Ordering number : ENA2008A

SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

N-Channel Silicon Junction FET

TF408 — Low-Frequency General-Purpose Amplifier, Impedance Converter Applications

Applications

- Low-Frequency general-purpose amplifier, impedance conversion, infrared sensor applications

Features

- Ultrasmall package facilitates miniaturization in end products : 1.0mm×0.6mm×0.27mm (max 0.3mm)
- Small I_{GSS} : max –1.0nA (V_{GS}= –20V, V_{DS}=0V)
- Small Ciss : typ 4pF (V_{DS}= 10V, V_{GS}=0V, f=1MHz)
- Halogen free compliance

Specifications

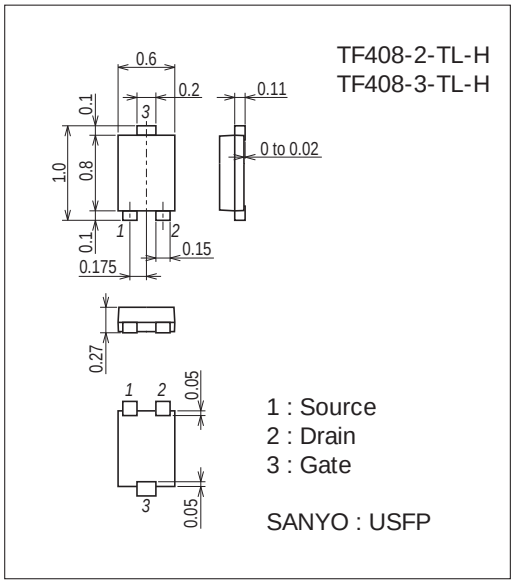
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSX}		30	V
Gate-to-Drain Voltage	V_{GDS}		–30	V
Gate Current	I_G		10	mA
Drain Current	I_D		10	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)

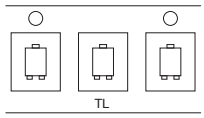
7055-003



Product & Package Information

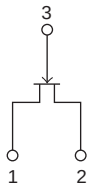
- Package : USFP
- JEITA, JEDEC : -
- Minimum Packing Quantity : 10,000 pcs./reel

Packing Type: TL



Marking

Electrical Connection



1 : Source
2 : Drain
3 : Gate

Top view

Electrical Characteristics at Ta=25°C

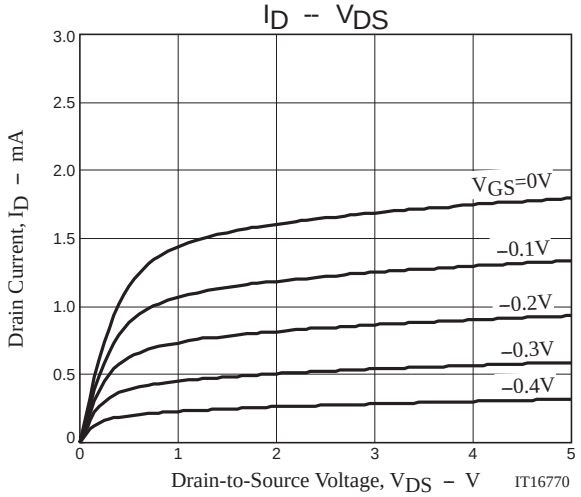
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gate-to-Drain Breakdown Voltage	$V_{(BR)GDS}$	I_G=−10μA, V_{DS}=0V	−30			V
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=−20V, V_{DS}=0V			−1.0	nA
Cutoff Voltage	V_{GS}(off)	V_{DS}=10V, I_D=1μA	−0.18	−0.60	−1.5	V
Drain Current	I_{DSS}	V_{DS}=10V, V_{GS}=0V	0.6*		3.0*	mA
Forward Transfer Admittance	| yfs |	V_{DS}=10V, V_{GS}=0V, f=1kHz	3.0	5.0		mS
Input Capacitance	Ciss	V_{DS}=10V, V_{GS}=0V, f=1MHz		4		pF
Reverse Transfer Capacitance	Crss			1.1		pF

