



# TF410

## N-Channel JFET 40V, 50 to 130 $\mu$ A, 0.11mS, USFP

ON Semiconductor®

<http://onsemi.com>

### Applications

- Impedance conversion, infrared sensor applications

### Features

- Ultrasmall package facilitates miniaturization in end products : 1.0mm $\times$ 0.6mm $\times$ 0.27mm (max 0.3mm)
- Small IGSS : max -500pA ( $V_{GSS} = -20V, V_{DS} = 0V$ )
- Small Ciss : typ. 0.7pF ( $V_{DS} = 10V, V_{GS} = 0V, f = 1MHz$ )
- Halogen free compliance

### Specifications

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

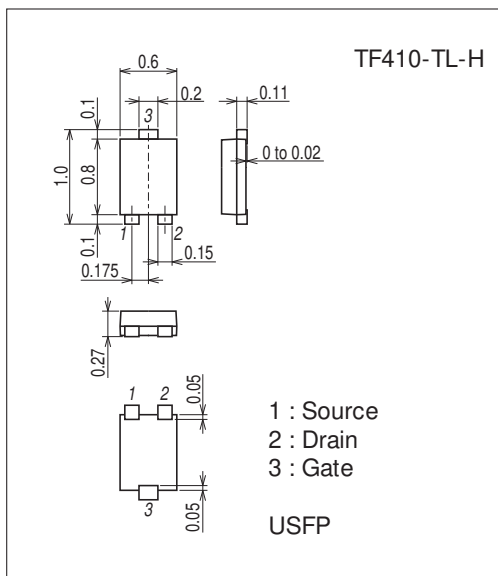
Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DSS}$		40	V
Gate-to-Drain Voltage	$V_{GDS}$		-40	V
Gate Current	$I_G$		10	mA
Drain Current	$I_D$		1	mA
Allowable Power Dissipation	$P_D$		30	mW
Junction Temperature	$T_j$		150	$^\circ C$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ C$

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)

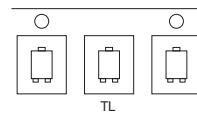
7055-003



### Product & Package Information

- Package : USFP
- JEITA, JEDEC : -
- Minimum Packing Quantity : 10,000 pcs./reel

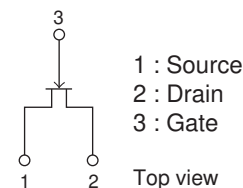
### Packing Type: TL



### Marking



### Electrical Connection



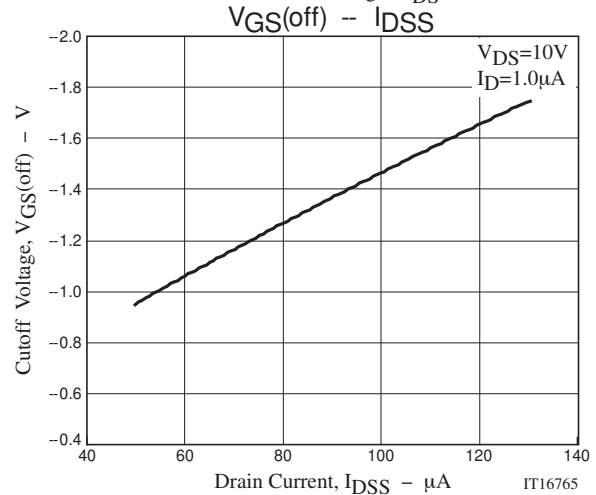
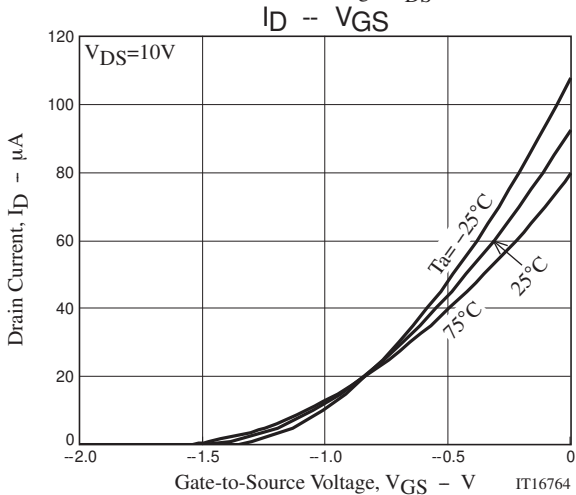
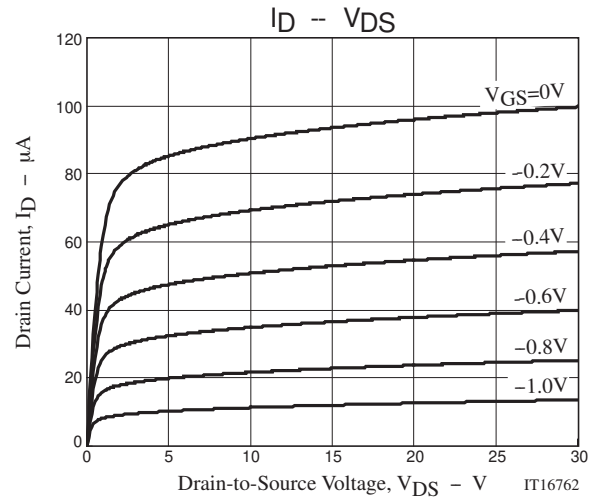
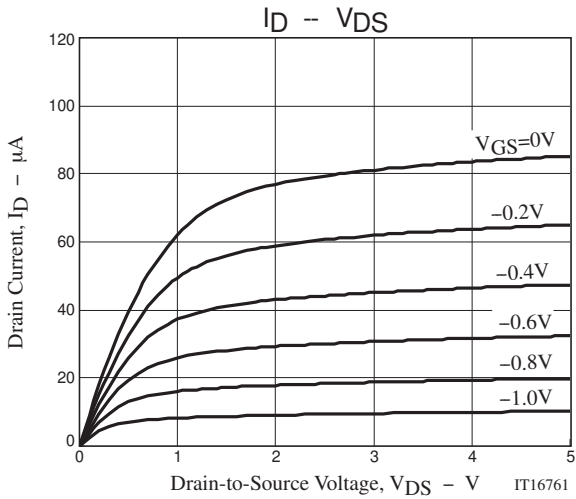
# TF410

