Ordering number : ENA2007A

SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

N-Channel Silicon Junction FET

TF410 — Impedance Converter, Infrared Sensor Applications

Applications

- Impedance conversion, infrared sensor applications

Features

- Ultrasmall package facilities miniaturization in end products : 1.0mm×0.6mm×0.27mm (max 0.3mm)
- Small I_{GSS} : 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

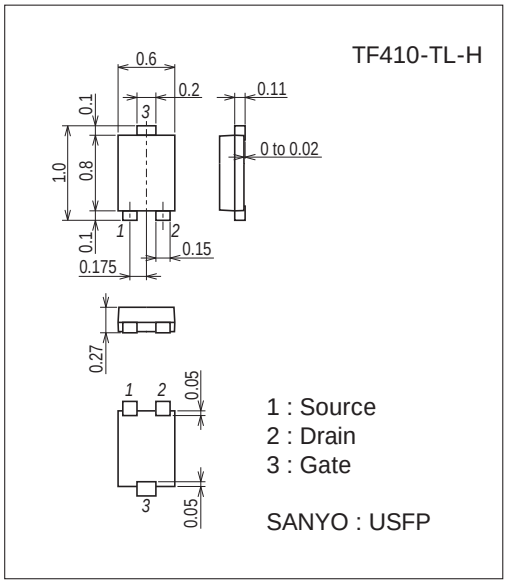
Absolute Maximum Ratings at Ta=25°C

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	Tj		150	°C
Storage Temperature	Tstg		–55 to +150	°C

Package Dimensions

unit : mm (typ)

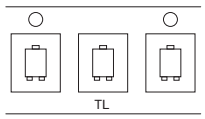
7055-003



Product & Package Information

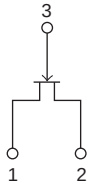
- Package : USFP
- JEITA, JEDEC : -
- Minimum Packing Quantity : 10,000 pcs./reel

