

N-channel Trench MOSFET

FEATURES

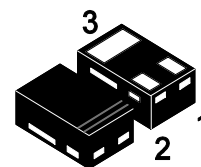
- Power MOSFET: 1.8-V Rated
- Gate-Source ESD Protected
- High-Side Switching
- Low On-Resistance: 0.2Ω
- Low Threshold: 0.8 V (typ)
- Fast Switching Speed: 10 ns
- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- S- prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.

BENEFITS

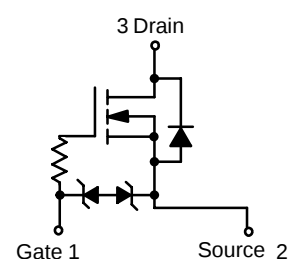
- Ease in Driving Switches
- Low Offset (Error) Voltage
- Low-Voltage Operation
- High-Speed Circuits
- Low Battery Voltage Operation

APPLICATIONS

- Drivers: Relays, Solenoids, Lamps, Hammers, Displays, Memories.
- Battery Operated Systems
- Power Supply Converter Circuits
- Load/Power Switching Cell Phones, Pagers



SOD-883

MARKING: N5*


Absolute Maximum Ratings (TA=25°C unless otherwise specified)

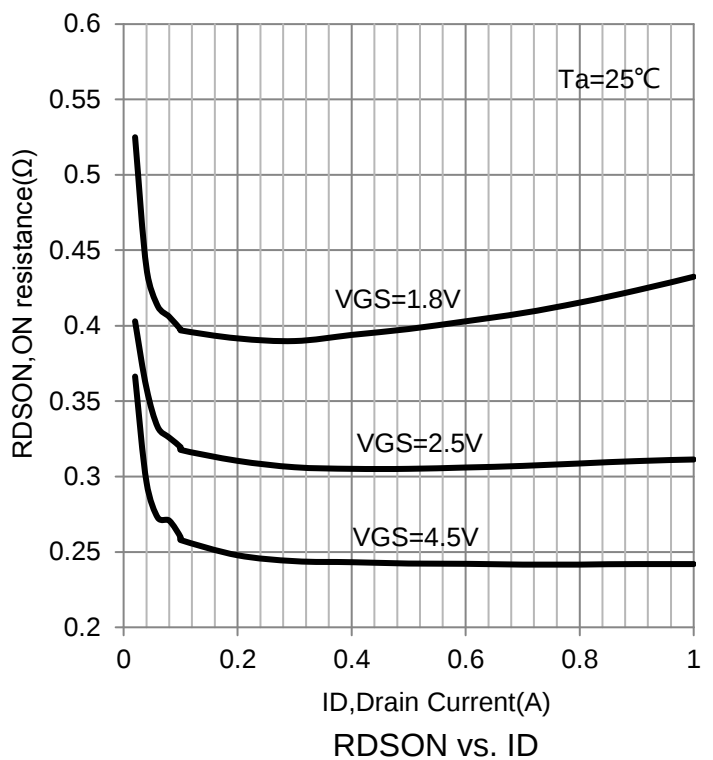
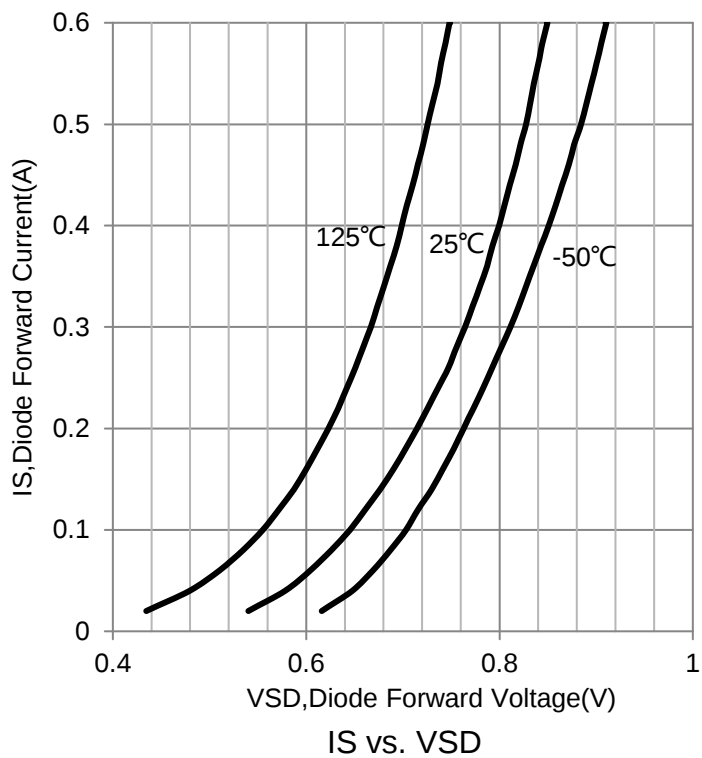
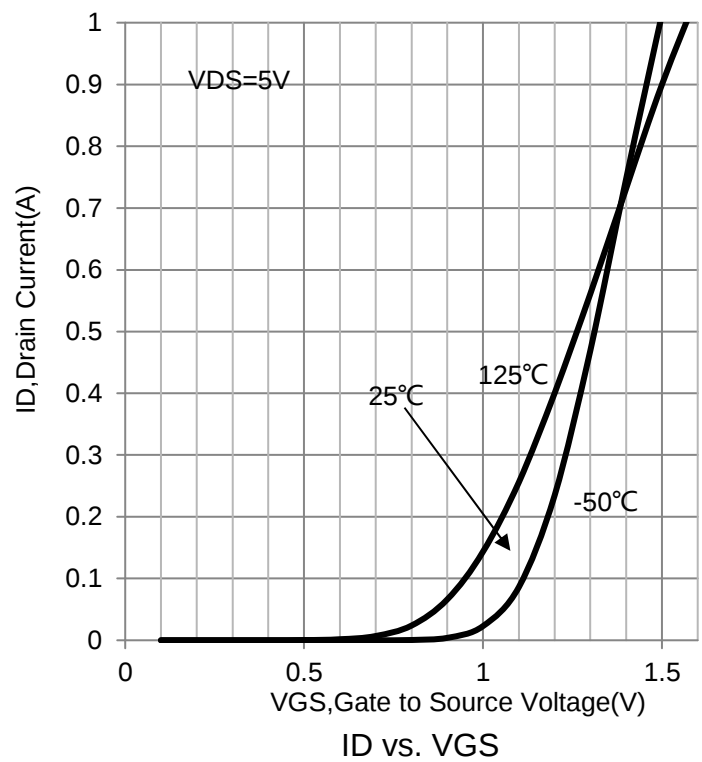
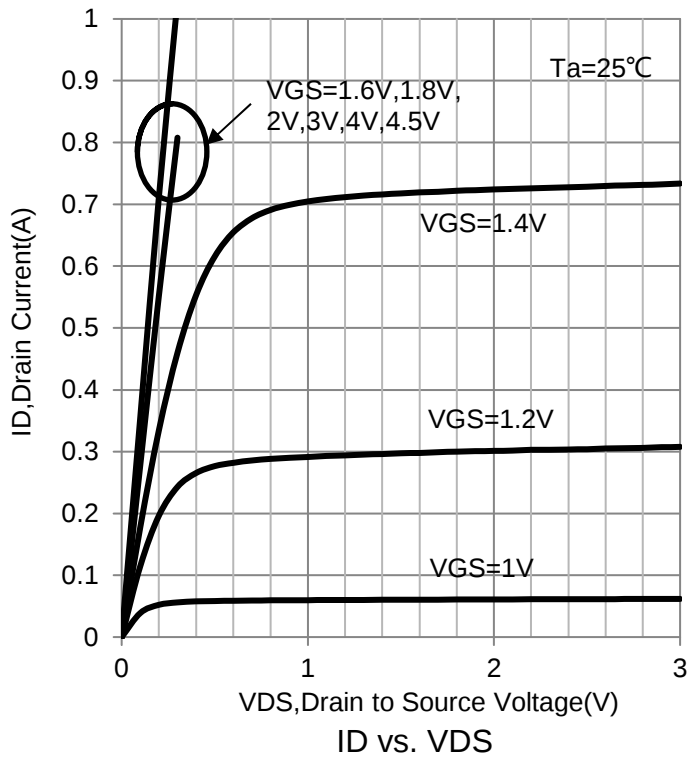
Parameter		Symbol	5 secs	Steady State	Unit
Drain-Source Voltage		VDS	20		V
Gate-Source Voltage		VGS	±10		V
Continuous Drain Current (TJ = 150℃) (Note 2)	TA = 25℃	ID	1200	1000	mA
	TA = 85℃		1000	800	
Pulsed Drain Current(Note 1)		IDM	2000		
Continuous Source Current (diode conduction)(Note 2)		IS	275	250	
Maximum Power Dissipation(Note 2)		PD		250	mW
Thermal Resistance, Junction to Ambient		RθJA		500	℃/W
Operating Junction and Storage Temperature Range		TJ , Tstg	-55 ~+150		℃