## Electrical Characteristics at Ta=25°C

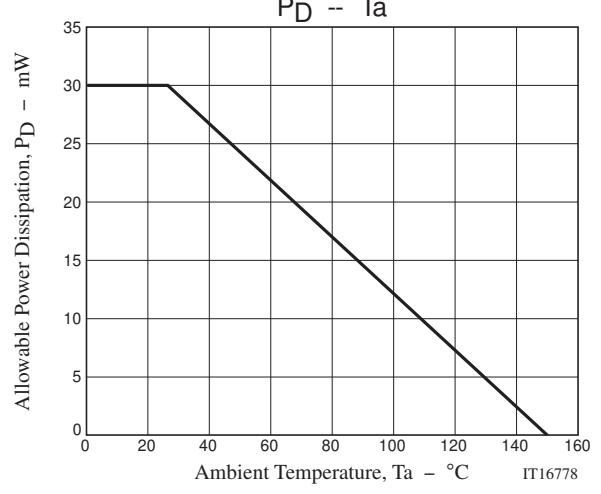
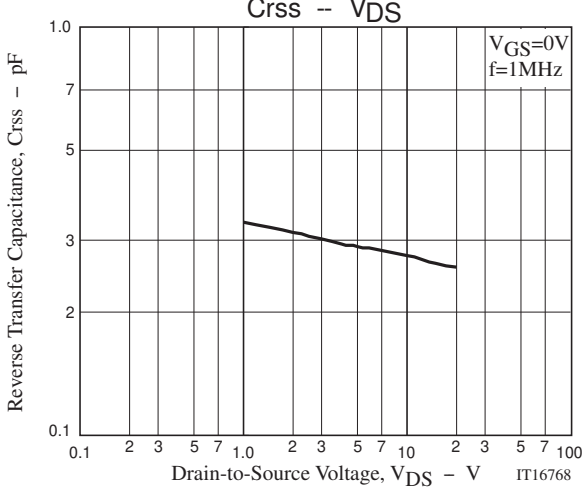
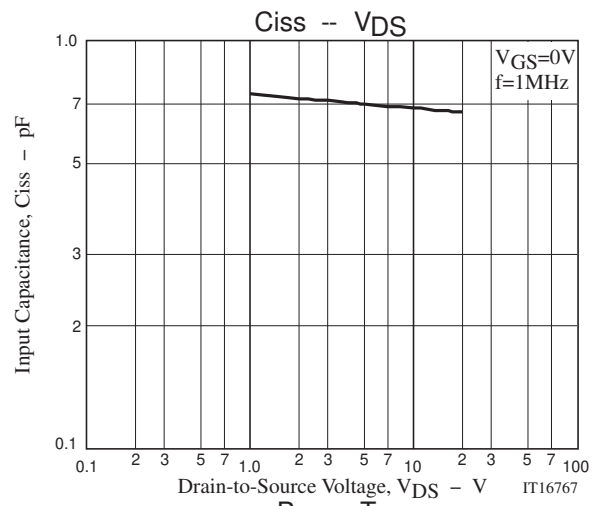
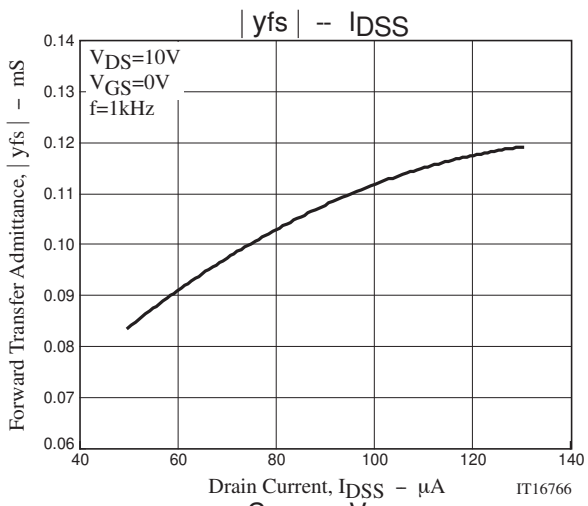
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gate-to-Drain Breakdown Voltage	V(BR)GDS	I <sub>G</sub> =-10μA, V <sub>DS</sub> =0V	-40			V
Gate-to-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =-20V, V <sub>DS</sub> =0V			-500	pA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =1μA		-1.4	-4.0	V
Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =0V	50		130	μA
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =0V, f=1kHz	0.05	0.11		mS
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =0V, f=1MHz		0.7		pF
Reverse Transfer Capacitance	C <sub>rss</sub>			0.3		pF

