

30V, Single N-channel Trench MOSFET

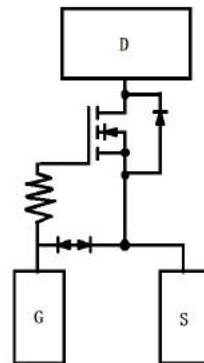
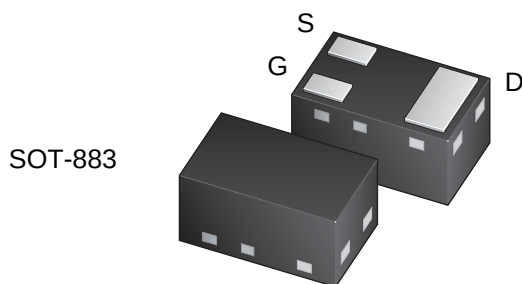
FEATURES:

- Fast switching
- Low RDS(ON)
- Trench MOSFET technology
- This is a Pb Free Device
- We declare that the material of product compliance with RoHS requirements and Halogen Free.

APPLICATIONS:

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

Circuit Diagram & Pin Configuration:



DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
SN235N3-S10T	N5	10000/Tape&Reel

MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Drain-to-Source Voltage	VDSS	30	V
Gate-to-Source Voltage	VGS	±12	V
Drain Current (Note 1) Steady State (TA = 25°C) (TA = 100°C)	ID	930 590	mA
Power Dissipation (Note 1) Steady State	PD	715	mW
Pulsed Drain Current (tp = 10 μs)	IDM	3.7	A
Operating Junction and Storage Temperature Range	TJ , TSTG	-55~+150	°C
Lead Temperature for Soldering Purposes (1/8" from case for 10 s)	TL	260	°C

THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Junction-to-Ambient – Steady State (Note 1)	RθJA	305	°C/W

