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## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: [info@chipsmall.com](mailto:info@chipsmall.com) Web: [www.chipsmall.com](http://www.chipsmall.com)

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





# TF262TH

## N-Channel JFET -20V, 140 to 350 $\mu$ A, 0.95mS

ON Semiconductor®

www.onsemi.com

### Features

- Low Output Noise Voltage :  $V_{NO} = -112\text{dB typ.}$  ( $V_{CC} = 2\text{V}$ ,  $R_L = 2.2\text{k}\Omega$ ,  $C_{in} = 5\text{pF}$ )
- Ultrasmall Package Facilitates Miniaturization in End Products :  $1.4\text{mm} \times 1.2\text{mm} \times 0.34\text{mm}$
- Especially Suited for use in electret condenser microphone for audio equipments and telephones
- Adoption of FBET process
- Halogen Free compliance

### Specifications

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

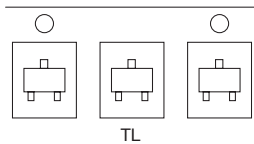
Parameter	Symbol	Conditions	Ratings	Unit
Gate to Drain Voltage	$V_{GDO}$		-20	V
Gate Current	$I_G$		10	mA
Drain Current	$I_D$		1	mA
Allowable Power Dissipation	$P_D$		100	mW
Junction Temperature	$T_j$		150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

This product is designed to "ESD immunity < 200V\*\*", so please take care when handling.

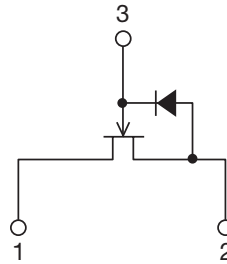
\* Machine Model

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.

### Packing Type : TL



### Electrical Connection

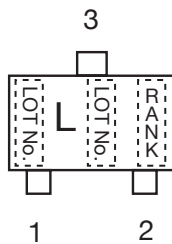


TF262TH-4-TL-H  
TF262TH-5-TL-H

1 : Drain  
2 : Source  
3 : Gate

SOT-623 / VTFP

### Marking



### ORDERING INFORMATION

See detailed ordering and shipping information on page 6 of this data sheet.

# TF262TH

## 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	$V_{GS(off)}$	$V_{DS}=2V, I_D=1\mu A$	-0.2	-0.5	-1.0	V
Drain Current	$I_{DSS}$	$V_{DS}=2V, V_{GS}=0V$	140*		350*	$\mu A$
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=2V, V_{GS}=0V, f=1kHz$	0.5	0.95		mS
Input Capacitance	$C_{iss}$	$V_{DS}=2V, V_{GS}=0V, f=1MHz$		3.5		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=2V, V_{GS}=0V, f=1MHz$		0.65		pF
[Ta=25°C, $V_{CC}=2.0V, R_L=2.2k\Omega, C_{in}=5pF$ , See specified Test Circuit.]						
Voltage Gain	GV	$V_{IN}=10mV, f=1kHz$		-1.5		dB
Reduced Voltage Characteristic	$\Delta GW$	$V_{IN}=10mV, f=1kHz, V_{CC}=2.0V \rightarrow 1.5V$		-0.8	-2.0	dB
Frequency Characteristic	$\Delta Gvf$	$f=1kHz$ to 110Hz			-1.0	dB
Total Harmonic Distortion	THD	$V_{IN}=30mV, f=1kHz$		0.5		%
Output Noise Voltage	$V_{NO}$	$V_{IN}=0V, A$ Curve		-112		dB

