



TF202THC

N-Channel JFET

20V, 140 to 350 μ A, 1.0mS, VTFP

ON Semiconductor®

<http://onsemi.com>

Features

- Ultrasmall package facilitates miniaturization in end products
- Especially suited for use in electret condenser microphone for audio equipments and telephones
- Excellent voltage characteristics
- Excellent transient characteristics
- Adoption of FBET process
- Halogen free compliance

Specifications

Absolute Maximum Ratings at Ta=25°C

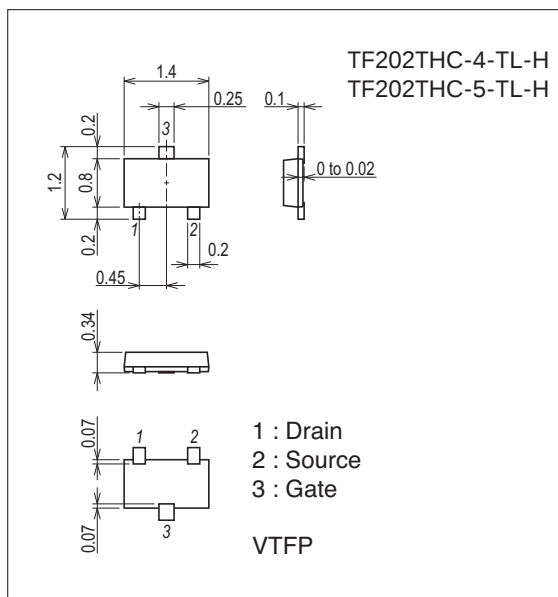
Parameter	Symbol	Conditions	Ratings	Unit
Gate to Drain Voltage	VGDO		-20	V
Gate Current	IG		10	mA
Drain Current	ID		1	mA
Allowable Power Dissipation	PD		100	mW
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

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.

Package Dimensions

unit : mm (typ)

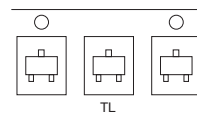
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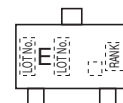
Product & Package Information

- Package : VTFP
- JEITA, JEDEC : SC-106A
- Minimum Packing Quantity : 8,000 pcs./reel

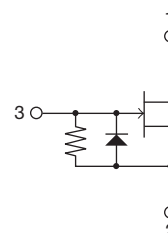
Packing Type: TL



Marking



Electrical Connection



TF202THC

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gate to Drain Breakdown Voltage	$V_{(BR)GDO}$	$I_G = -100\mu A$	-20			V
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=5V, I_D=1\mu A$	-0.2	-0.6	-1.0	V
Drain Current	I_{DSS}	$V_{DS}=5V, V_{GS}=0V$	140*		350*	μA
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=5V, V_{GS}=0V, f=1kHz$	0.5	1.0		mS
Input Capacitance	C_{iss}	$V_{DS}=5V, V_{GS}=0V, f=1MHz$		3.5		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=5V, V_{GS}=0V, f=1MHz$		0.65		pF
[Ta=25°C, $V_{CC}=4.5V, R_L=1k\Omega, C_{in}=15pF$, See specified Test Circuit.]						
Voltage Gain	GV	$V_{IN}=10mV, f=1kHz$		-3.0		dB
Reduced Voltage Characteristic	ΔGV	$V_{IN}=10mV, f=1kHz, V_{CC}=4.5V \rightarrow 1.5V$		-1.2	-3.5	dB
Frequency Characteristic	ΔGvf	$f=1kHz$ to 110Hz			-1.0	dB
Input Impedance	Z_{IN}	$f=1kHz$	25			$M\Omega$
Output Impedance	Z_O	$f=1kHz$		1000		Ω
Total Harmonic Distortion	THD	$V_{IN}=30mV, f=1kHz$		1.2		%
Output Noise Voltage	V_{NO}	$V_{IN}=0V, A$ Curve			-110	dB

