



# SFT1452

## N-Channel Power MOSFET 250V, 3A, 2.4Ω, Single DPAK/IPAK

ON Semiconductor®

<http://onsemi.com>

### Features

- ON-resistance  $R_{DS(on)}=1.8\Omega(\text{typ.})$
- Input Capacitance  $C_{iss}=210\text{pF}(\text{typ.})$
- 10V drive
- Halogen free compliance
- ESD Diode-Protected Gate

### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DSS}$		250	V
Gate-to-Source Voltage	$V_{GSS}$		$\pm 30$	V
Drain Current (DC)	$I_D$		3	A
Drain Current (Pulse)	$I_{DP}$	$PW \leq 10\mu\text{s}$ , duty cycle $\leq 1\%$	12	A
Power Dissipation	$P_D$		1	W
		$T_c=25^\circ\text{C}$	26	W
Junction Temperature	$T_j$		150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

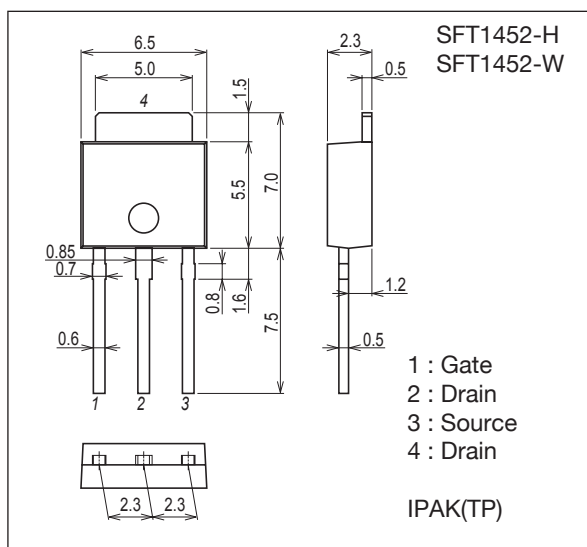
### Thermal Resistance Ratings

Parameter	Symbol	Value	Unit
Junction to Case Steady State	$R_{\theta JC}$	4.81	$^\circ\text{C/W}$
Junction to Ambient *1	$R_{\theta JA}$	125	

Note : \*1 Insertion mounted

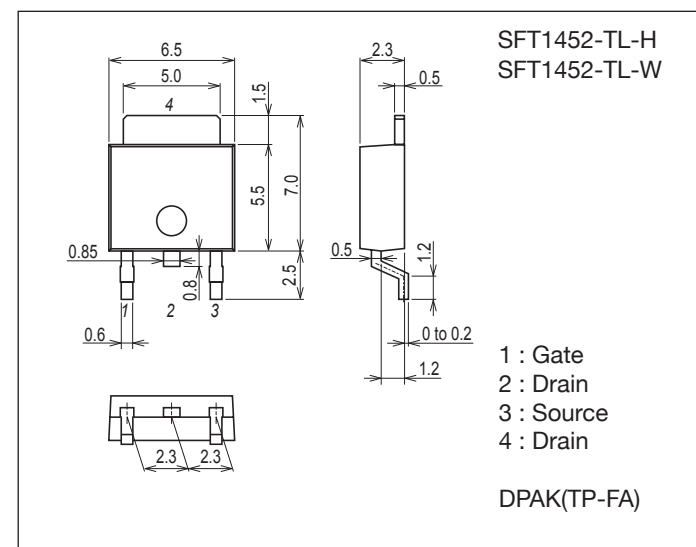
### Package Dimensions unit : mm (typ)

7518-004



### Package Dimensions unit : mm (typ)

7003-004



### ORDERING INFORMATION

See detailed ordering and shipping information on page 2 of this data sheet.