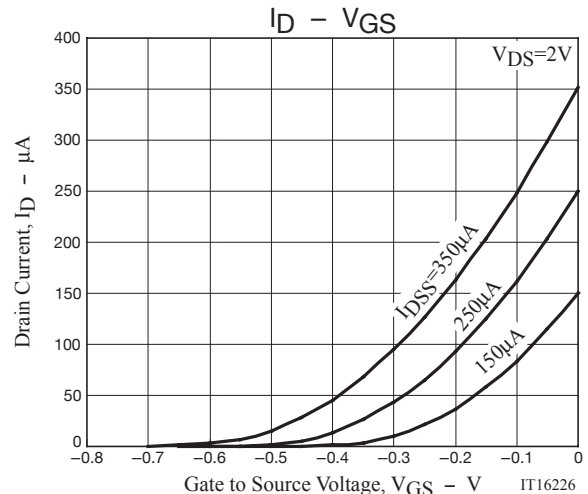
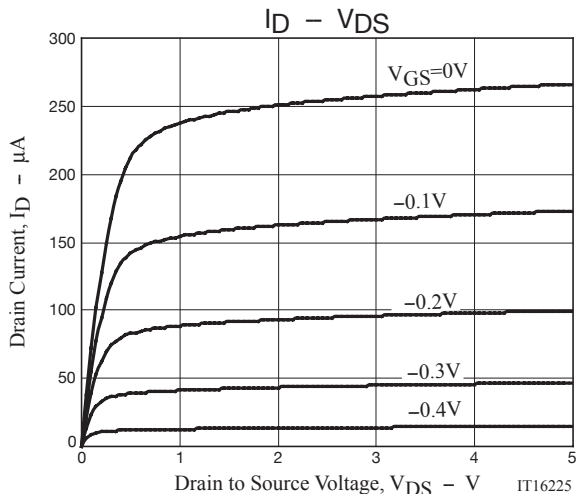
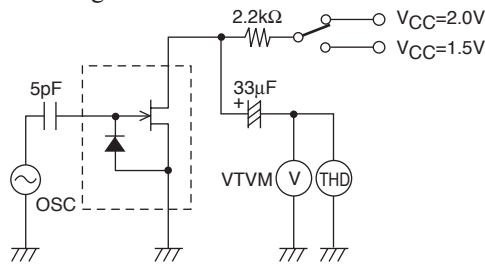
\* : The TF262TH is classified by  $I_{DSS}$  as follows : (unit :  $\mu A$ )