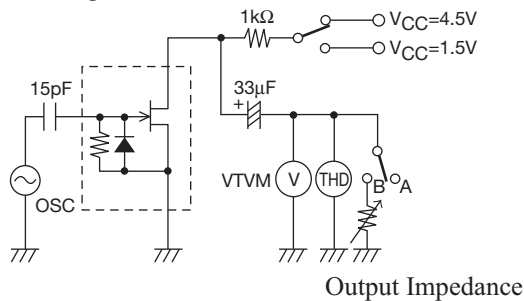
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

* : The TF202THC is classified by I_{DSS} as follows : (unit : μA)

Rank	4	5
I_{DSS}	140 to 240	210 to 350

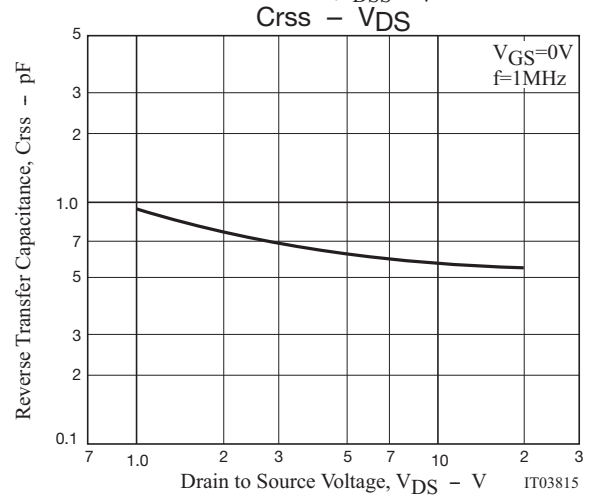
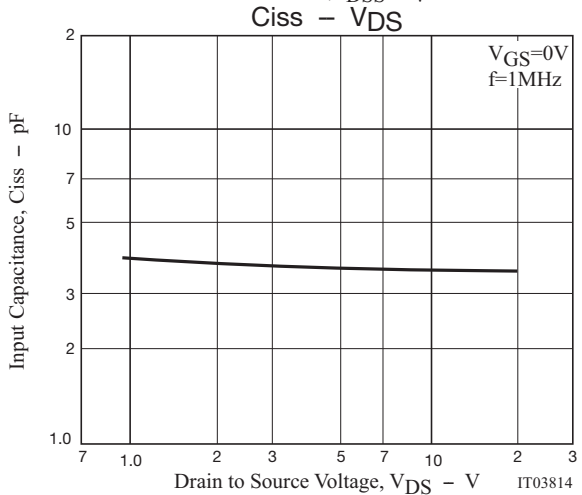