Packing Type: TL



Marking

Electrical Connection



1 : Source
2 : Drain
3 : Gate

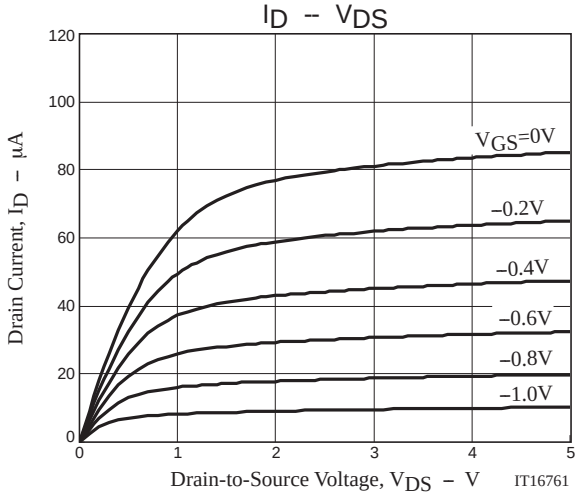
Top view

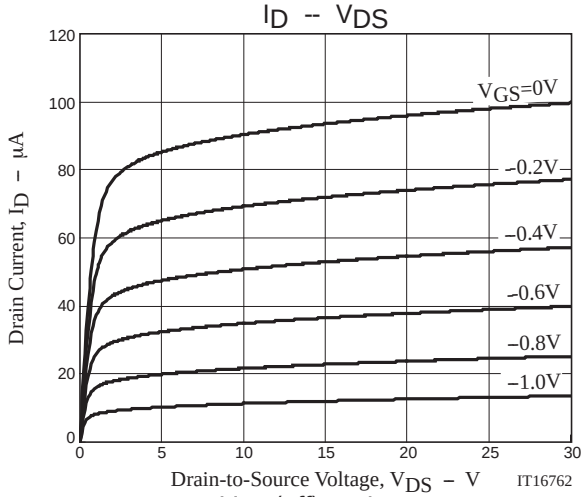
Electrical Characteristics at Ta=25°C

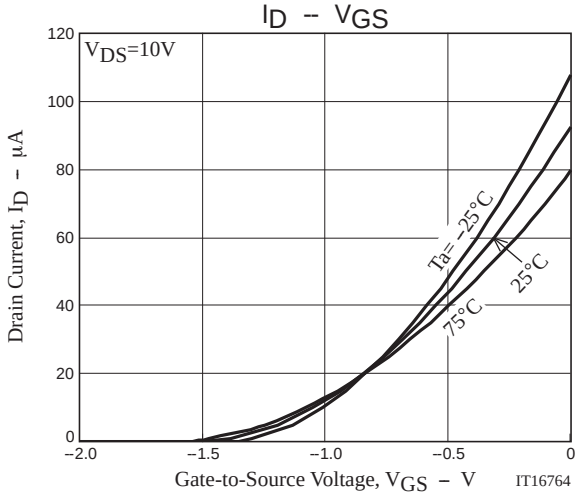
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gate-to-Drain Breakdown Voltage	$V_{(BR)GDS}$	I_G=−10μA, V_{DS}=0V	−40			V
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=−20V, V_{DS}=0V			−500	pA
Cutoff Voltage	V_{GS}(off)	V_{DS}=10V, I_D=1μA		−1.4	−4.0	V
Drain Current	I_{DSS}	V_{DS}=10V, V_{GS}=0V	50		130	μA
Forward Transfer Admittance	| yfs |	V_{DS}=10V, V_{GS}=0V, f=1kHz	0.05	0.11		mS
Input Capacitance	Ciss	V_{DS}=10V, V_{GS}=0V, f=1MHz		0.7		pF
Reverse Transfer Capacitance	Crss			0.3		pF

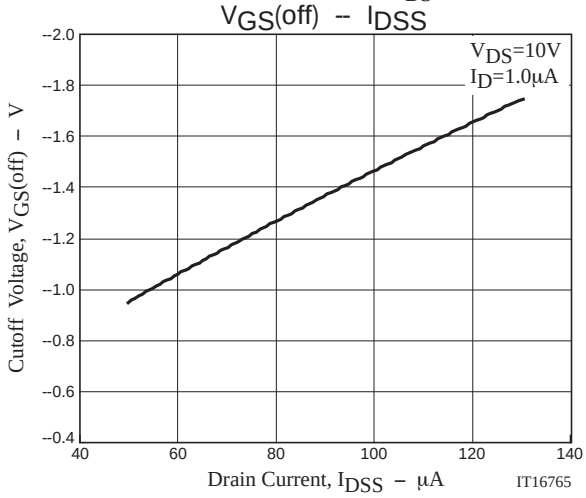
Ordering Information

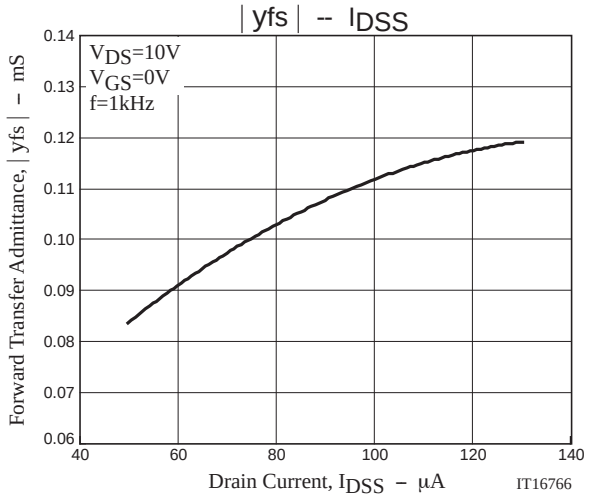
Device	Package	Shipping	memo
TF410-TL-H	USFP	10,000pcs./reel	Pb Free and Halogen Free