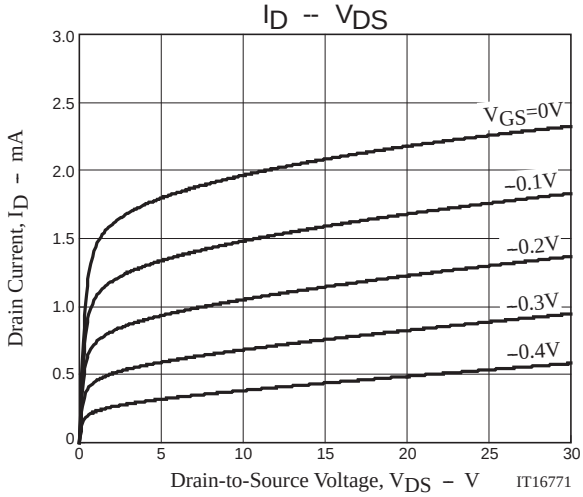
* : The TF408 is classified by I_{DSS} as follows : (unit : mA)

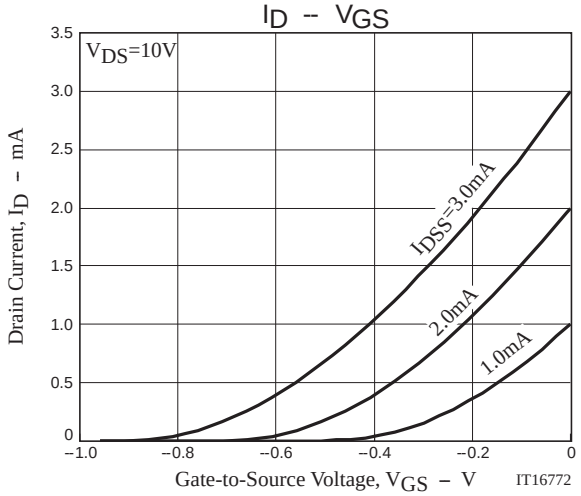
Rank	2	3
I_{DSS}	0.6 to 1.5	1.2 to 3.0

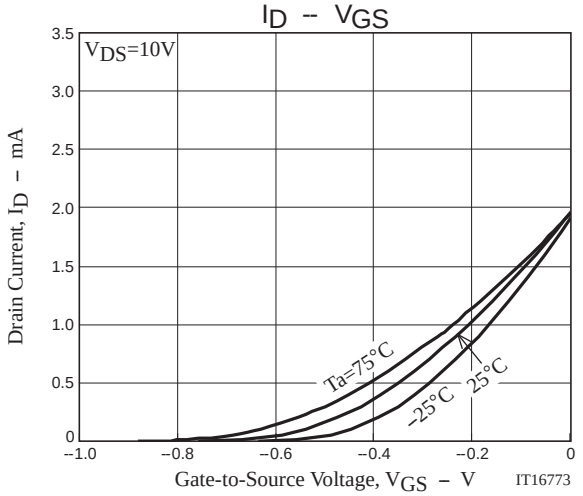
Ordering Information

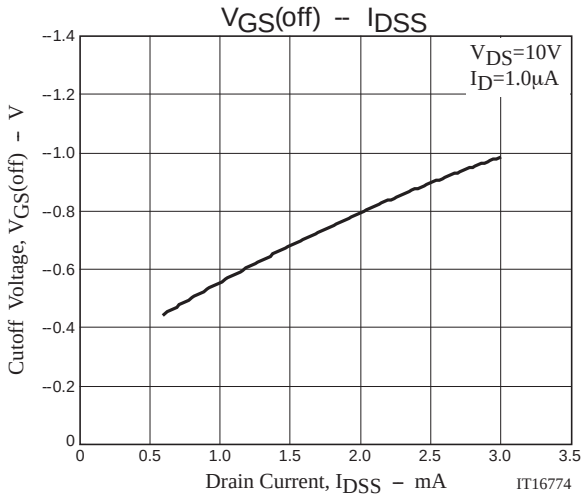
Device	Package	Shipping	memo
TF408-2-TL-H	USFP	10,000pcs./reel	Pb Free and Halogen Free
TF408-3-TL-H	USFP	10,000pcs./reel	