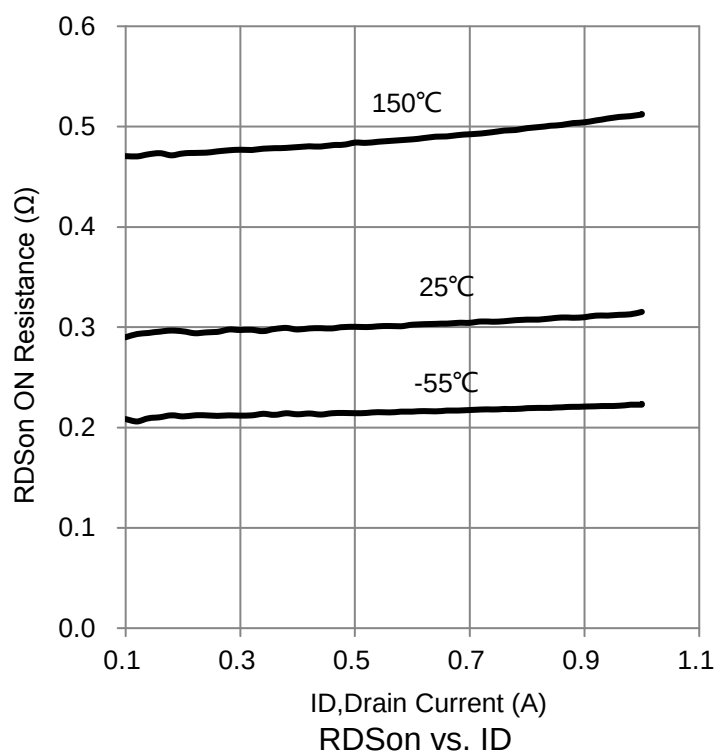
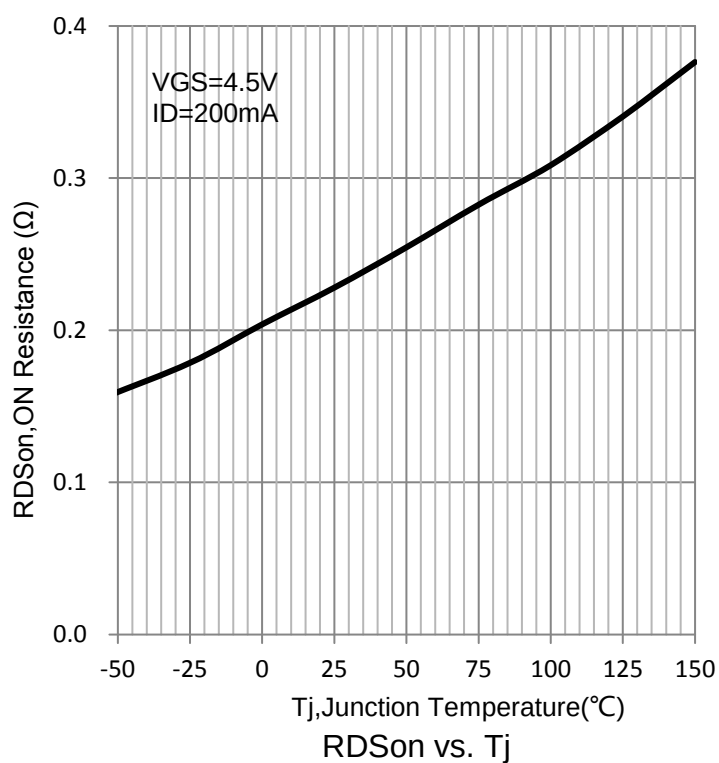
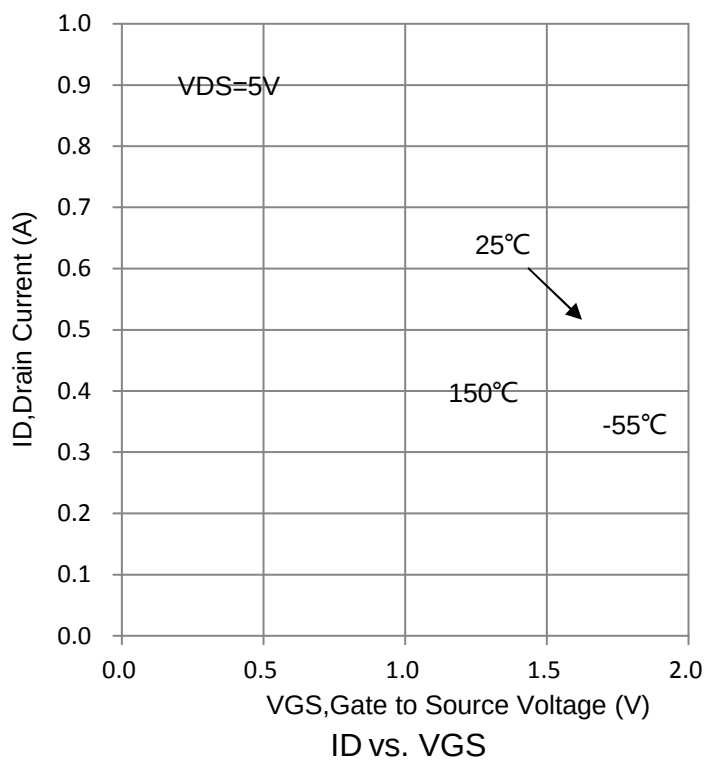
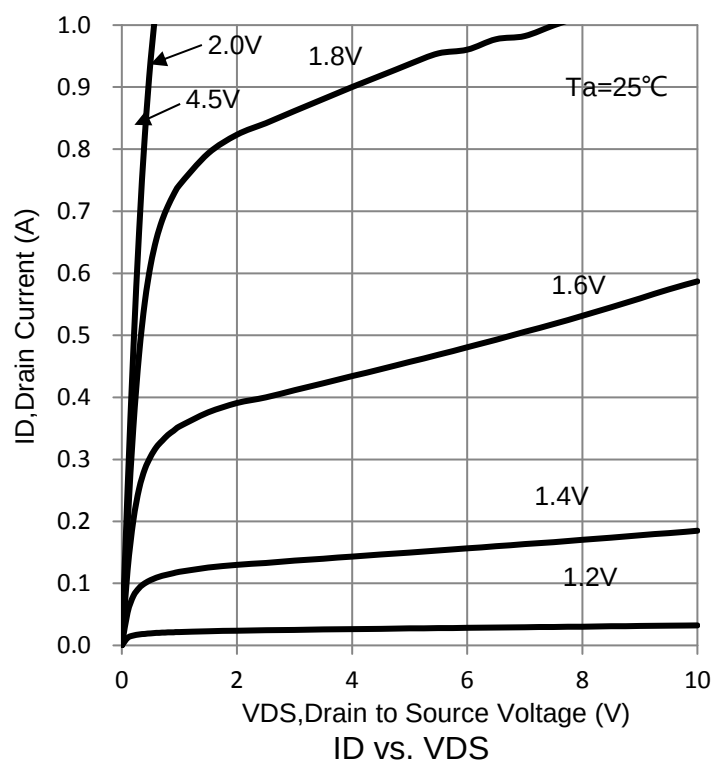
Note 1: Surface-mounted on FR4 board using 1 in sq pad size (Cu area = 1.127 in sq [1 oz] including traces)