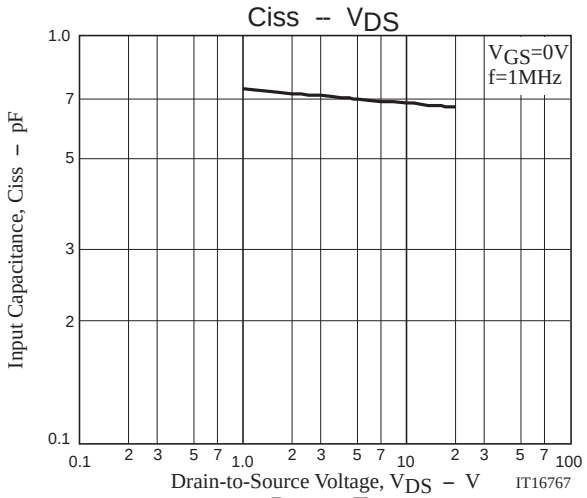


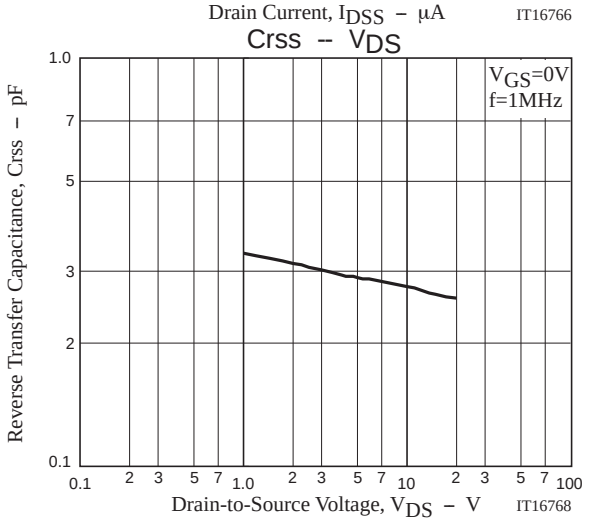


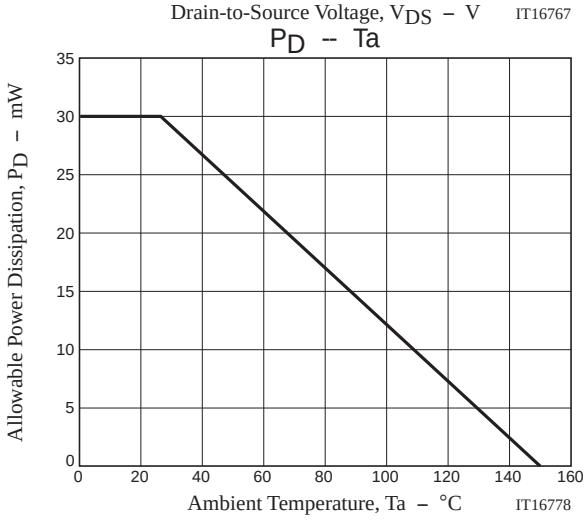





| yfs | -- IDSS
VDS=10V
VGS=0V
f=1kHz
Forward Transfer Admittance, | yfs | – mS
0.14
0.13
0.12
0.11
0.10
0.09
0.08
0.07
0.06
40
60
80
100
120
140
Drain Current, IDSS – μA
IT16766


Ciss -- VDS
VGS=0V
f=1MHz
Input Capacitance, Ciss – pF
1.0
7
5
3
2
0.1
0.1
2
3
5
7
1.0
2
3
5
7
10
2
3
5
7
100
Drain-to-Source Voltage, VDS – V
IT16767


Crss -- VDS
VGS=0V
f=1MHz
Reverse Transfer Capacitance, Crss – pF
1.0
7
5
3
2
0.1
0.1
2
3
5
7
1.0
2
3
5
7
10
2
3
5
7
100
Drain-to-Source Voltage, VDS – V
IT16768