## Ordering Information

Device	Package	Shipping	memo
TF410-TL-H	USFP	10,000pcs./reel	Pb Free and Halogen Free



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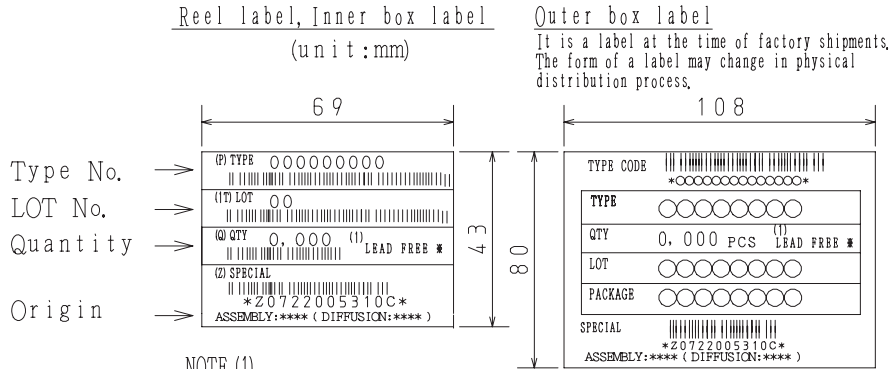
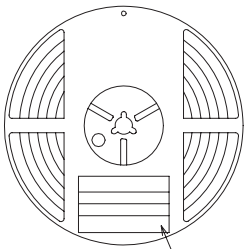
Taping Specification

TF410-TL-H

1. 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)
USFP	USFP	10,000	50,000	300,000	5 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimensions:mm (external) 440×195×210

Packing method

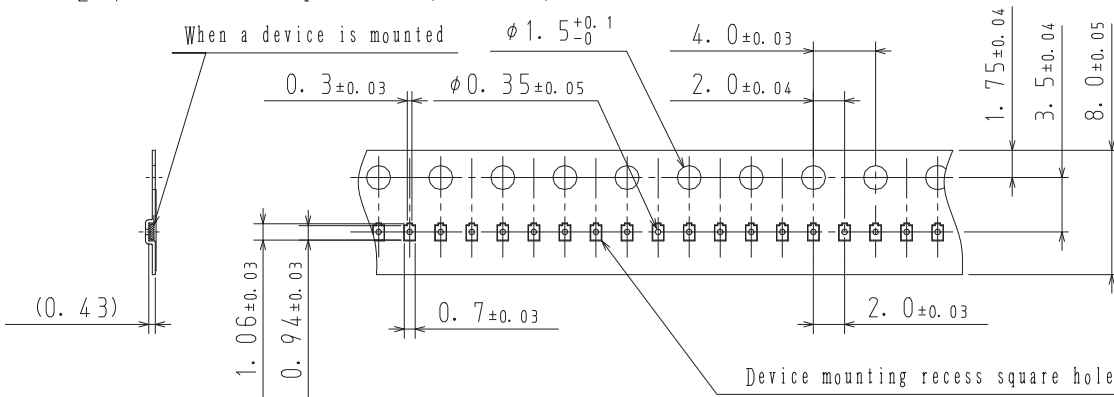


NOTE (1)  
The LEAD FREE \* description shows that the surface treatment of the terminal is lead free.