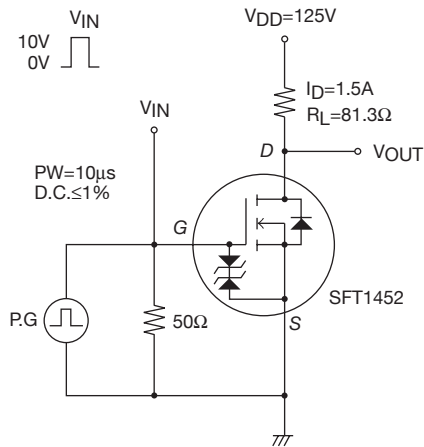
# SFT1452

## Electrical Characteristics at Ta=25°C

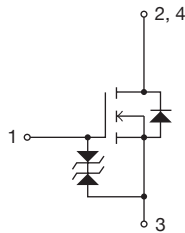
Parameter	Symbol	Conditions	Ratings			Unit	
			min	typ	max		
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1mA, V_{GS}=0V$	250			V	
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=250V, V_{GS}=0V$			1	$\mu A$	
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 24V, V_{DS}=0V$			$\pm 10$	$\mu A$	
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=10V, I_D=1mA$	2.5		4.5	V	
Forward Transconductance	$g_{FS}$	$V_{DS}=10V, I_D=1.5A$		1.7		S	
Static Drain-to-Source On-State Resistance	$R_{DS(on)}$	$I_D=1.5A, V_{GS}=10V$		1.8	2.4	$\Omega$	
Input Capacitance	$C_{iss}$	$V_{DS}=20V, f=1MHz$		210		pF	
Output Capacitance	$C_{oss}$				20		pF
Reverse Transfer Capacitance	$C_{rss}$				7		pF
Turn-ON Delay Time	$t_{d(on)}$		See specified Test Circuit.		8		ns
Rise Time	$t_r$				9		ns
Turn-OFF Delay Time	$t_{d(off)}$				13		ns
Fall Time	$t_f$				14		ns
Total Gate Charge	$Q_g$	$V_{DS}=125V, V_{GS}=10V, I_D=3A$		4.2		nC	
Gate-to-Source Charge	$Q_{gs}$				1.4		nC
Gate-to-Drain "Miller" Charge	$Q_{gd}$				1.0		nC
Forward Diode Voltage	$V_{SD}$	$I_S=3A, V_{GS}=0V$		0.95	1.2	V	

