



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 C_{iss} : typ 4pF ($V_{DS} = 10V$, $V_{GS} = 0V$, $f = 1MHz$)
- Halogen free compliance

Specifications

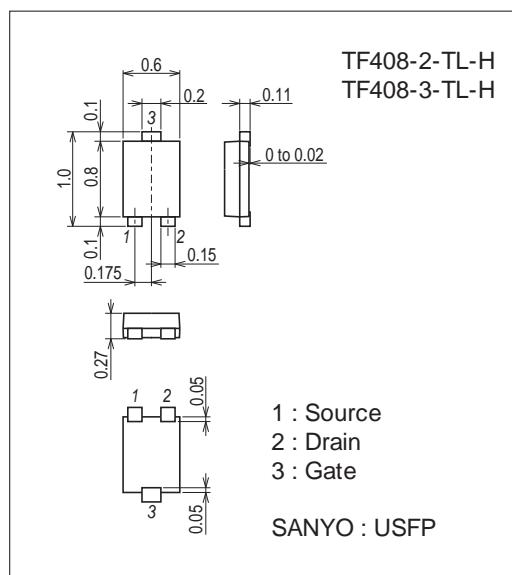
Absolute Maximum Ratings at $T_a = 25^\circ C$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{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	T_j		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

Package Dimensions

unit : mm (typ)

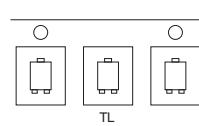
7055-003



Product & Package Information

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

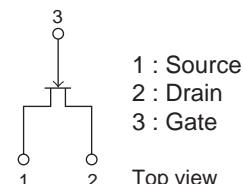
Packing Type: TL



Marking



Electrical Connection



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

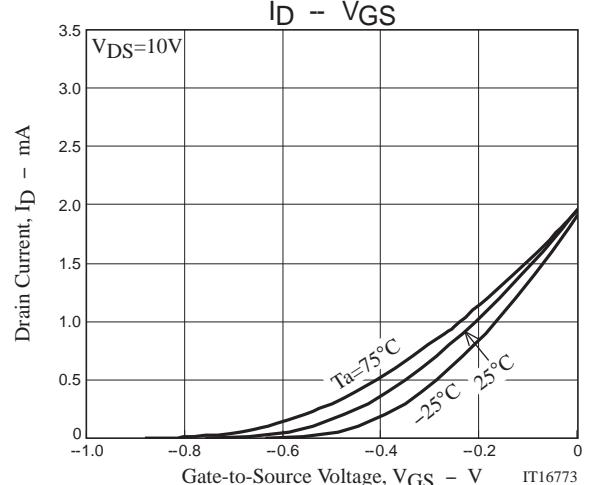
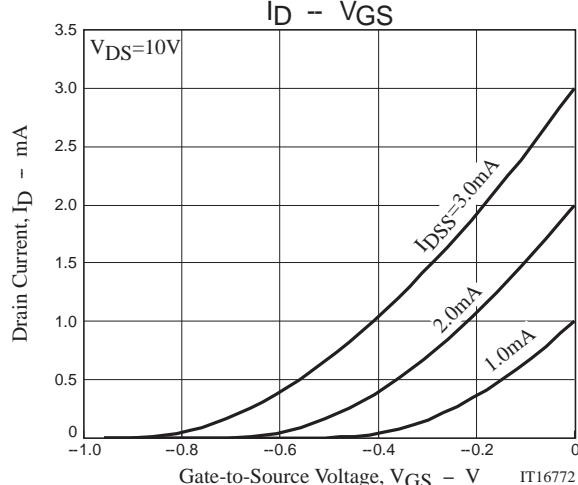
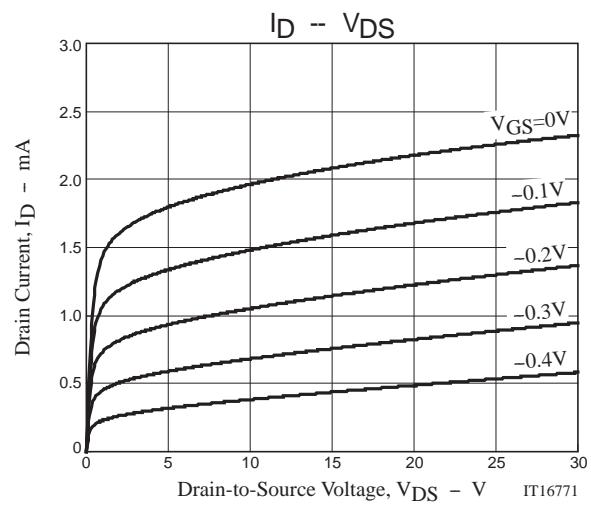
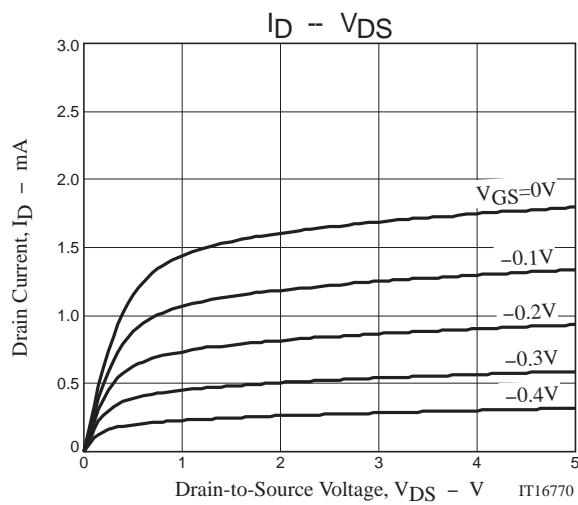
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gate-to-Drain Breakdown Voltage	$V_{(\text{BR})\text{GDS}}$	$I_G=-10\mu\text{A}, V_{DS}=0\text{V}$	-30			V
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=-20\text{V}, V_{DS}=0\text{V}$			-1.0	nA
Cutoff Voltage	$V_{GS(\text{off})}$	$V_{DS}=10\text{V},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

