

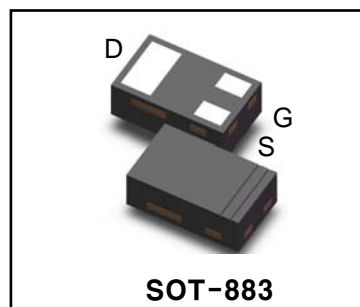
30 V, single N-channel Trench MOSFET

Features

- Fast switching
- Low $R_{DS(on)}$
- Trench MOSFET technology
- This is a Pb-Free Device
- We declare that the material of product are Halogen Free and compliance with RoHS requirements.

Applications

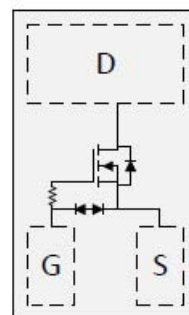
- Low Side Load Switch
- Level Shift Circuits
- DC-DC Converter
- Portable Applications i.e. DSC, PDA, Cell Phone, etc.



$V_{(BR)DSS}$	$R_{DS(on)}$ MAX	I_D MAX (Note 1)
30 V	252m Ω @ 4.5 V	930 mA
	498m Ω @ 2.5 V	

MAXIMUM RATINGS ($T_J=25^\circ\text{C}$ unless otherwise stated)

Rating	Symbol	Value	Unit
Drain-to-Source Voltage	V_{DSS}	30	V
Gate-to-Source Voltage	V_{GS}	± 12	V
Drain Current (Note 1) Steady State	I_D	$T_A = 25^\circ\text{C}$ 930	mA
		$T_A = 100^\circ\text{C}$ 590	
Power Dissipation (Note 1) Steady State	P_D	715	mW
Pulsed Drain Current ($t_p = 10\mu\text{s}$)	I_{DM}	3.7	A
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$
Lead Temperature for Soldering Purposes (1/8" from case for 10 s)	T_L	260	$^\circ\text{C}$



Pin configuration (Top view)

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Junction-to-Ambient - Steady State (Note 1)	$R_{\theta JA}$	305	$^\circ\text{C}/\text{W}$