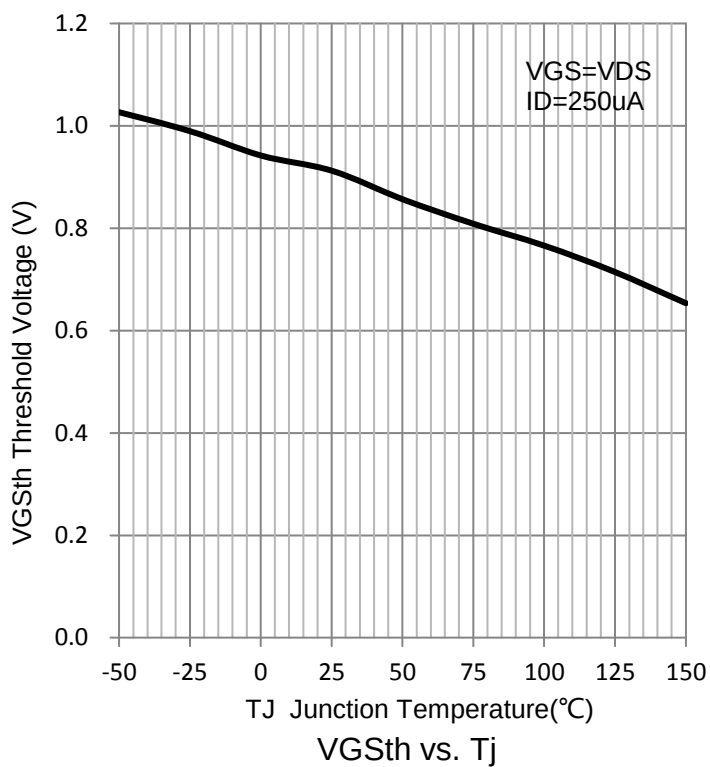
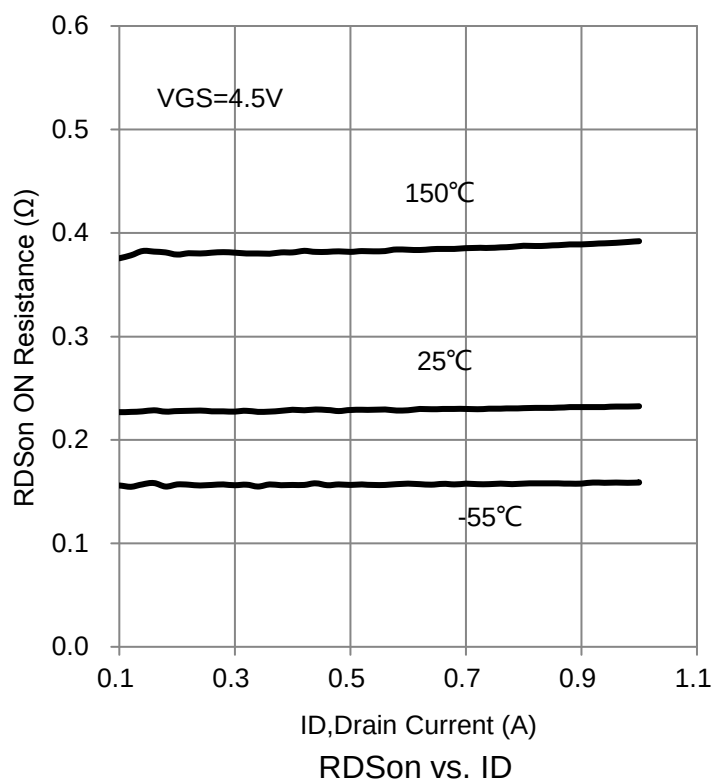
ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
STATIC CHARACTERISTICS					
Drain-Source Breakdown Voltage (VGS =0V, ID =250μA)	V(BR)DSS	30	-	-	V
Gate Threshold Voltage (VDS =VGS , ID =250μA)	VGS(th)	0.45	-	1.5	
Gate-Body Leakage Current (VDS =0V, VGS =±12V)	IGSS	-	-	±10	μA
Zero Gate Voltage Drain Current (VDS =30V, VGS =0V)	IDSS	-	-	1	
Drain-Source On-Resistance (VGS =4.5V, ID = 200mA)	RDS(ON)	-	-	0.46	Ω
Drain-Source On-Resistance (VGS =2.5V, ID = 200mA)		-	-	0.68	
Diode Forward Voltage (IS =300mA, VGS =0V)	VSD	-	-	1.2	V
DYNAMIC PARAMETERS					
Total Gate Charge	(VDS =15V, VGS =4.5V, ID =1.0A)	Qg	-	0.65	nC
Gate-Source Charge		Qgs	-	0.14	
Gate-Drain Charge		Qgd	-	0.18	
Input Capacitance	(VDS =25V, VGS =0V, f=1MHz)	Ciss	-	37	pF
Output Capacitance		Coss	-	8.6	
Reverse Transfer Capacitance		Crss	-	5.4	
Turn-On Delay Time	(VDS =15V, RL =15Ω, VGEN =4.5V, RG =6 Ω)	td(on)	-	6.5	ns
Rise Time		tr	-	9.5	
Turn-Off Delay Time		td(off)	-	14	
Fall Time		tf	-	5.5	