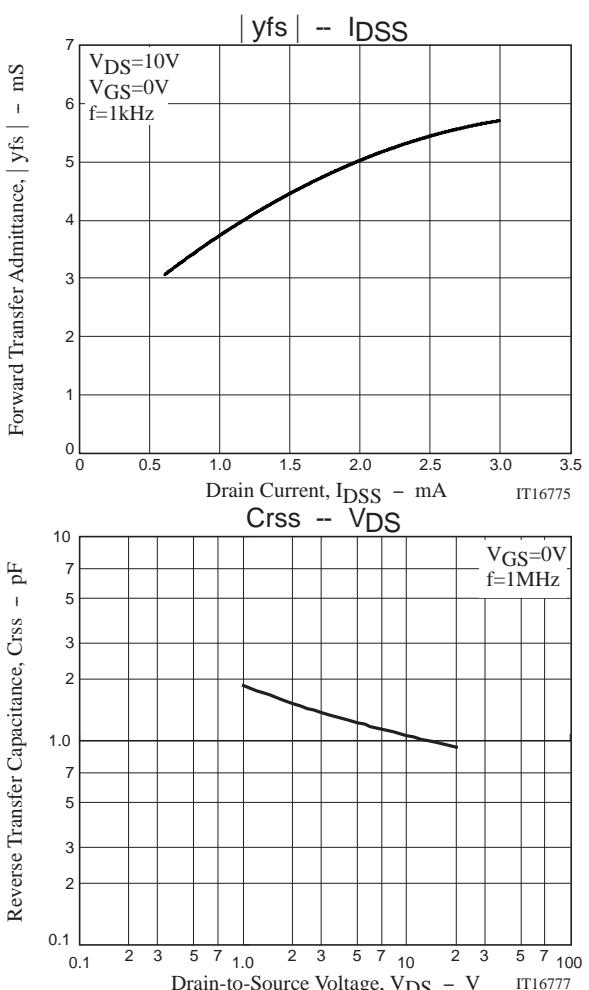
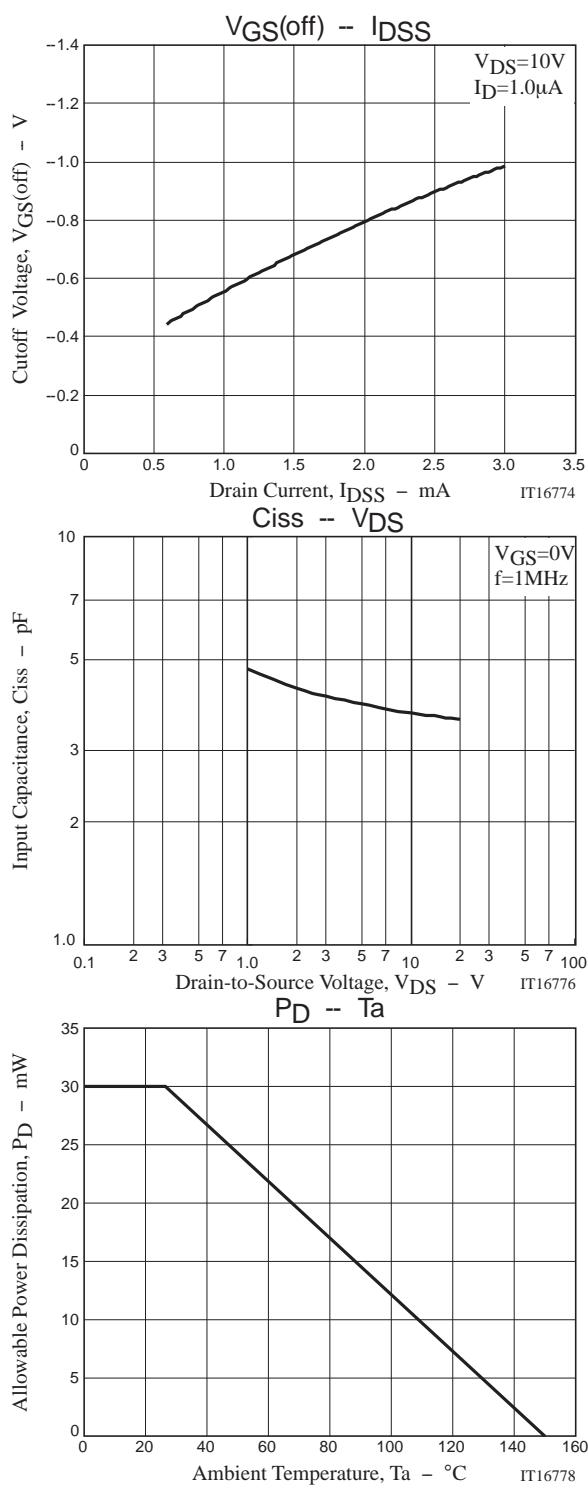
* : The TF408 is classified by I_{DSS} as follows : (unit : mA)