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

### Switching Time Test Circuit



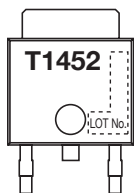
### Electrical Connection



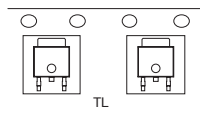
### Ordering & Package Information

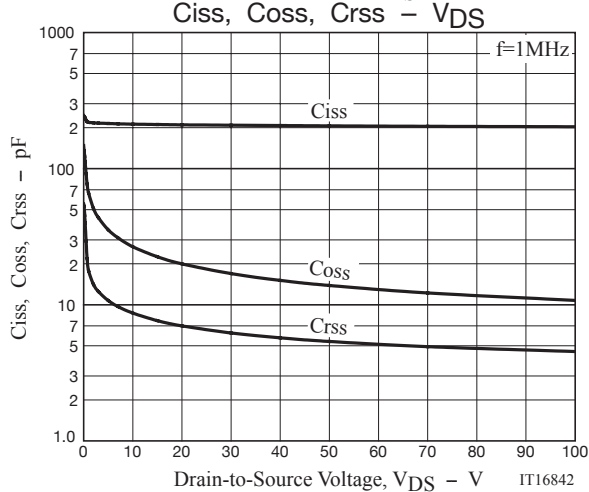
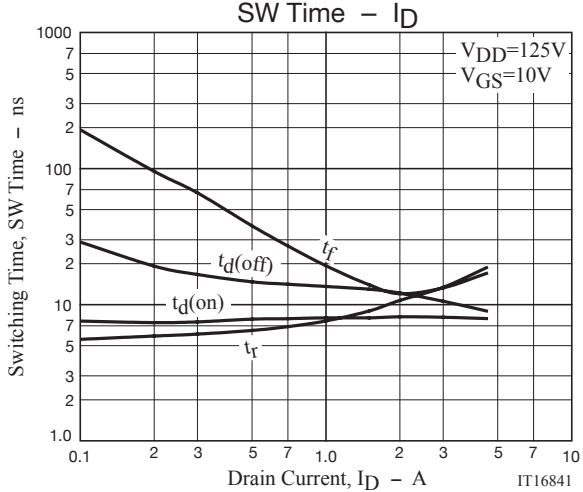
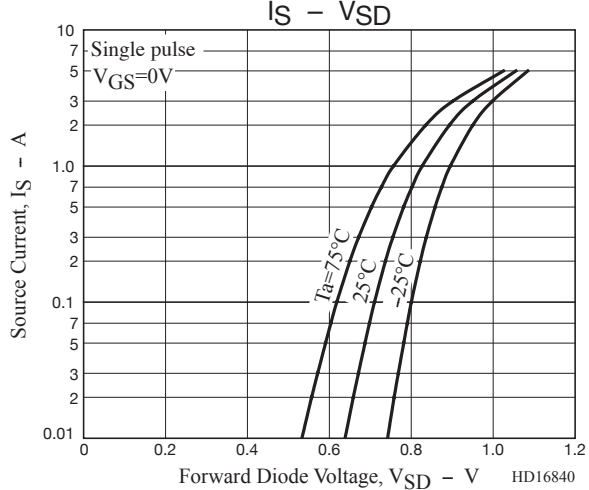