1. Surface-mounted on FR4 board using 1 in sq pad size (Cu area = 1.127 in sq [1 oz] including traces)

ORDERING INFORMATION

Device	Marking	Shipping
FTK235NSOT883	N5	10000 Tape & Reel



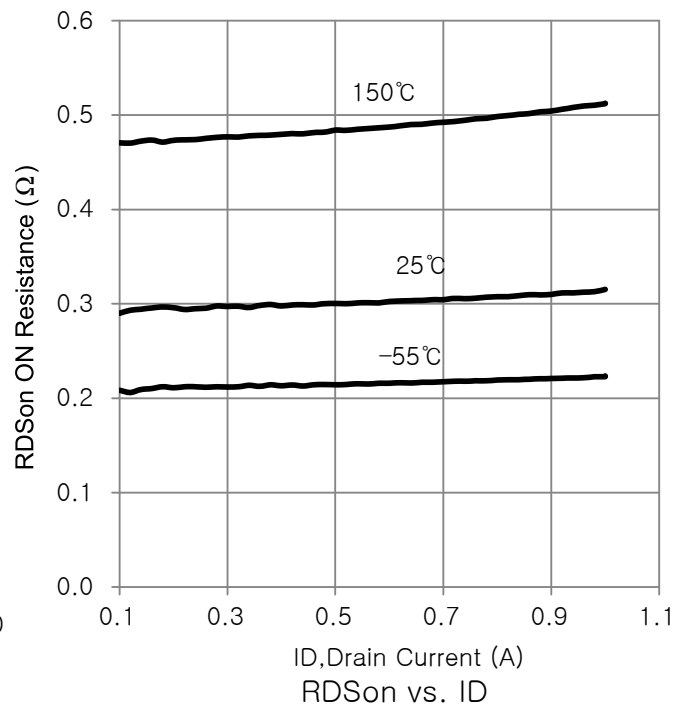
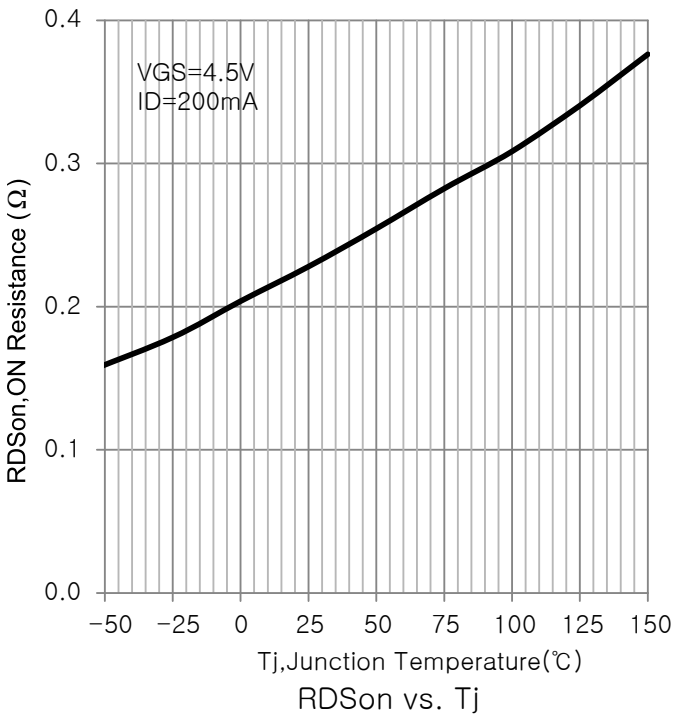
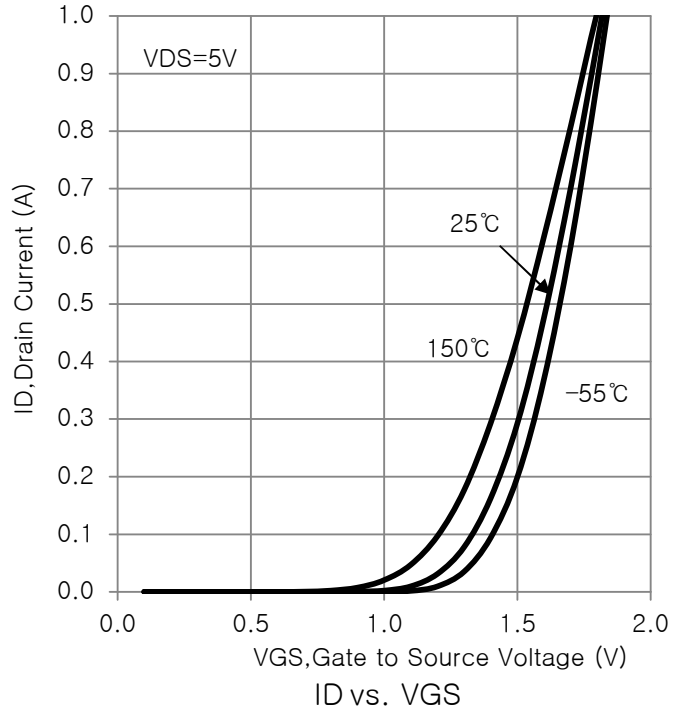
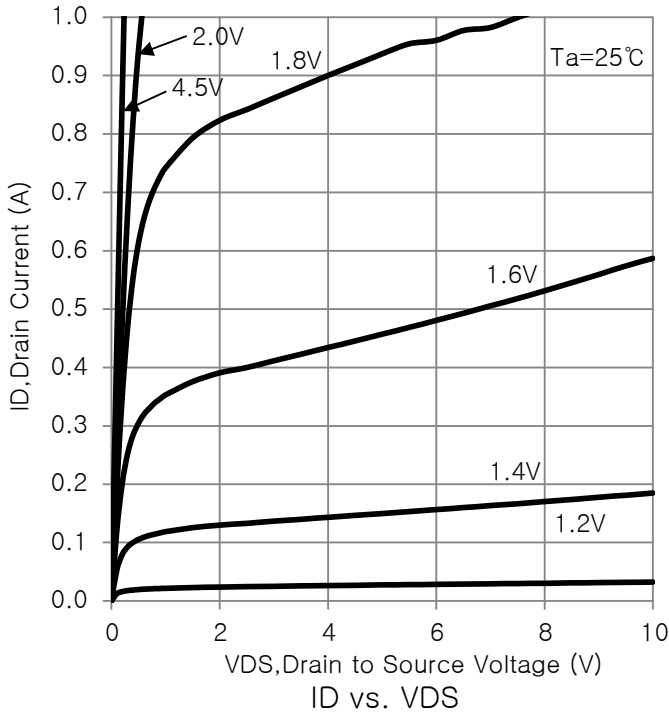
ELECTRICAL CHARACTERISTICS (T_J = 25 °C unless otherwise specified)