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		10,000pcs./reel	



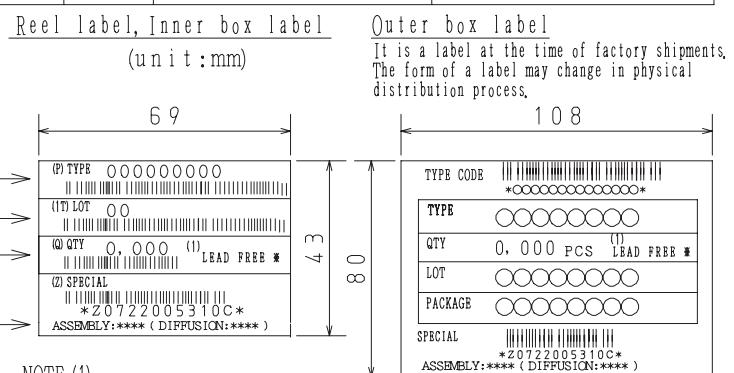
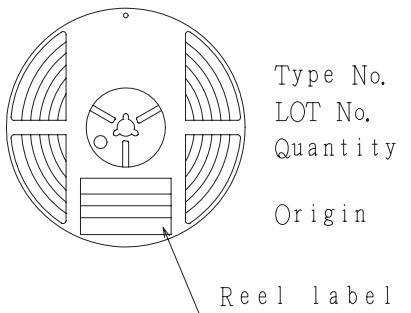


Taping Specification

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

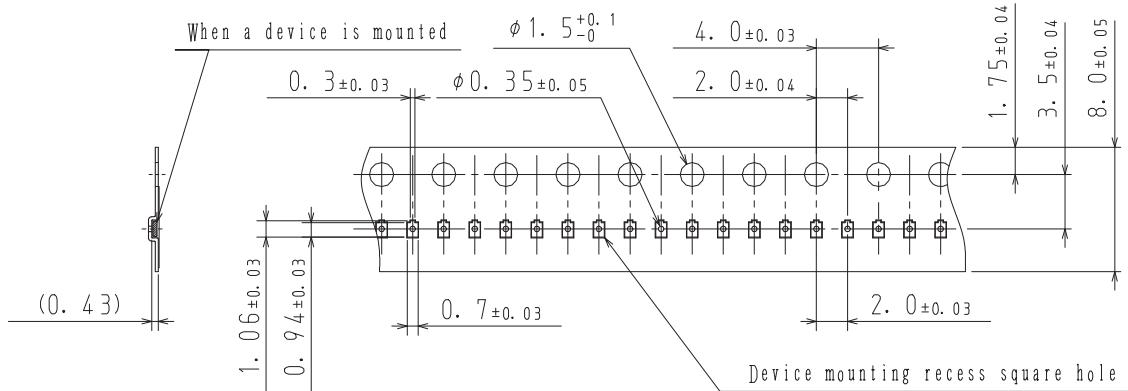
NOTE (1)