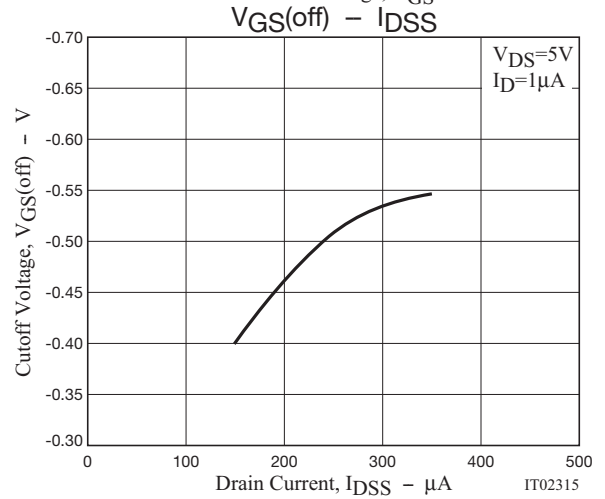
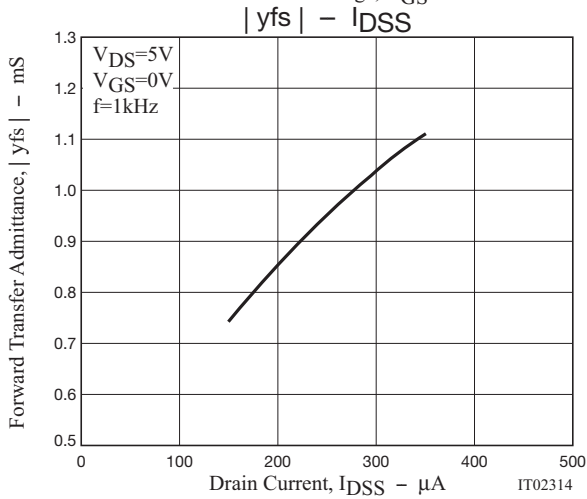
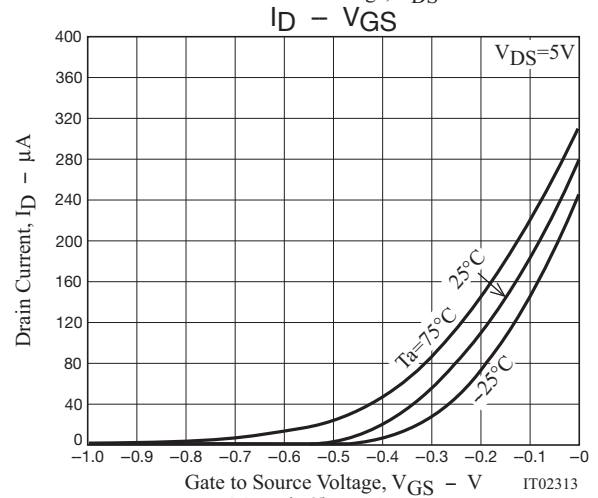
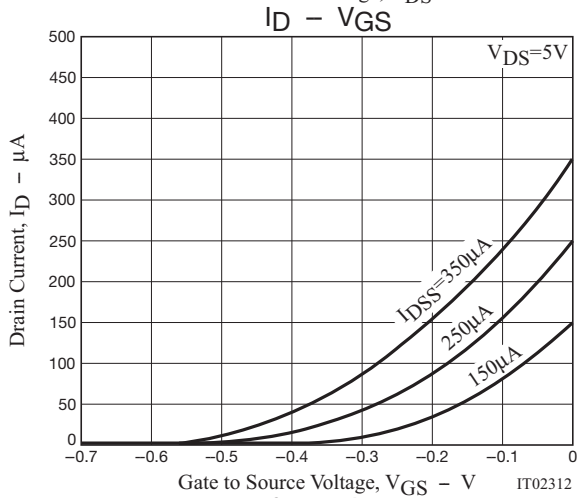
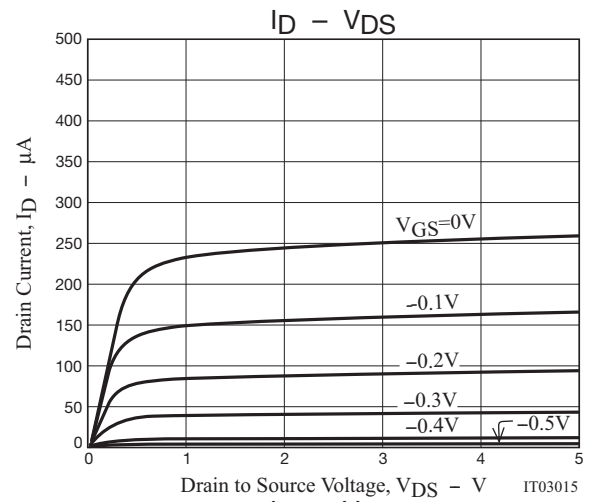
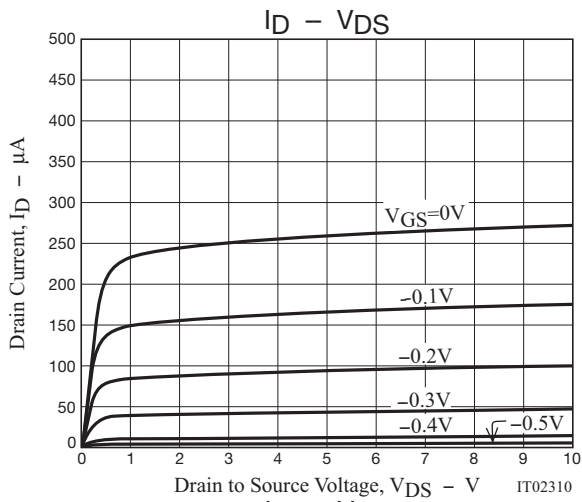
Test Circuit

