



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

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

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

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





ON Semiconductor®

<http://onsemi.com>

TF412S

N-Channel JFET

30V, 1.2 to 3.0mA, 5.0mS, SOT-883

Features

- Small I_{GSS} : max -1.0nA ($V_{GS} = -20\text{V}$, $V_{DS} = 0\text{V}$)
- Small C_{iss} : typ 4pF ($V_{DS} = 10\text{V}$, $V_{GS} = 0\text{V}$, $f = 1\text{MHz}$)
- Ultrasmall package facilitates miniaturization in end products
- Halogen free compliance

Applications

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

Specifications

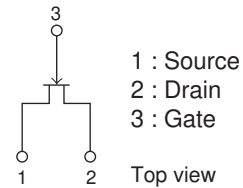
Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Value	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
Power Dissipation	P_D	100	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

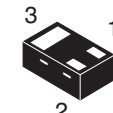
This product is designed to "ESD immunity < 200V*", so please take care when handling.

* Machine Model

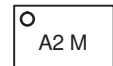
Electrical Connection



Marking



SOT-883



M = Date Code

Ordering & Package Information

Device	Package	Shipping
TF412ST5G Pb-free and Halogen Free	SOT-883	8,000 pcs. / reel

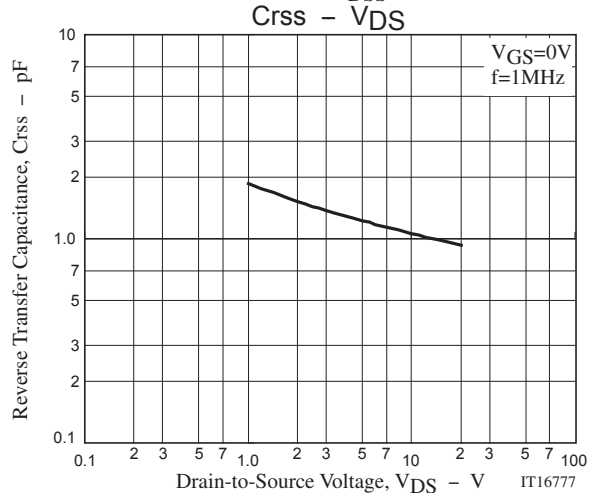
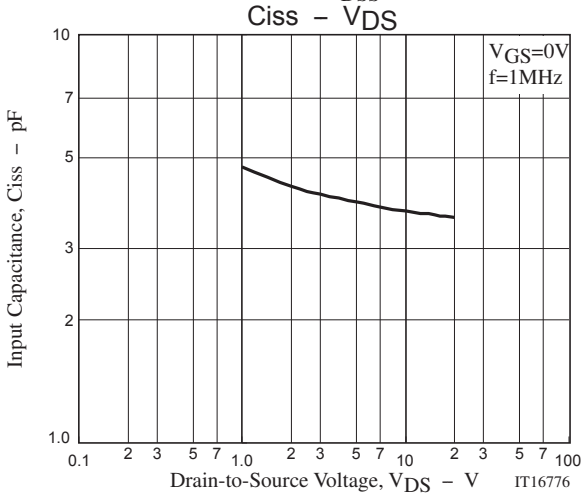
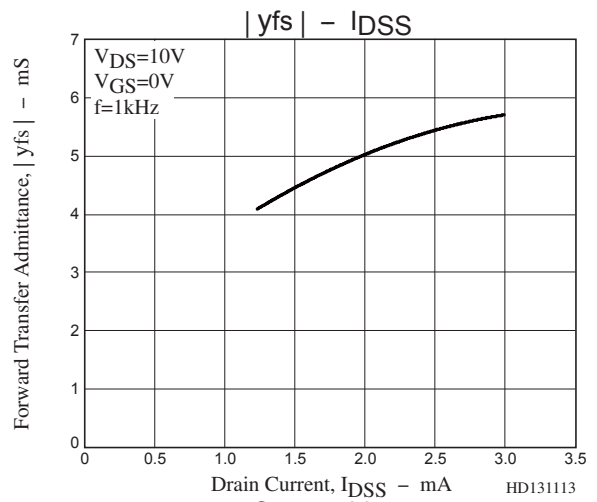
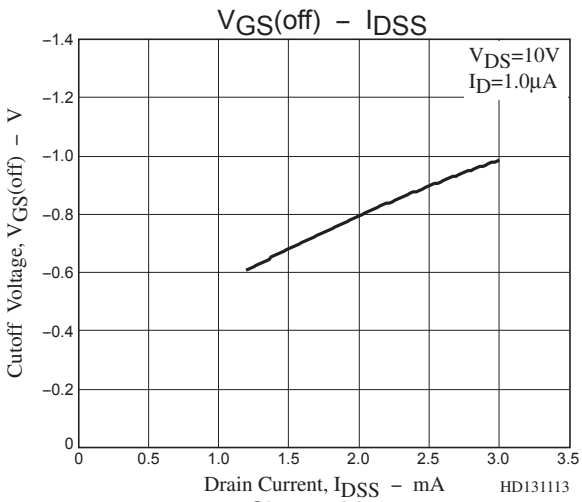
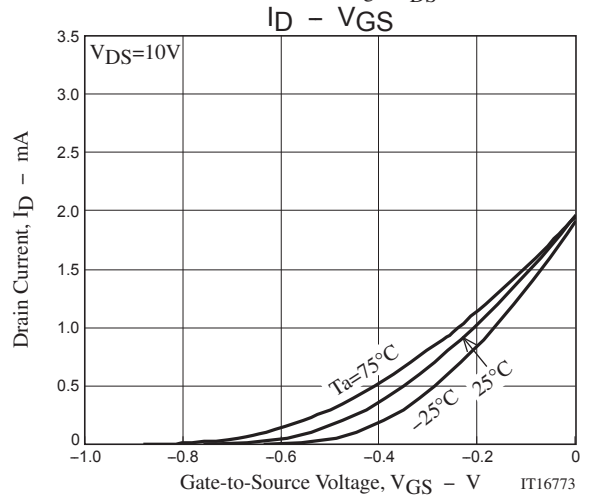
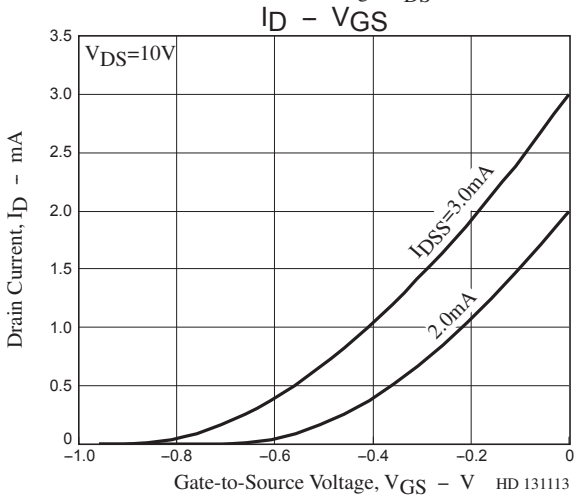
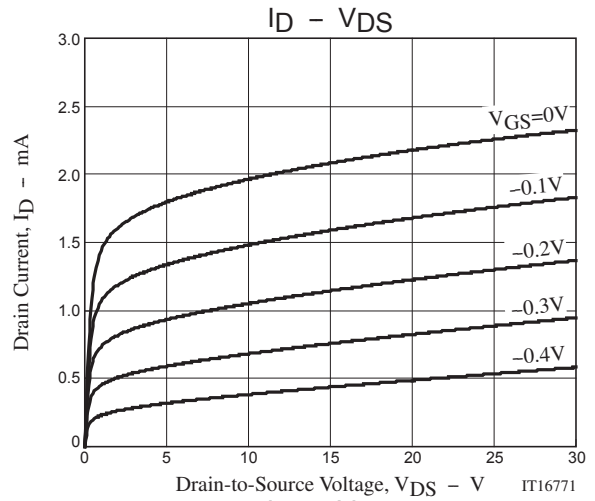
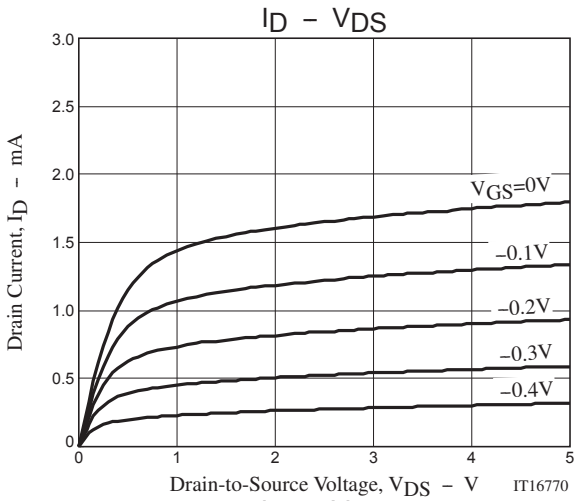
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