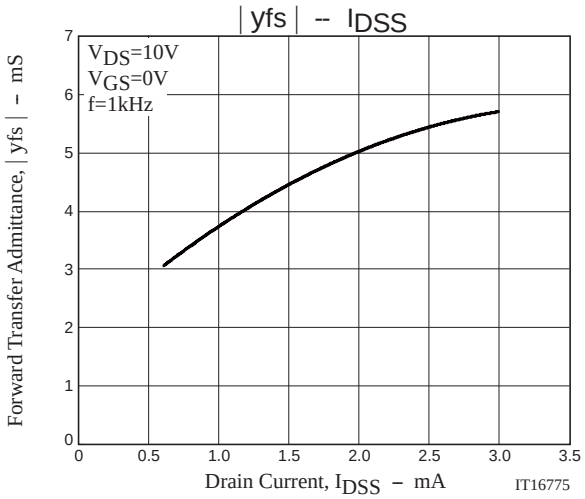


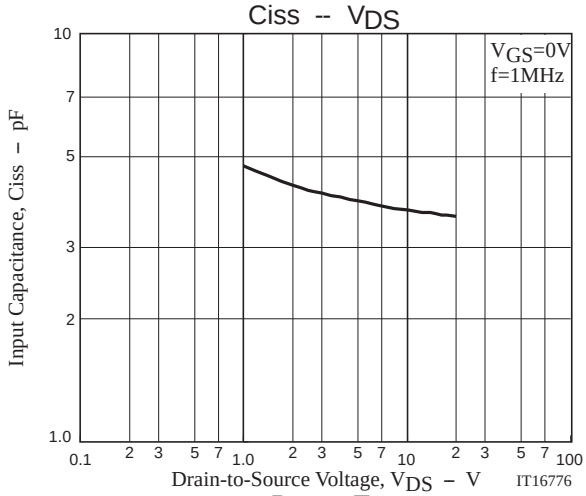


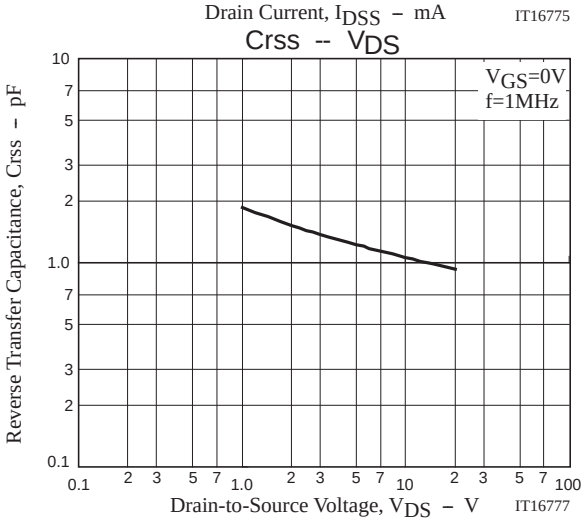


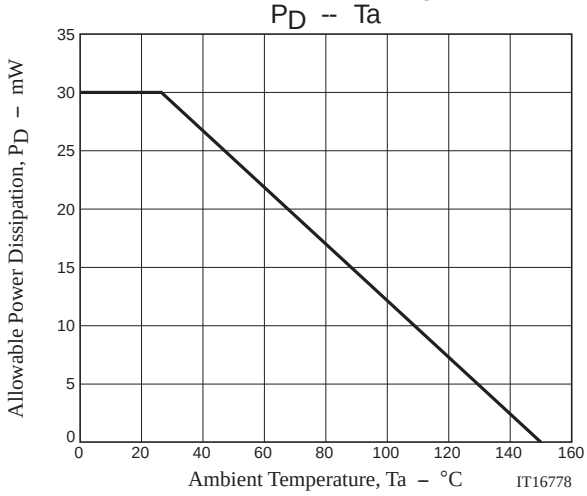



VGS(off) -- IDSS
VDS=10V
ID=1.0μA
Cutoff Voltage, VGS(off) – V
Drain Current, IDSS – mA
IT16774