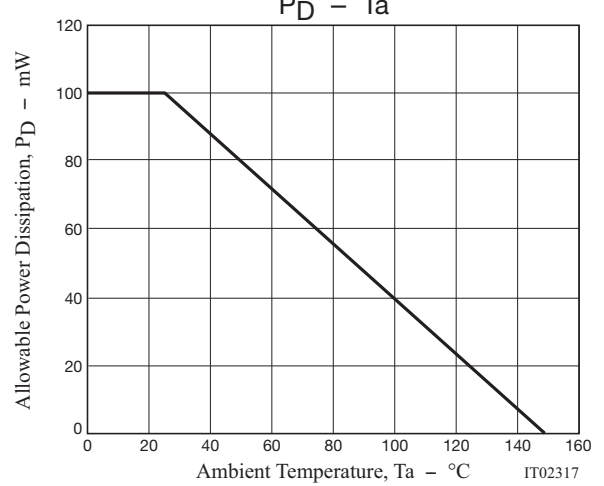
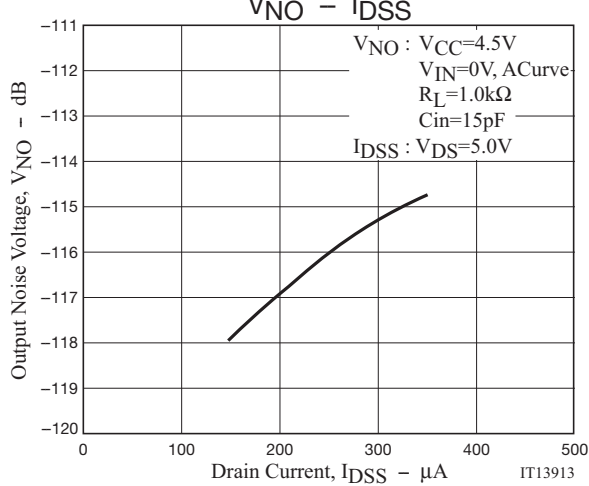
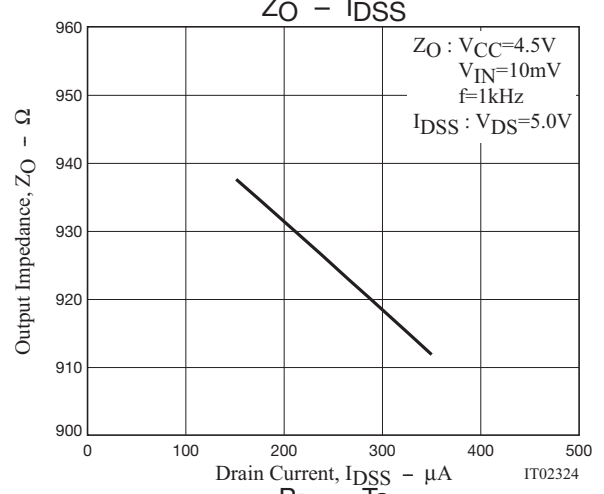
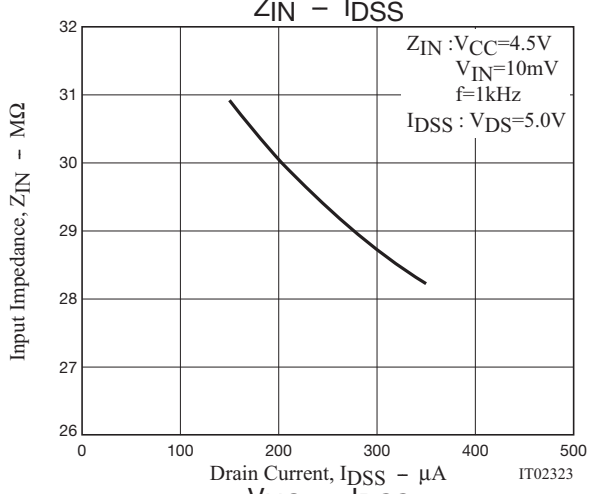
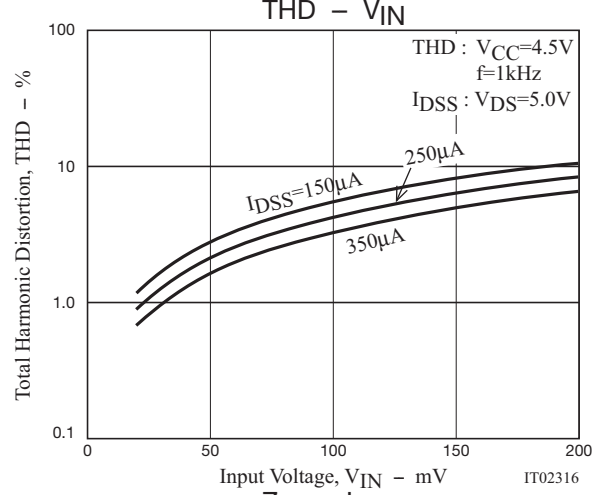