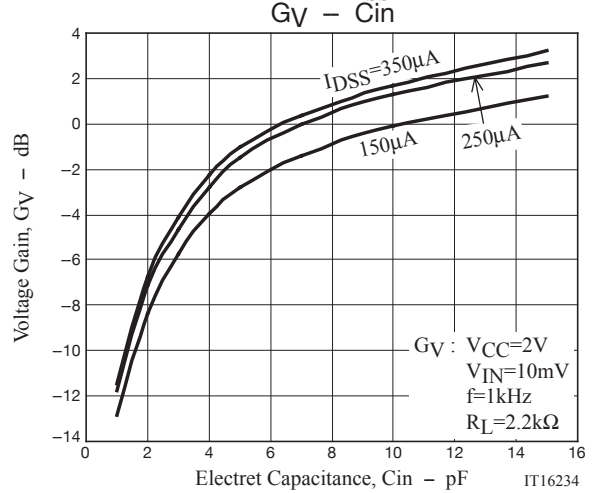
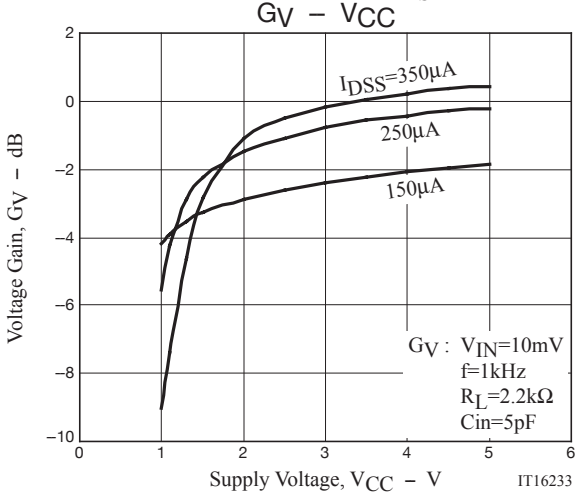
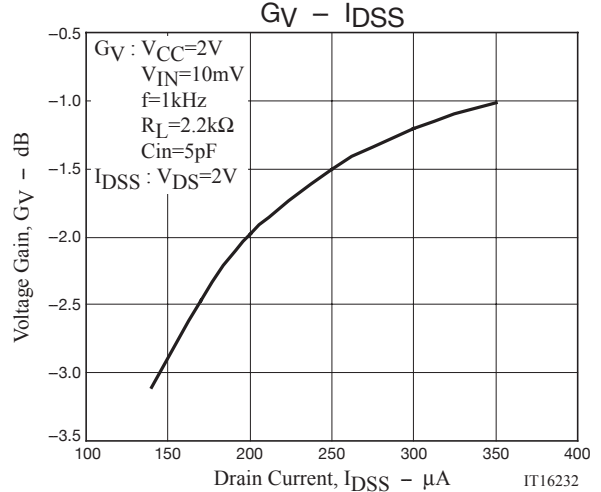
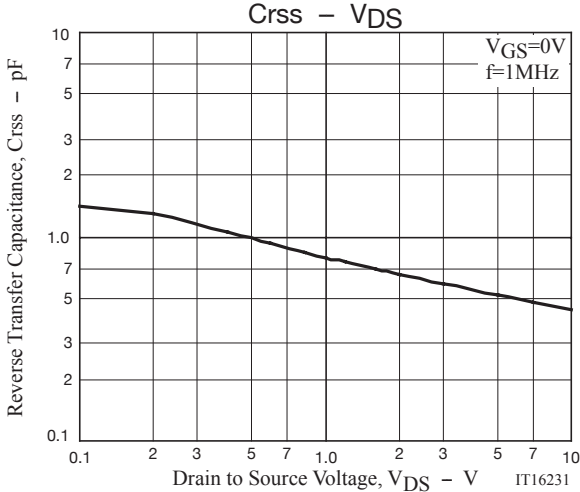
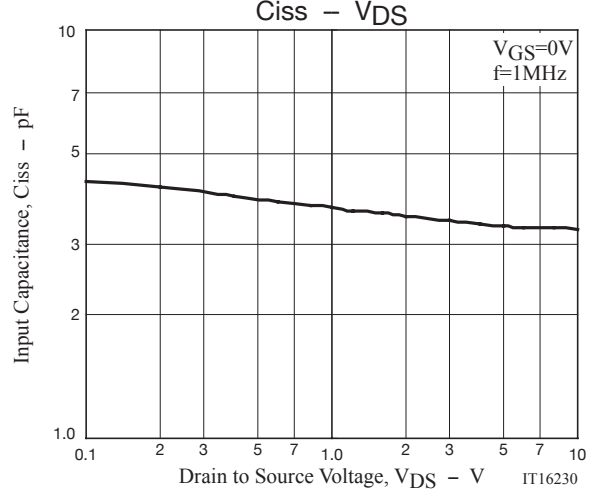
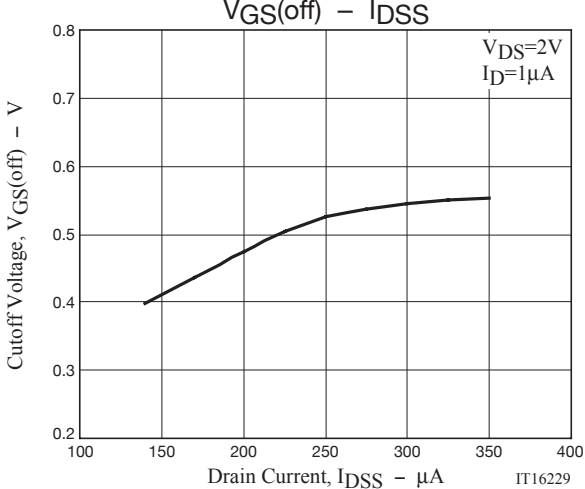
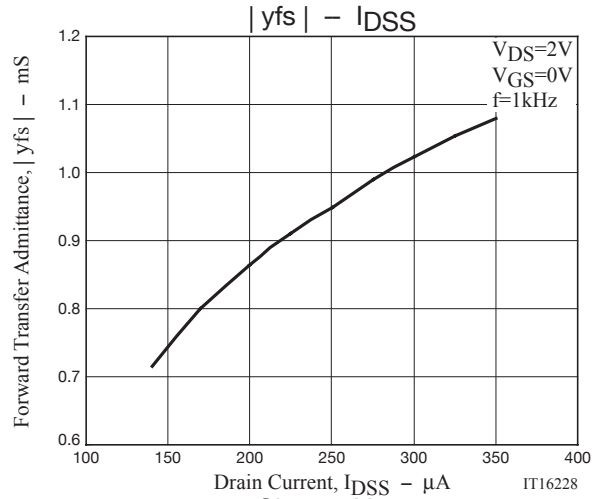
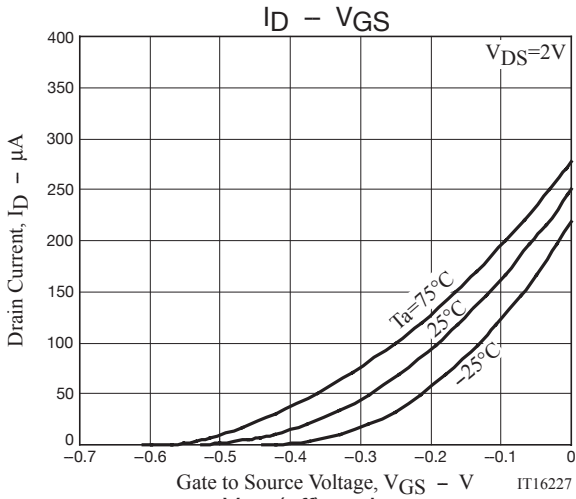
Marking	L4	L5
Rank	4	5
$I_{DSS}$	140 to 240	210 to 350