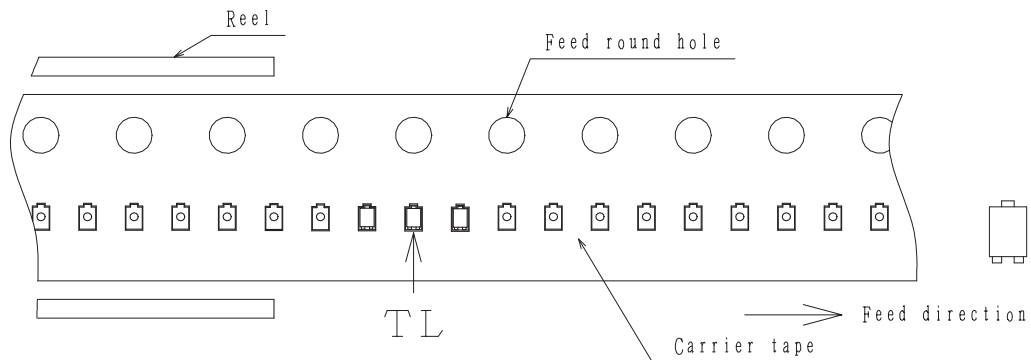
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

2-1. Carrier tape size (unit:mm)



2-2. Device placement direction

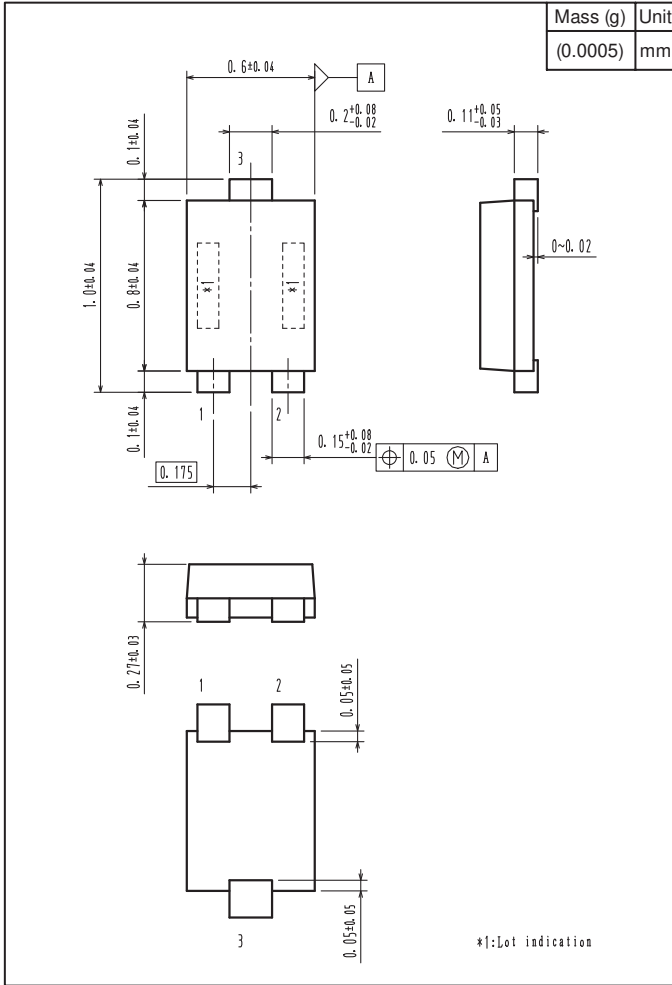


Those with one electrode terminal on the feed hole side.....TL

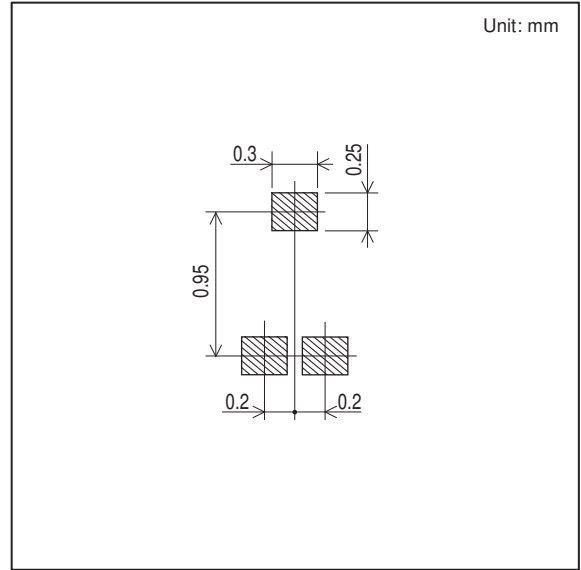
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## Outline Drawing

TF410-TL-H



## Land Pattern Example



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