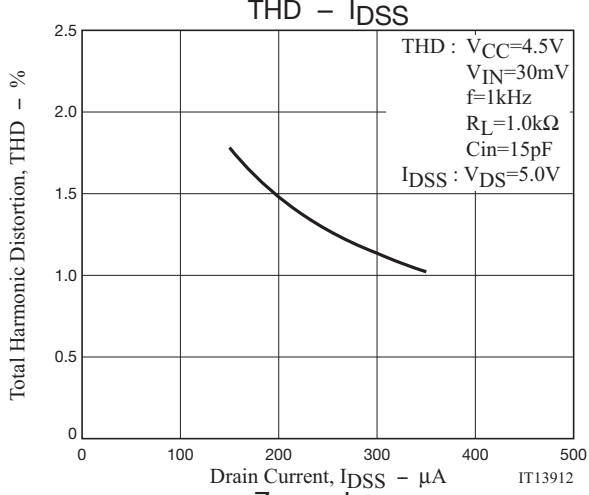
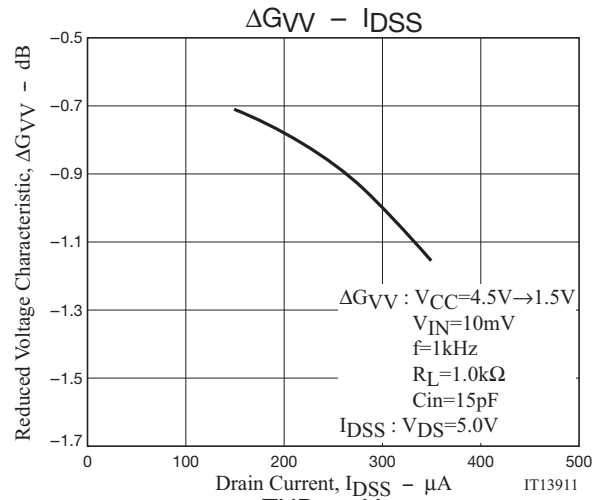
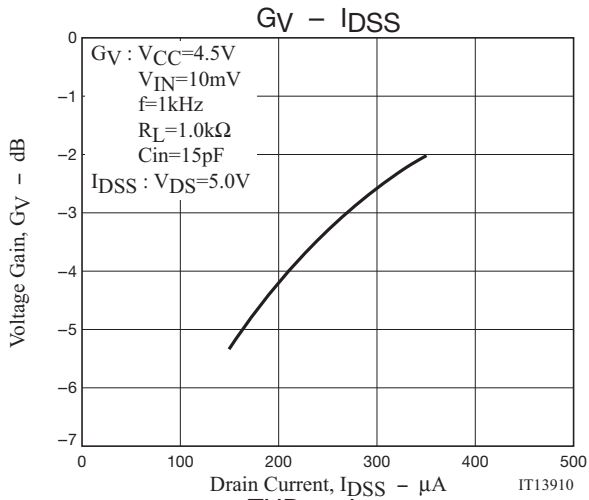
Voltage gain
Frequency Characteristic
Distortion
Reduced Voltage Characteristic