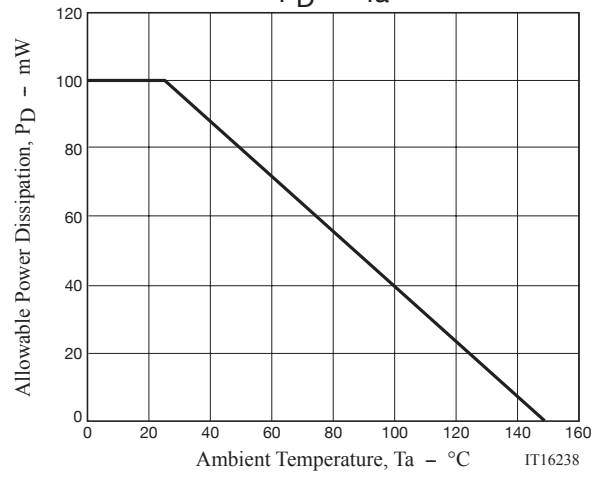
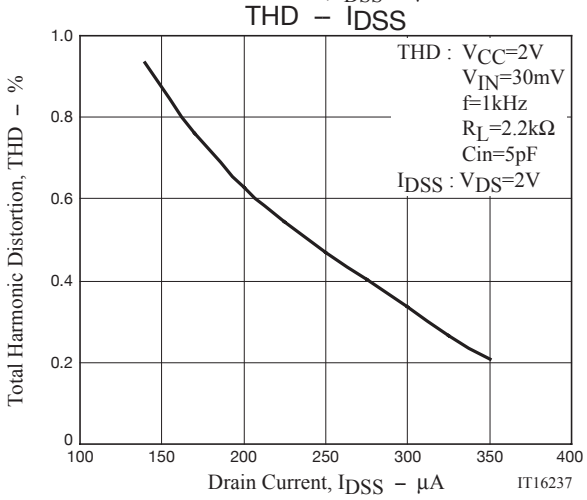
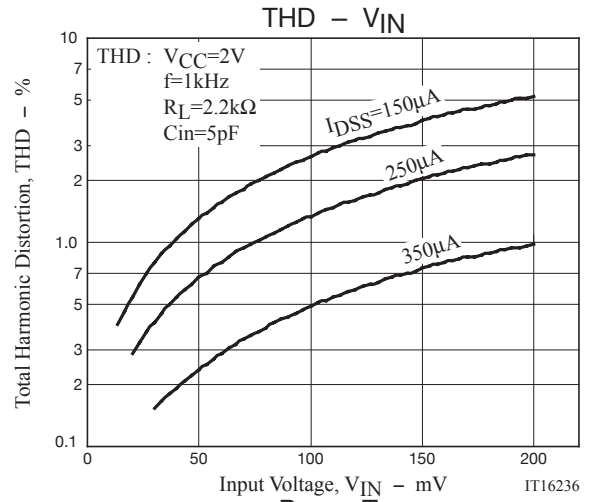
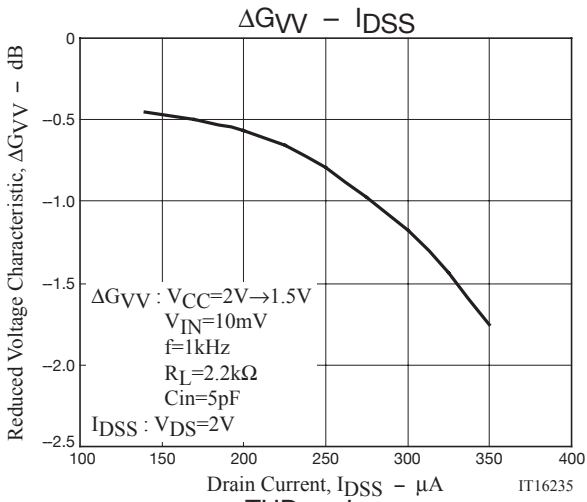
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