| yfs | -- IDSS
VDS=10V
VGS=0V
f=1kHz
Forward Transfer Admittance, | yfs | – mS
Drain Current, IDSS – mA
IT16775


Ciss -- VDS
VGS=0V
f=1MHz
Input Capacitance, Ciss – pF
Drain-to-Source Voltage, VDS – V
IT16776


Crss -- VDS
VGS=0V
f=1MHz
Reverse Transfer Capacitance, Crss – pF
Drain-to-Source Voltage, VDS – V
IT16777


PD -- Ta
Allowable Power Dissipation, PD – mW
Ambient Temperature, Ta – °C
IT16778

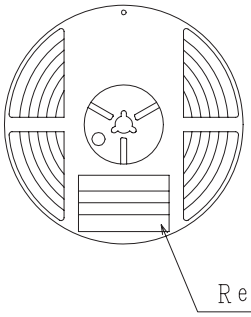
Taping Specification

TF408-2-TL-H, TF408-3-TL-H

1. Packing Format

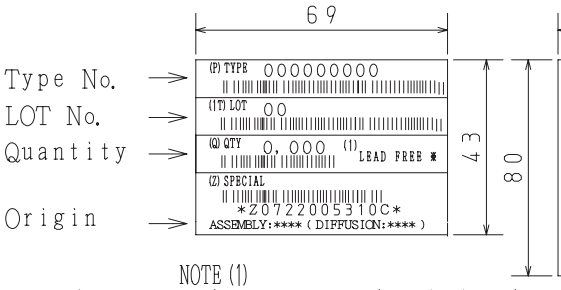
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
USFP	USFP	10,000	50,000	300,000	5 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimensions:mm (external) 440×195×210

Packing method



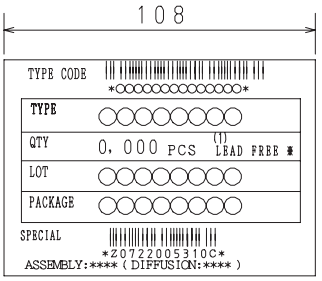
Reel label

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.

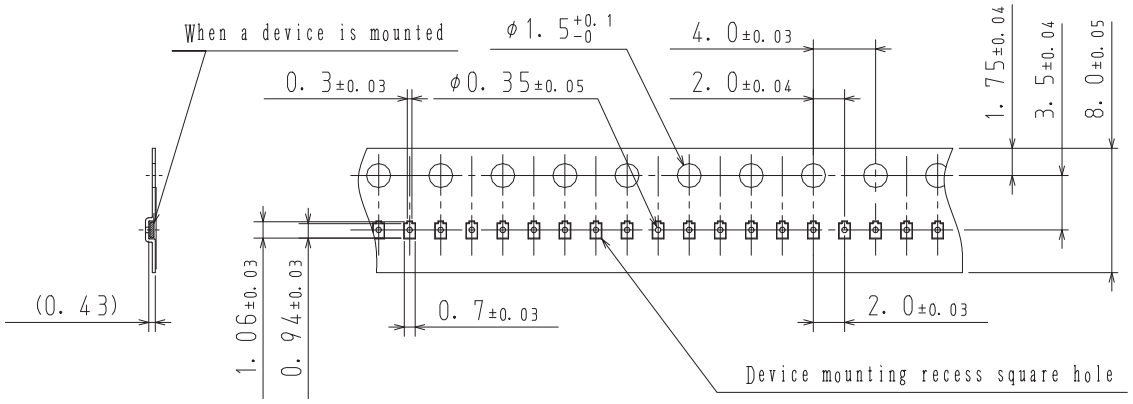


NOTE (1)
The LEAD FREE ※ description shows that the surface treatment of the terminal is lead free.