Ordering Information

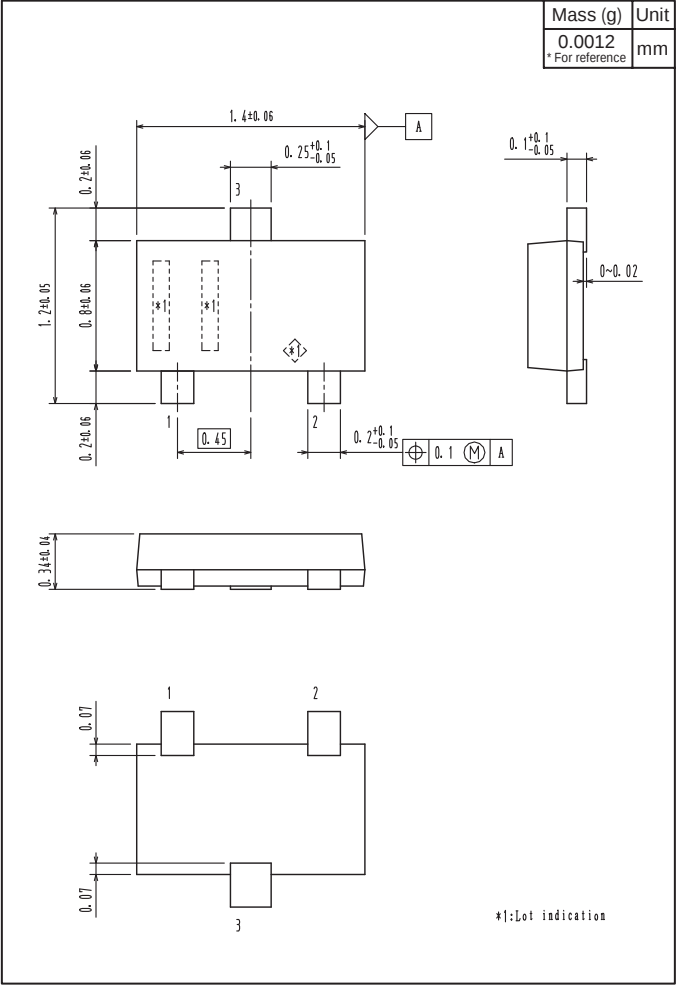
Device	Package	Shipping	memo
TF202THC-4-TL-H	VTFP	8,000pcs./reel	Pb Free and Halogen Free
TF202THC-5-TL-H	VTFP	8,000pcs./reel	



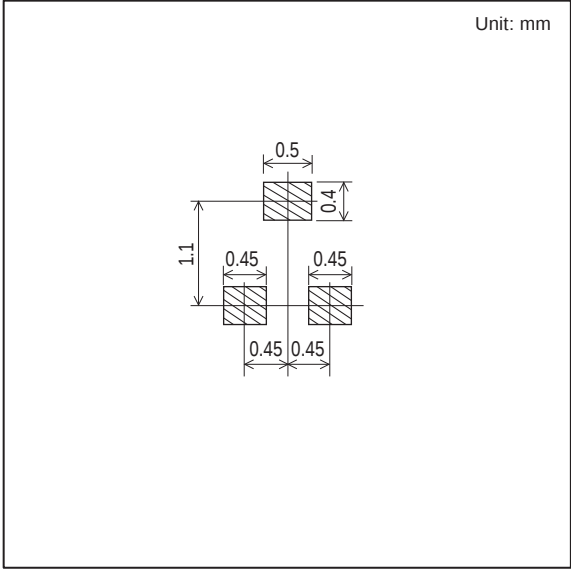


Outline Drawing

TF202THC-4-TL-H, TF202THC-5-TL-H



Land Pattern Example



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