## Test Circuit

Voltage gain  
 Frequency Characteristic  
 Distortion  
 Reduced Voltage Characteristic







# TF262TH

## Package Dimensions

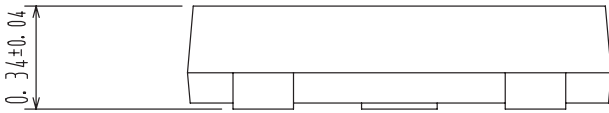
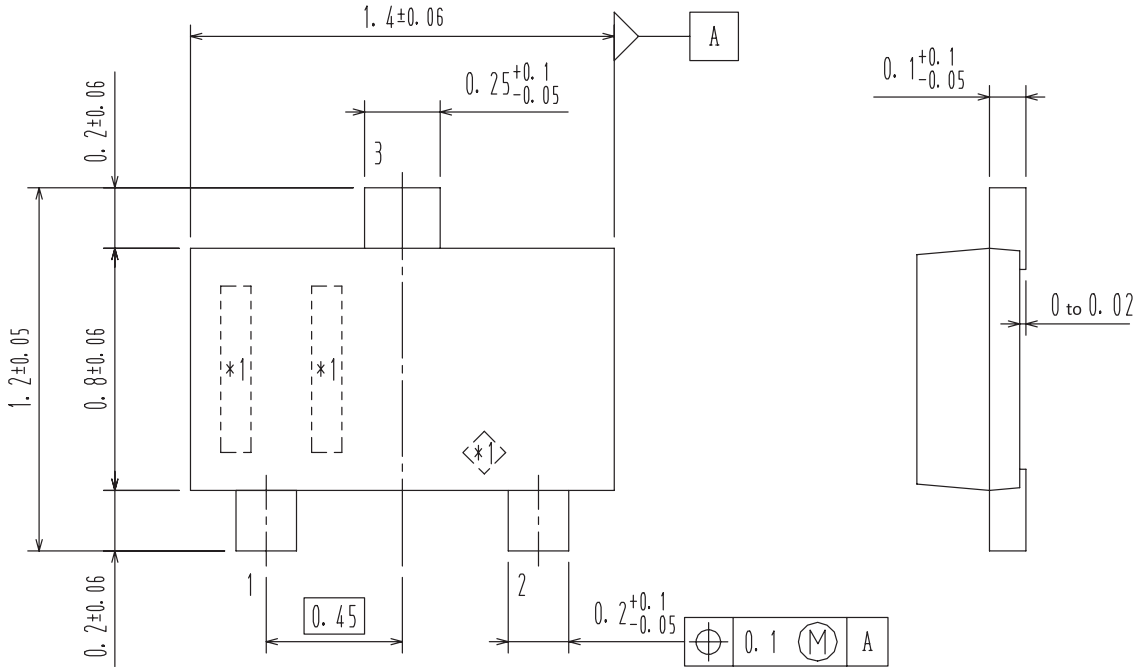
unit : mm

TF262TH-4-TL-H, TF262TH-5-TL-H

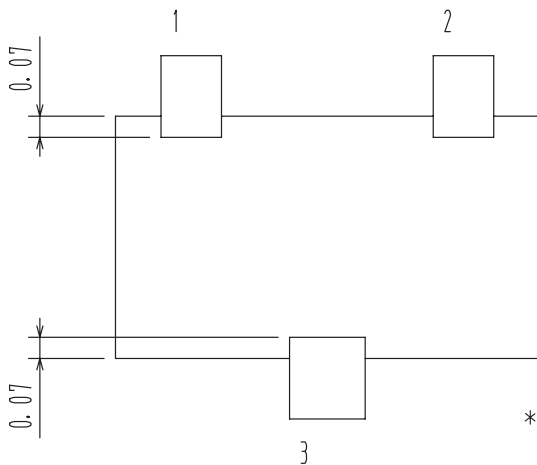
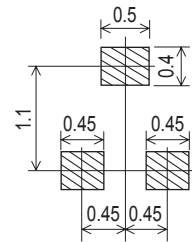
### SOT-623 / VTFP

CASE 631AD

ISSUE O



### Recommended Soldering Footprint



\*1: Lot indication

**ORDERING INFORMATION**

Device	Package	Shipping	memo
TF262TH-4-TL-H	SOT-623 / VTFP	8,000pcs. / Tape and Reel	Pb-Free and Halogen Free
TF262TH-5-TL-H			

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