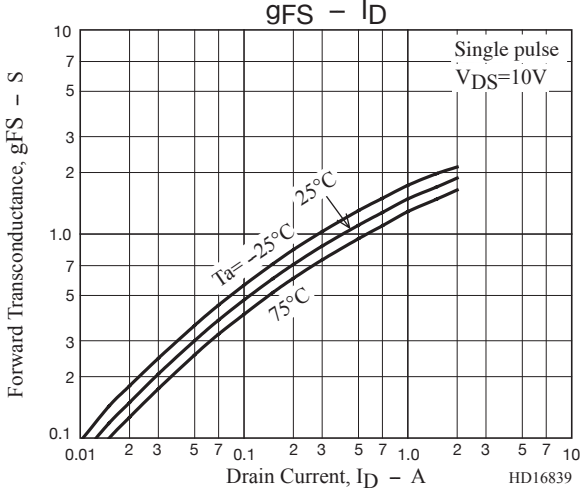
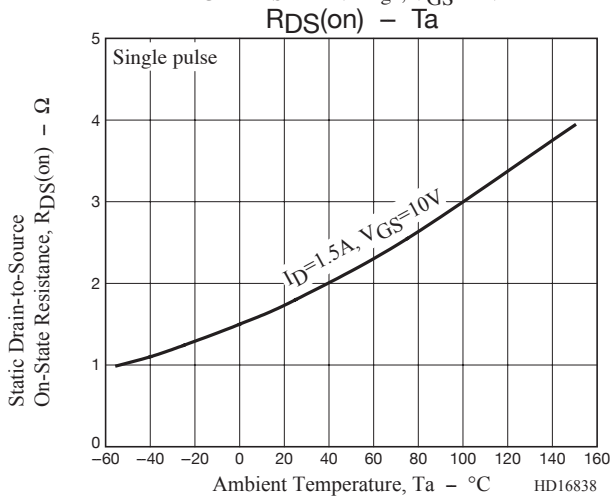
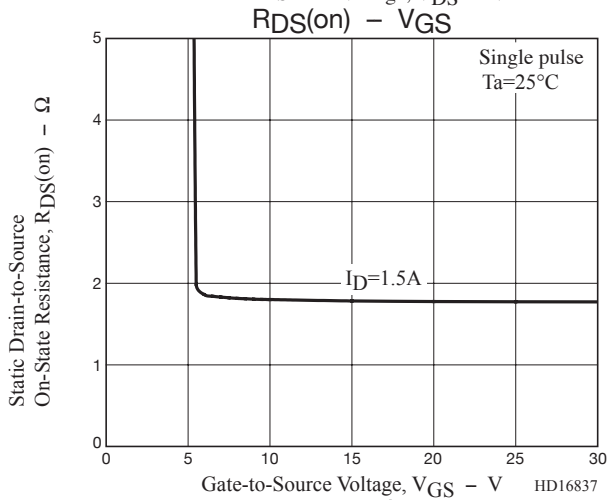
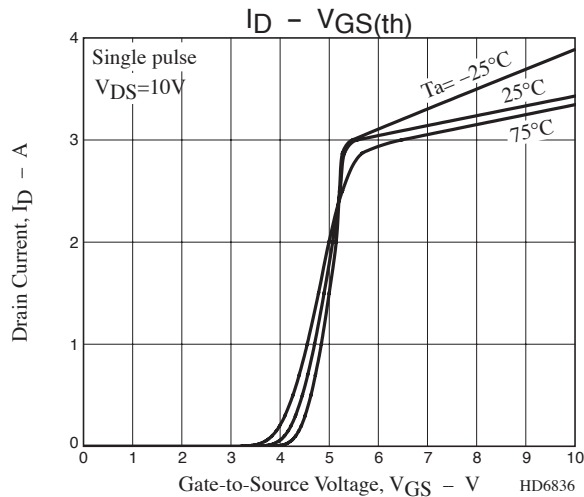
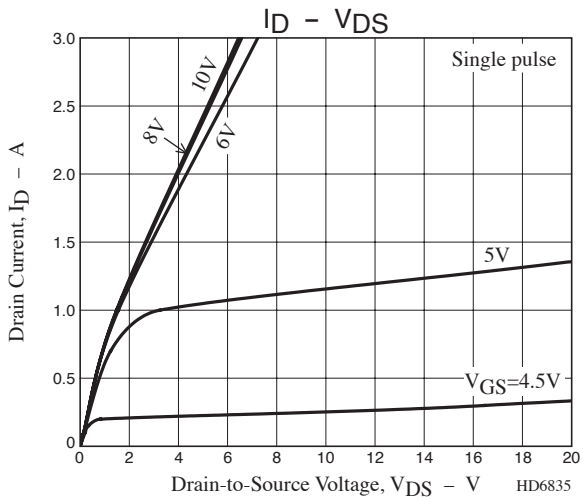
Device	Package	Shipping	memo
SFT1452-H	IPAK(TP)	500pcs./bag	Pb-Free and Halogen Free
SFT1452-W	SC-64, TO-251		
SFT1452-TL-H	DAPK(TP-FA)	700pcs./reel	
SFT1452-TL-W	SC-63, TO-252		