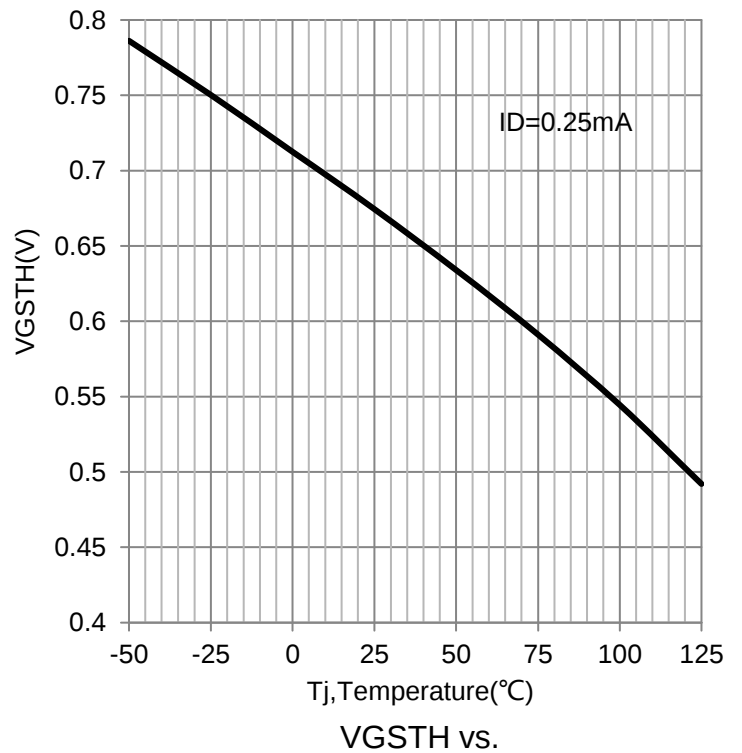
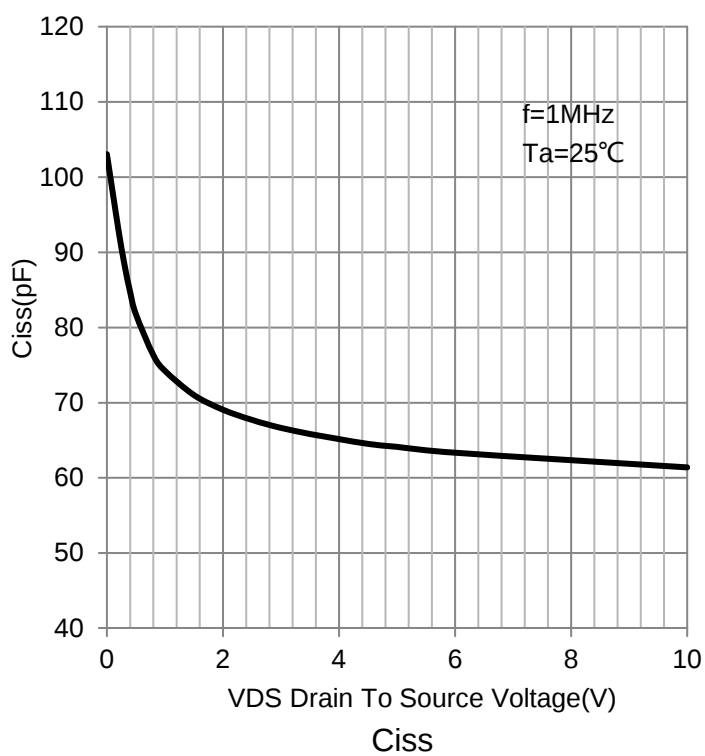
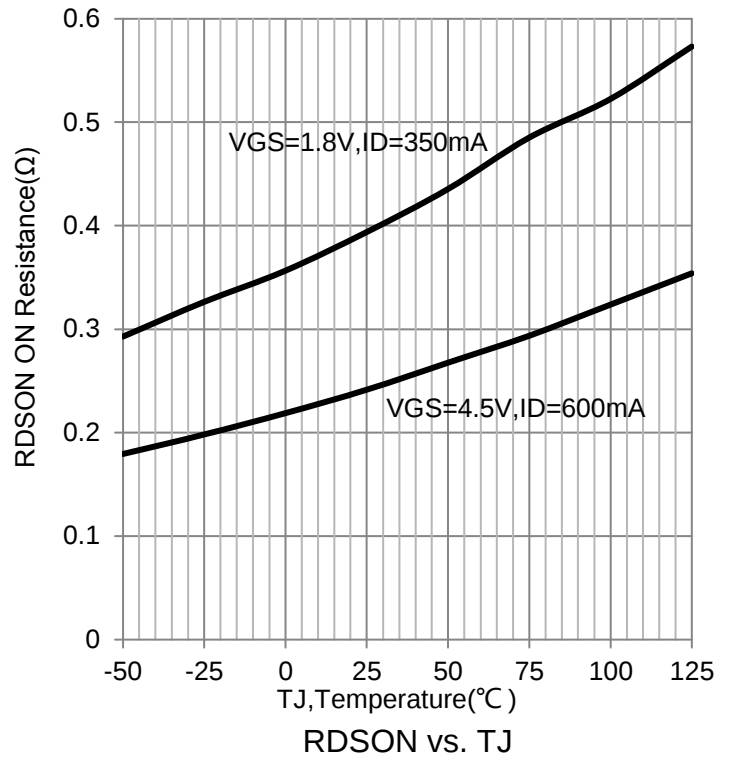
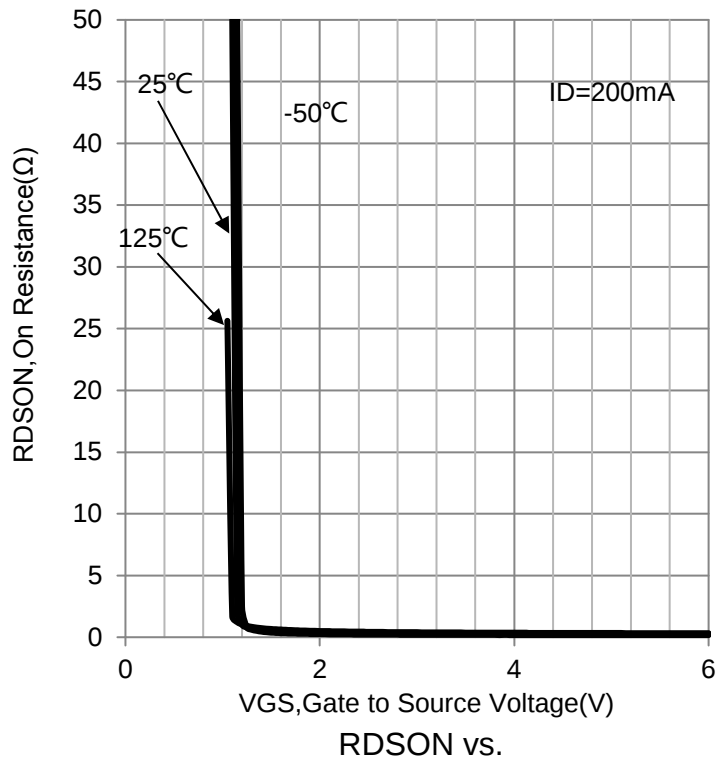
Electrical Characteristics (TA=25°C unless otherwise specified)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Gate Threshold Voltage (VDS = VGS , ID = 250μA)	VGS(th)	0.35	-	1.0	V
Gate-Body Leakage (VDS = 0 V, VGS = ±4.5 V)	IGSS	-	±0.5	±1	μA
Zero Gate Voltage Drain Current (VDS = 20 V, VGS = 0 V) (VDS = 20 V, VGS = 0 V, TJ = 85°C)	IDSS	- -	0.3 -	100 5	nA μA
On-State Drain Current(Note 1) (VDS = 5 V, VGS = 4.5 V)	ID(on)	700	-	-	mA
Drain-Source On-State Resistance(Note 1) (VGS = 4.5 V, ID = 500 mA) (VGS = 2.5 V, ID = 400 mA)	RDS(on)		0.12 0.19	0.2 0.26	Ω
Forward Transconductance(Note 1) (VDS = 10 V, ID = 400 mA)	gfs		1		S
Diode Forward Voltage(Note 1) (IS = 150 mA, VGS = 0 V)	VSD		0.8	1.2	V