PD -- Ta
Allowable Power Dissipation, PD – mW
35
30
25
20
15
10
5
0
0
20
40
60
80
100
120
140
160
Ambient Temperature, Ta – °C
IT16778

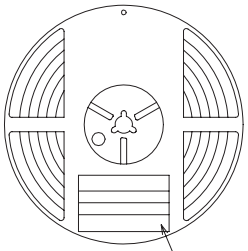
Taping Specification

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

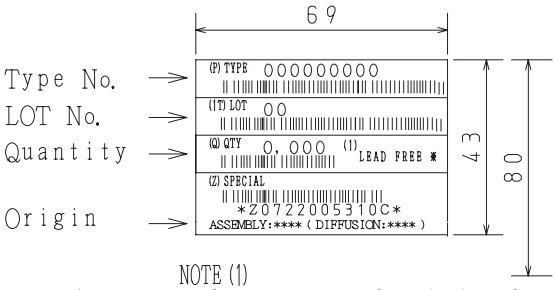
Packing method



Reel label

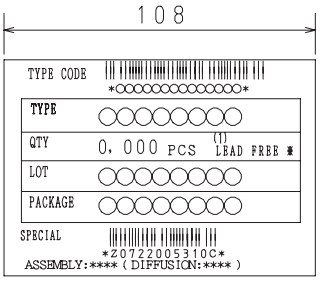
Reel label, Inner box label

(unit:mm)



Outer box label

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

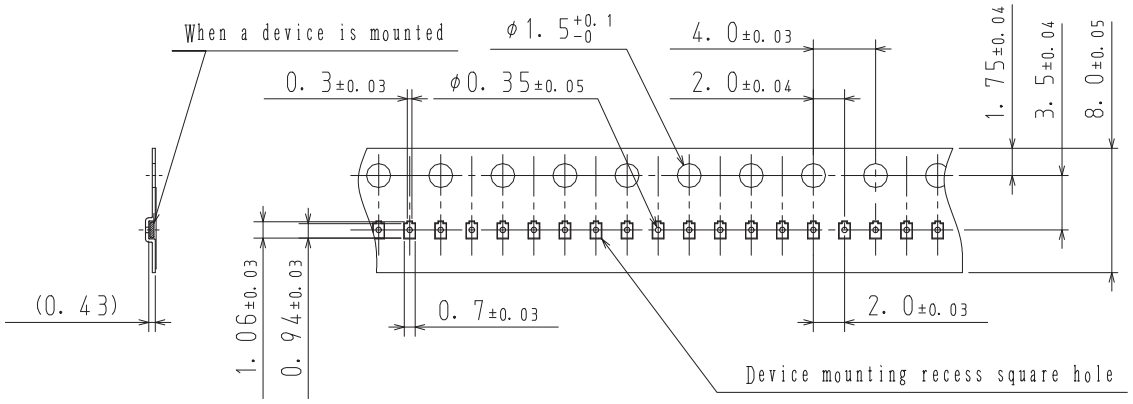


NOTE (1)
The LEAD FREE ※ description shows that the surface treatment of the terminal is lead free.

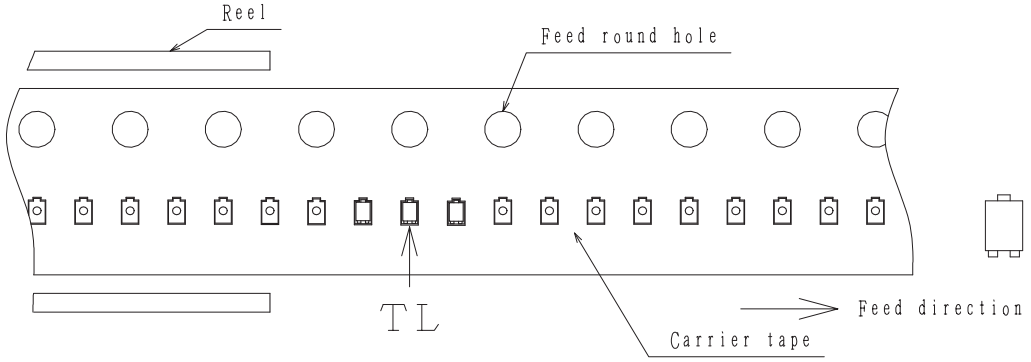
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