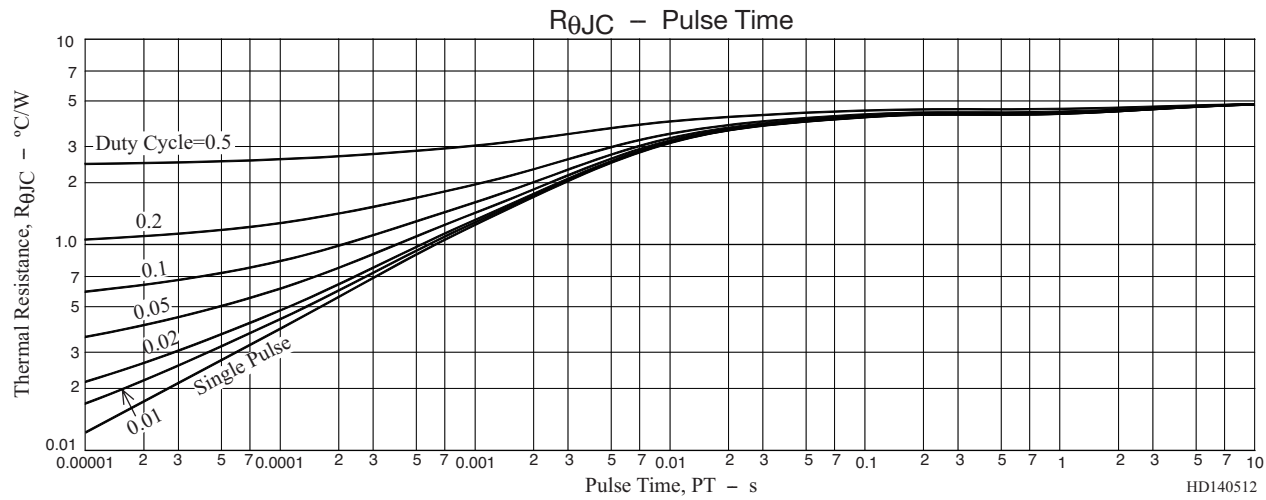
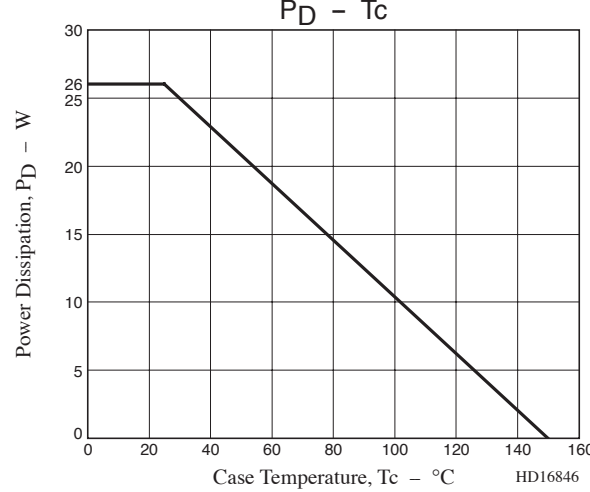
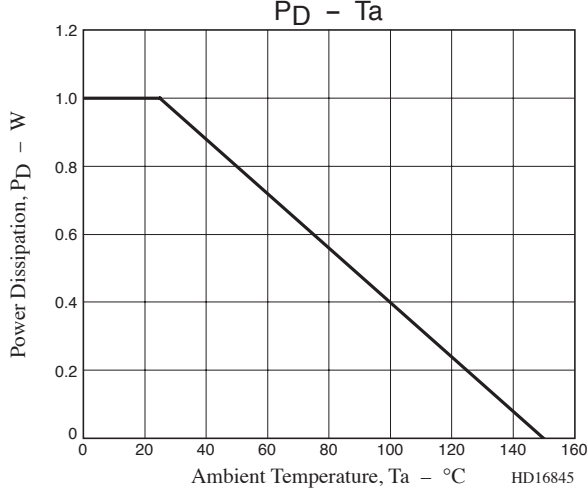
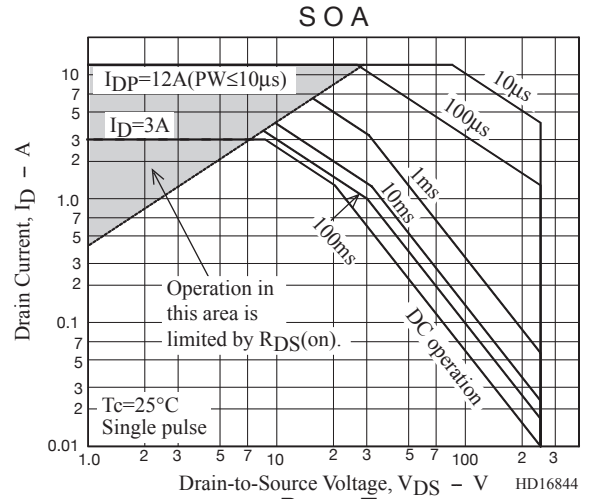
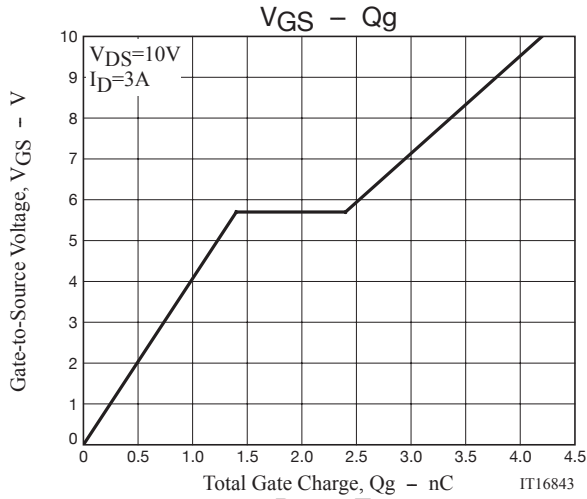
### Marking