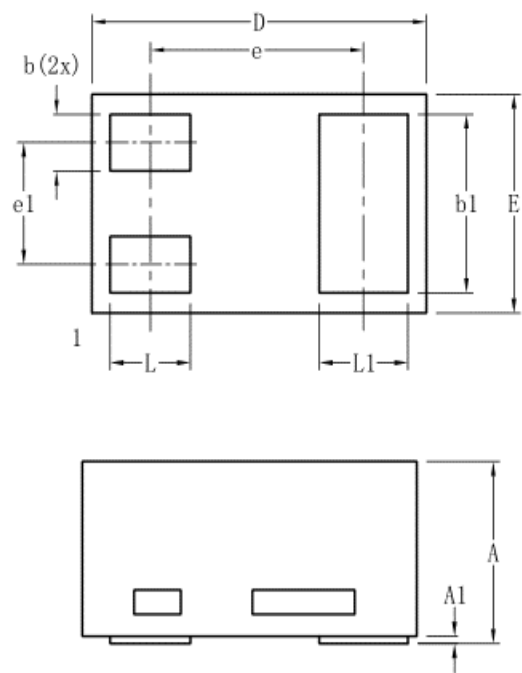
Note 2: Pulse test; pulse width ≤ 300μs, duty cycle ≤ 2%

ELECTRICAL CHARACTERISTICS CURVES



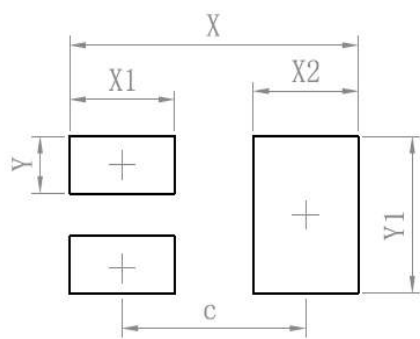
ELECTRICAL CHARACTERISTICS CURVES(Con.)


OUTLINE AND DIMENSIONS



SOT883			
DIM	MIN	TYP	MAX
D	0.95	1.00	1.05
E	0.50	0.60	0.65
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			

9.SOLDERING FOOTPRINT



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

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