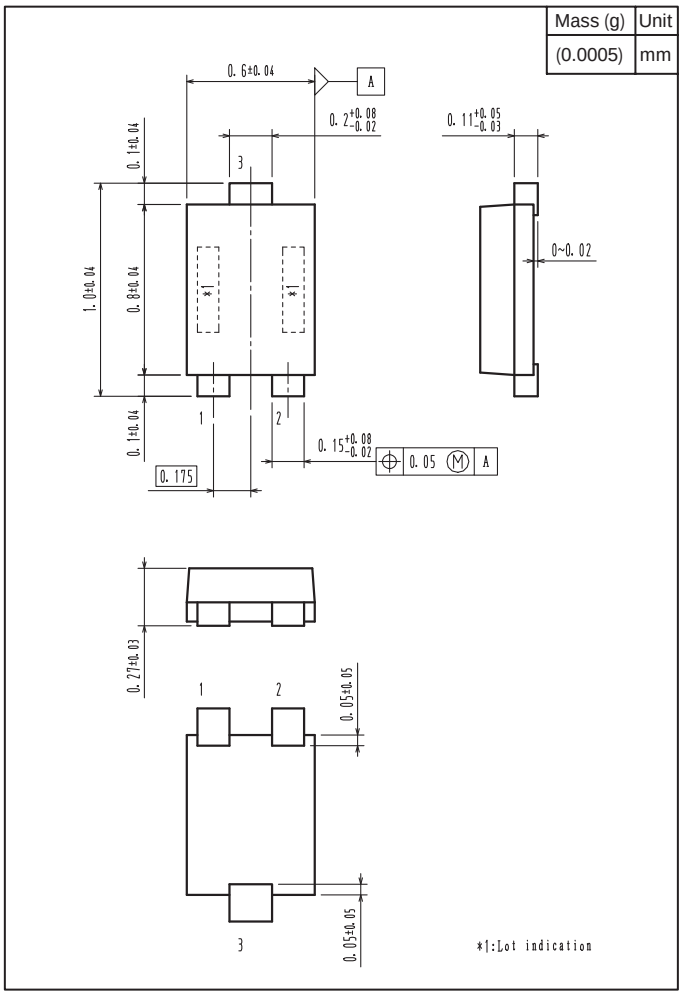
2-2. Device placement direction



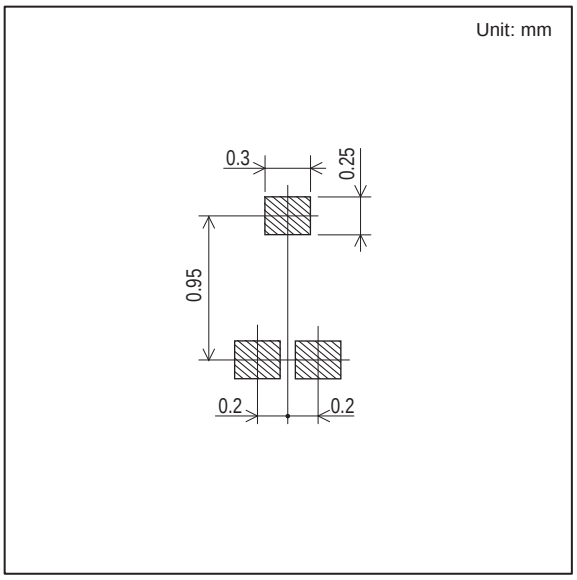
Those with one electrode terminal on the feed hole side·····TL

Outline Drawing

TF410-TL-H



Land Pattern Example



This catalog provides information as of May, 2012. Specifications and information herein are subject to change without notice.