Symbol	Parameter	Limit	Min	Typ	Max	Unit
STATIC PARAMETERS						
V _{(BR)DSS}	Drain - Source Breakdown Voltage	V _{GS} =0V, I _b =250 μA	30			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _b =250 μA	0.5	0.97	1.5	
I _{GSS}	Gate - Body Leakage Current	V _{DS} =0V, V _{GS} =±12V			±10	uA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =30V, V _{GS} =0V			1	uA
R _{DS(ON)}	Drain - Source On - Resistance	V _{GS} =4.5V, I _b = 0.5A		198	252	mΩ
		V _{GS} =2.5V, I _b = 0.5A		268	498	
V _{SD}	Diode Forward Voltage	I _s =1A, V _{GS} =0V		0.75	1.2	V
DYNAMIC PARAMETERS						
Q _g	Total Gate Charge	V _{DS} =15V, V _{GS} =4.5V, I _b =1.0A		0.65	0.87	nC
Q _{gs}	Gate - Source Charge			0.14		
Q _{gd}	Gate - Drain Charge			0.18		
C _{iss}	Input Capacitance	V _{DS} =25V, V _{GS} =0V, f=1MHz		37	56	pF
C _{oss}	Output Capacitance			8.6		
C _{rss}	Reverse Transfer Capacitance			5.4		
t _{d(on)}	Turn - On Delay Time	V _{DS} =15V, R _L =15Ω V _{GEN} =4.5V, R _G =6Ω		6.5	13	ns
t _r	Rise Time			9.5		
t _{d(off)}	Turn - Off Delay Time			14	28	
t _f	Fall Time			5.5		