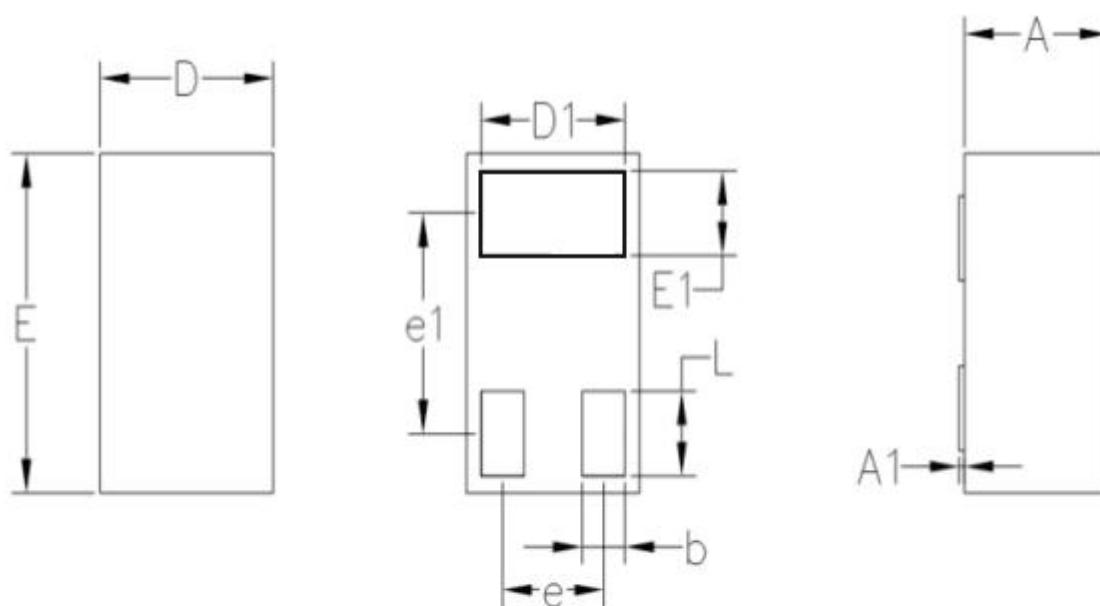
Total Gate Charge	(VDS = 10 V, VGS = 4.5 V, ID = 250 mA)	Qg		750		pC
Gate-Source Charge		Qgs		75		
Gate-Drain Charge		Qgd		225		
Turn-On Delay Time	(VDD = 10 V, RL = 47Ω, ID=200 mA, VGEN = 4.5 V, RG = 10Ω)	td(on)		5		ns
Rise Time		tr		5		
Turn-Off Delay Time		td(off)		25		
Fall Time		tf		11		

Typical Characteristics





SOD-883 Package Outline Drawing



SYMBOL	DIMENSIONS IN MM		
	MIN	NOM	MAX
A	0.45	0.50	0.55
A1	0.00	—	0.05
D	0.55	0.60	0.65
E	0.95	1.00	1.05
D1	0.45	0.50	0.55
E1	0.20	0.25	0.30
L	0.20	0.25	0.30
b	0.10	0.15	0.20
e	0.35BSC		
e1	0.65BSC		