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

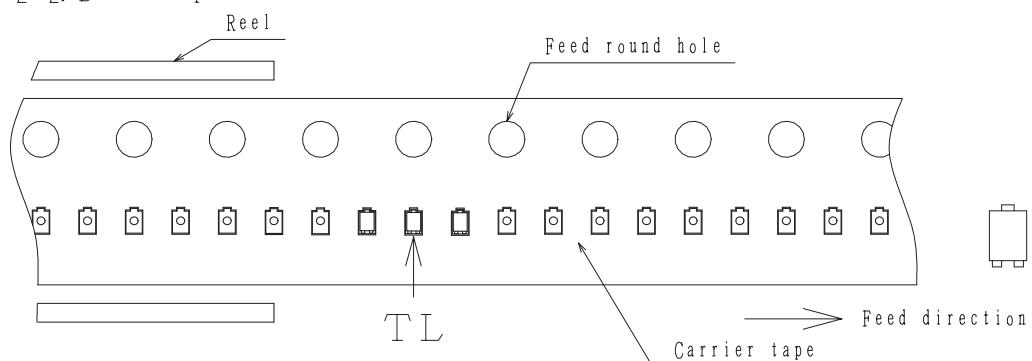
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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

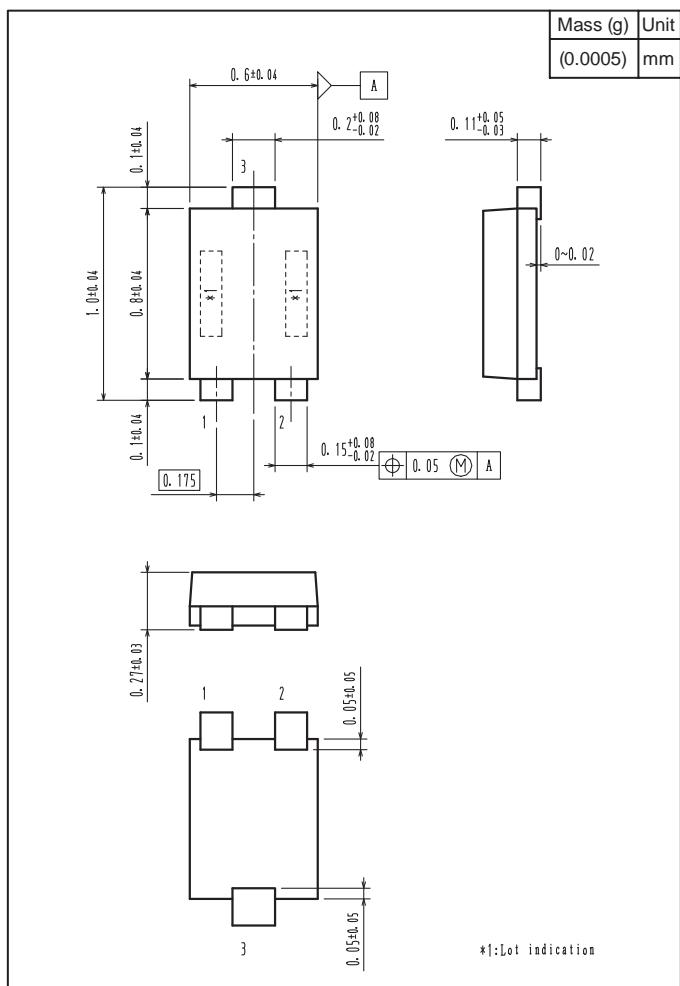


2-2. Device placement direction

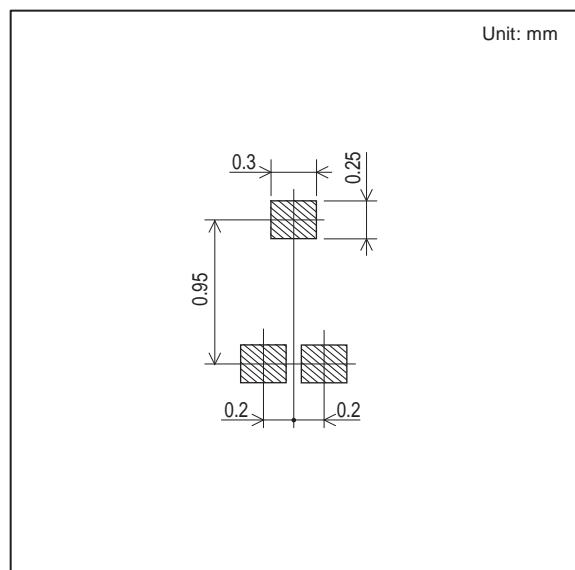


Outline Drawing

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



Land Pattern Example



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