Notes: a. Pulse test; pulse width ≤ 300us, duty cycle ≤ 2%

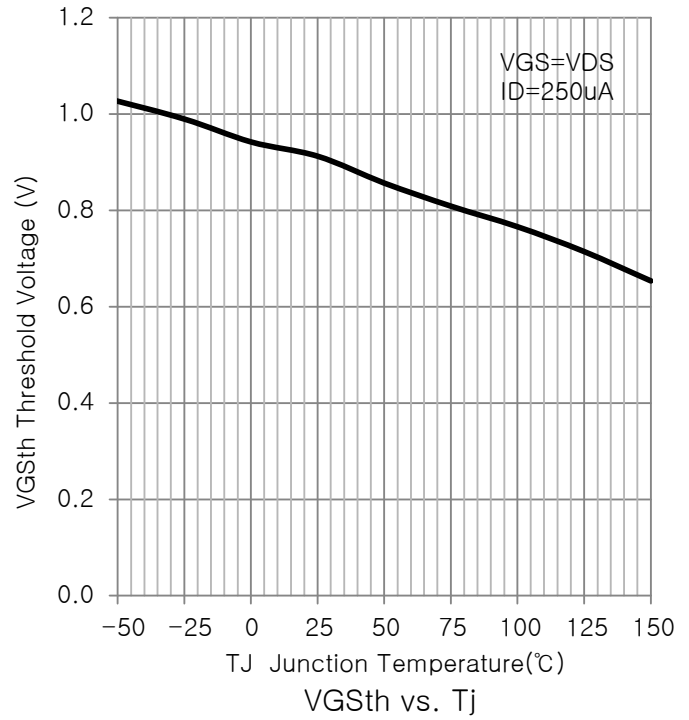
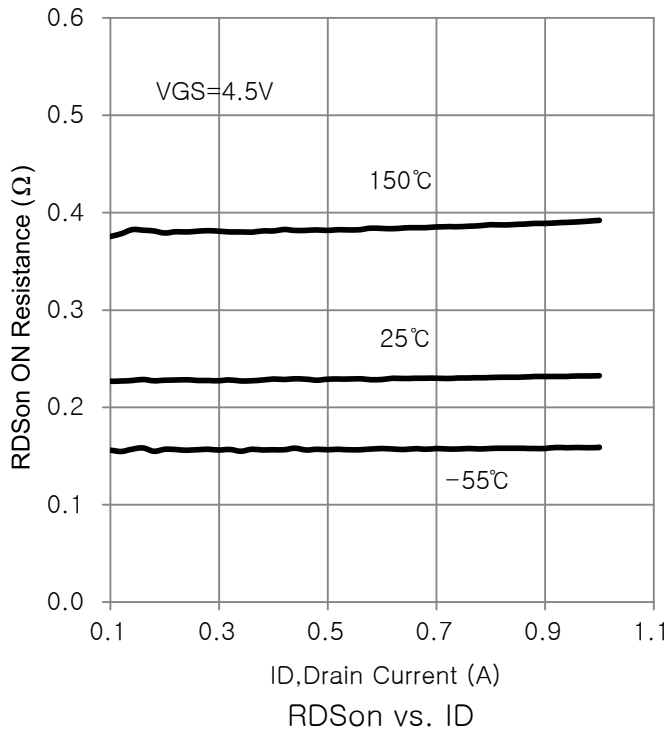


ELECTRICAL CHARACTERISTICS CURVES



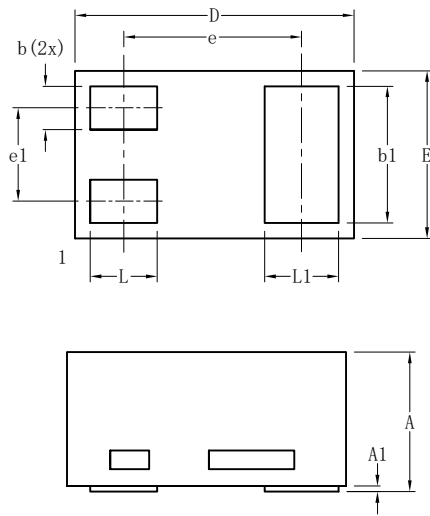


ELRCTRICAL CHARACTERISTICS CURVES(Con.)



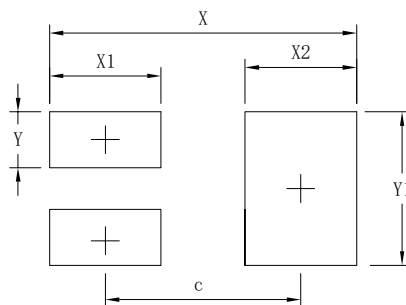
SOT-883

Package Outline Dimensions



SOT-883			
Dim	Min	Typ	Max
D	1.05	1.00	0.95
E	0.65	0.60	0.50
e	-	0.64	-
e1	-	0.34	-
L	0.19	0.24	0.29
L1	0.22	0.27	0.32
b	0.10	0.15	0.20
b1	0.44	0.49	0.54
A	0.43	0.48	0.53
A1	0	-	0.05
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
c	0.70
X	1.10
X1	0.40
X2	0.40
Y	0.20
Y1	0.55