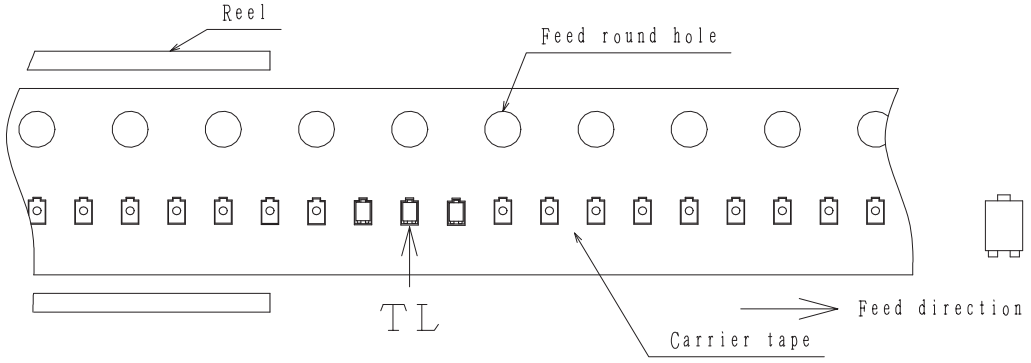
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



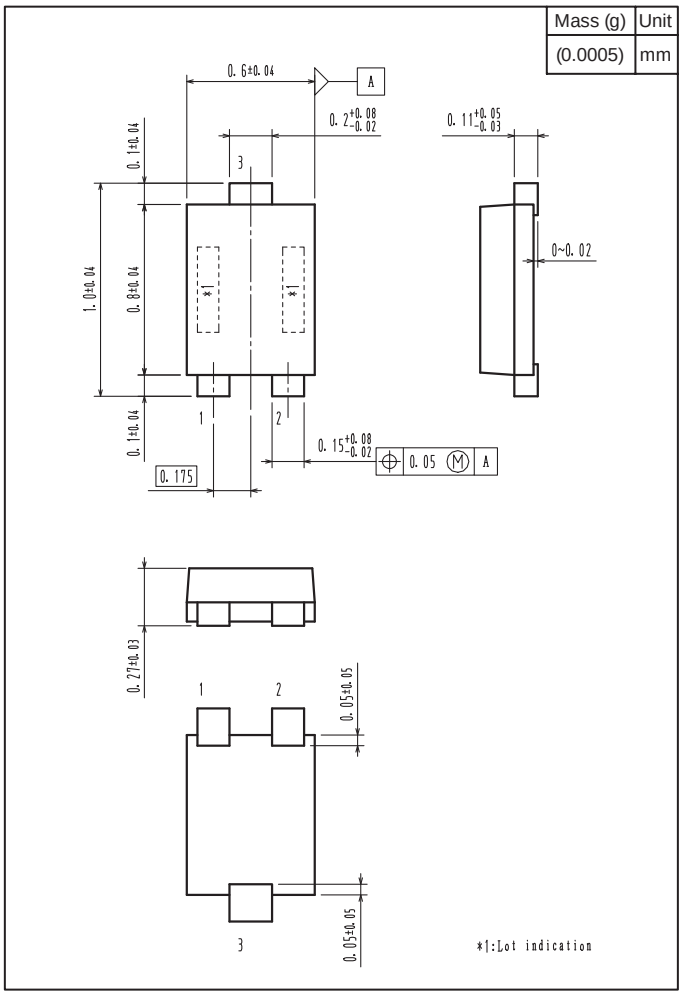
2-2. Device placement direction



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

Outline Drawing

TF408-2-TL-H, TF408-3-TL-H



Land Pattern Example