Electrical Characteristics

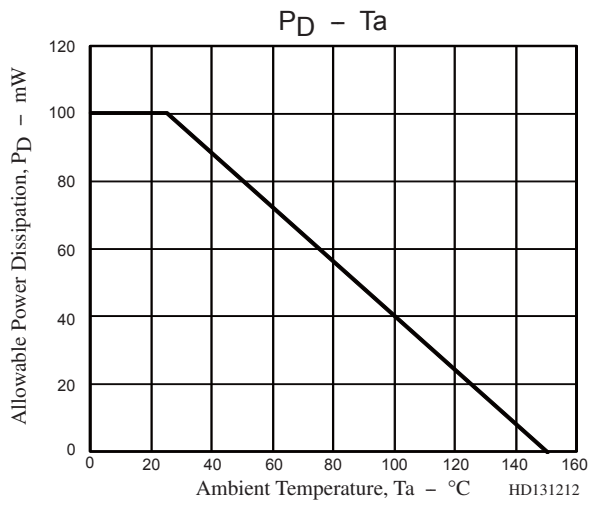
 at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Value			Unit
			min	typ	max	
Gate-to-Drain Breakdown Voltage	$V_{(BR)GDS}$	$I_G = -10\mu\text{A}$, $V_{DS} = 0\text{V}$	-30			V
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS} = -20\text{V}$, $V_{DS} = 0\text{V}$			-1.0	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10\text{V}$, $I_D = 1\mu\text{A}$	-0.18	-0.80	-1.5	V
Drain Current	I_{DSS}	$V_{DS} = 10\text{V}$, $V_{GS} = 0\text{V}$	1.2		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

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.



TF412S



Package Dimensions

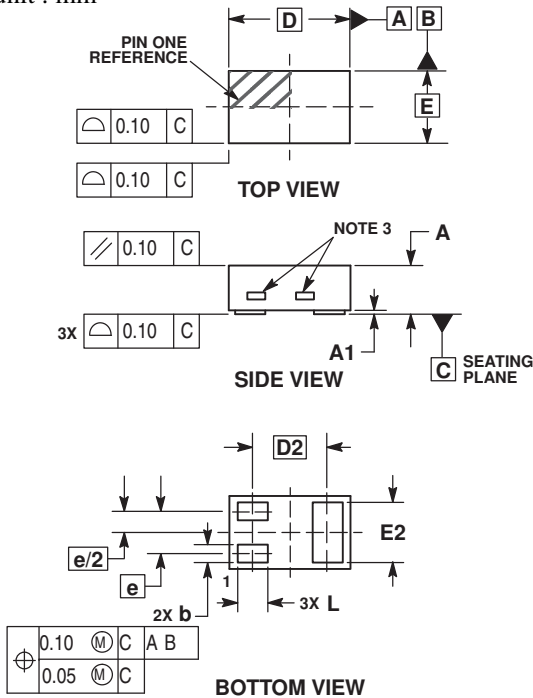
TF412ST5G

SOT-883 (XDFN3), 1.0x0.6, 0.35P

CASE 506CB

ISSUE A

unit : mm

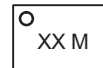


NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. EXPOSED COPPER ALLOWED AS SHOWN.

MILLIMETERS		
DIM	MIN	MAX
A	0.340	0.440
A1	0.000	0.030
b	0.075	0.200
D	0.950	1.075
D2	0.620 BSC	
e	0.350 BSC	
E	0.550	0.675
E2	0.425	0.550
L	0.170	0.300

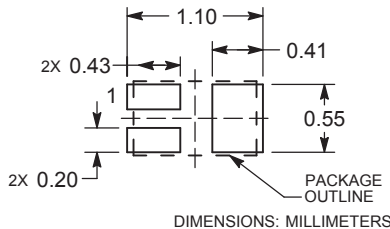
GENERIC MARKING DIAGRAM*



XX = Specific Device Code
M = Date Code

*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G", may or not be present.

RECOMMENDED SOLDER FOOTPRINT*



*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

ON Semiconductor and the ON logo are registered trademarks of Semiconductor Components Industries, LLC (SCILLC). SCILLC owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of SCILLC's product/patent coverage may be accessed at www.onsemi.com/site/pdf/Patent-Marking.pdf. SCILLC reserves the right to make changes without further notice to any products herein. SCILLC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does SCILLC assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. "Typical" parameters which may be provided in SCILLC data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. SCILLC does not convey any license under its patent rights nor the rights of others. SCILLC products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the SCILLC product could create a situation where personal injury or death may occur. Should Buyer purchase or use SCILLC products for any such unintended or unauthorized application, Buyer shall indemnify and hold SCILLC and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that SCILLC was negligent regarding the design or manufacture of the part. SCILLC is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.