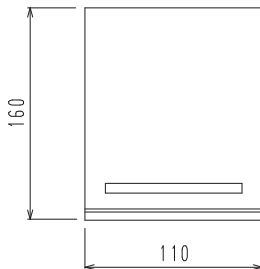
SFT1443-H

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

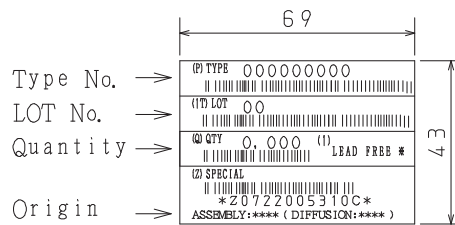
2. Bag dimensions

(unit:mm)



3. Bag label, Inner box label

(unit:mm)



4. Outer box label

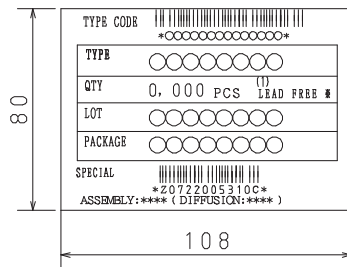
(unit:mm)

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.

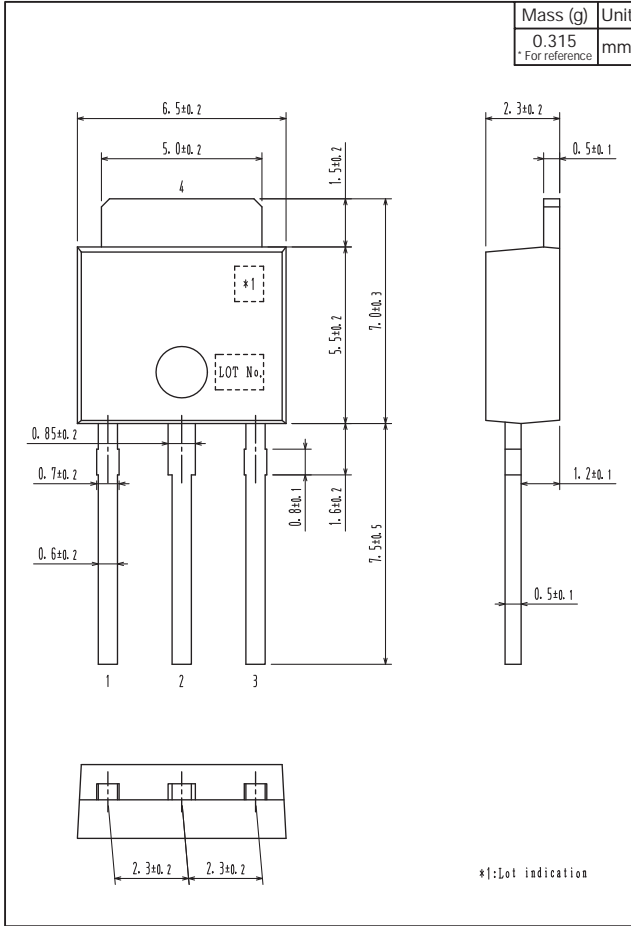
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3



SFT1443

Outline Drawing

SFT1443-H



Note on usage : Since the SFT1443 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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