### Packing Type:TL



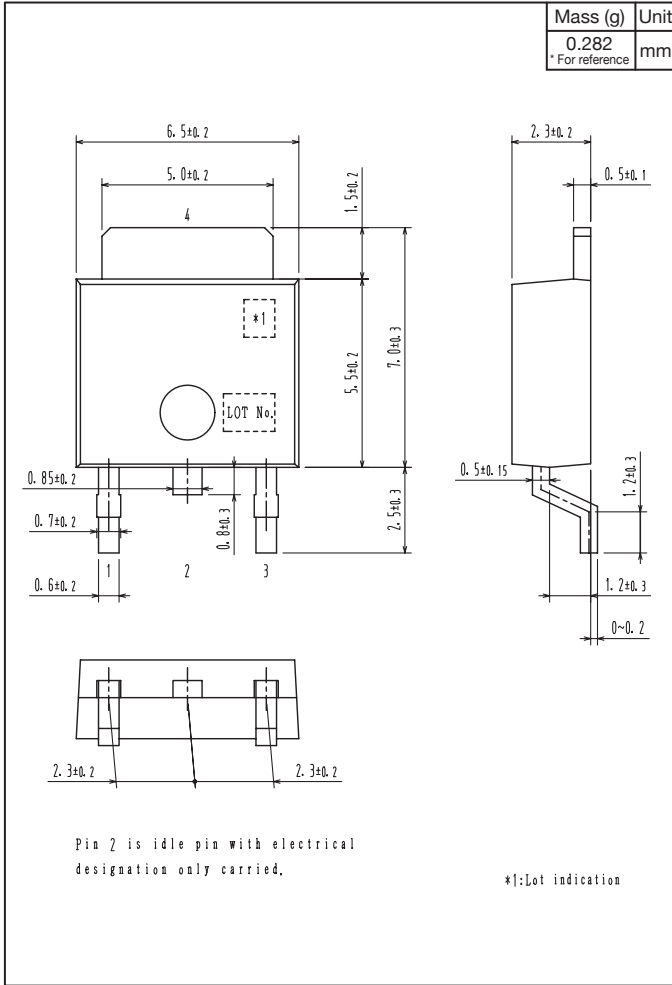




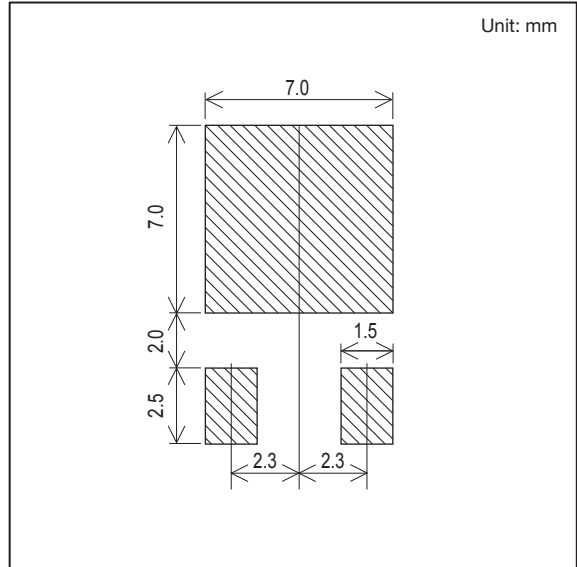
# SFT1452

## Outline Drawing

SFT1452-TL-H, SFT1452-TL-W



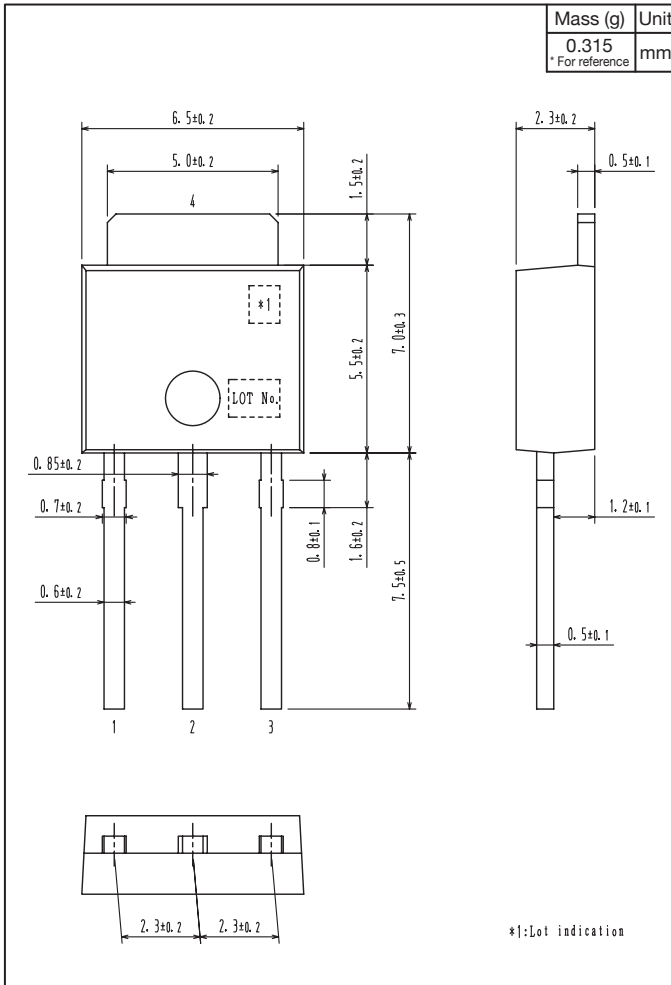
## Land Pattern Example



# SFT1452

## Outline Drawing

SFT1452-H, SFT1452-W



Note on usage : Since the SFT1452 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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