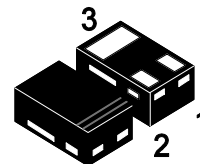


N-channel Trench MOSFET

FEATURES

- Lead Free Product is Acquired
- Surface Mount Package
- N-Channel Switch with Low $R_{DS(on)}$
- Operated at Low Logic Level Gate Drive
- ESD Protected Gate

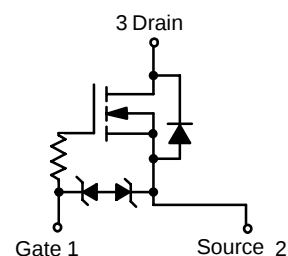


SOD-883

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APPLICATIONS

- Load/ Power Switching
- Interfacing Switching
- Battery Management for Ultra Small Portable Electronics
- Logic Level Shift



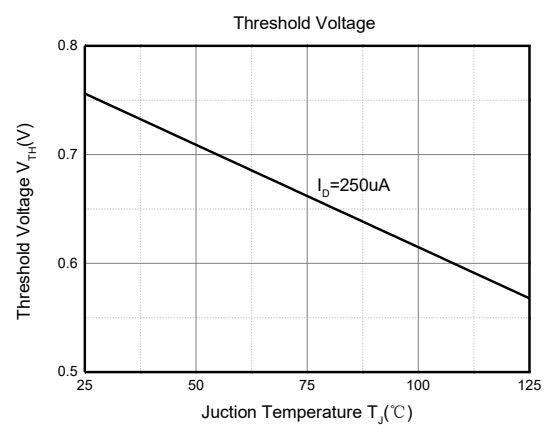
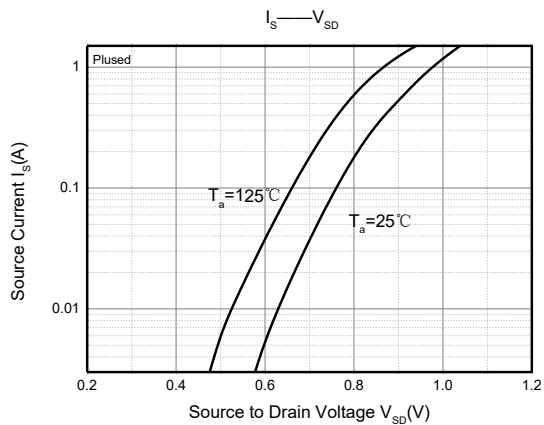
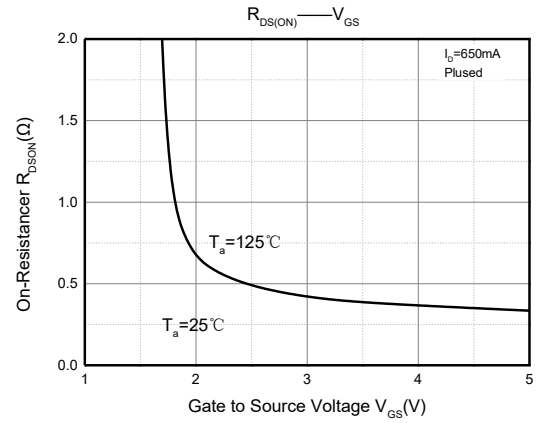
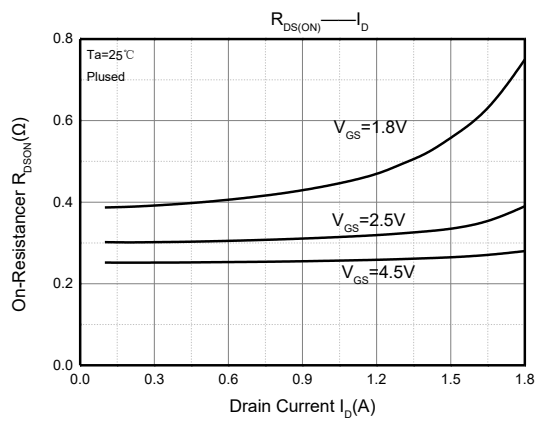
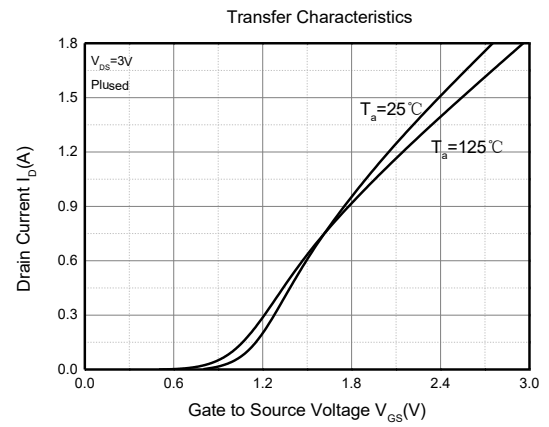
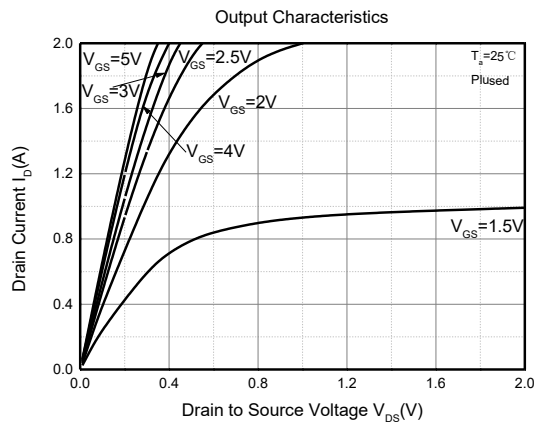
Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Typical Gate-Source Voltage	V_{GS}	± 8	V
Continuous Drain Current (note 1)	I_D	0.8	A
Pulsed Drain Current ($t_p=10\mu\text{s}$)	I_{DM}	1.8	A
Power Dissipation (note 1)	P_D	100	mW
Thermal Resistance from Junction to Ambient (note 1)	$R_{\theta JA}$	1250	$^{\circ}\text{C/W}$
Operation Junction and Storage Temperature Range	T_J, T_{STG}	-55~ 150	$^{\circ}\text{C}$
Lead Temperature for Soldering Purposes(1/8" from case for 10 s)	T_L	260	$^{\circ}\text{C}$

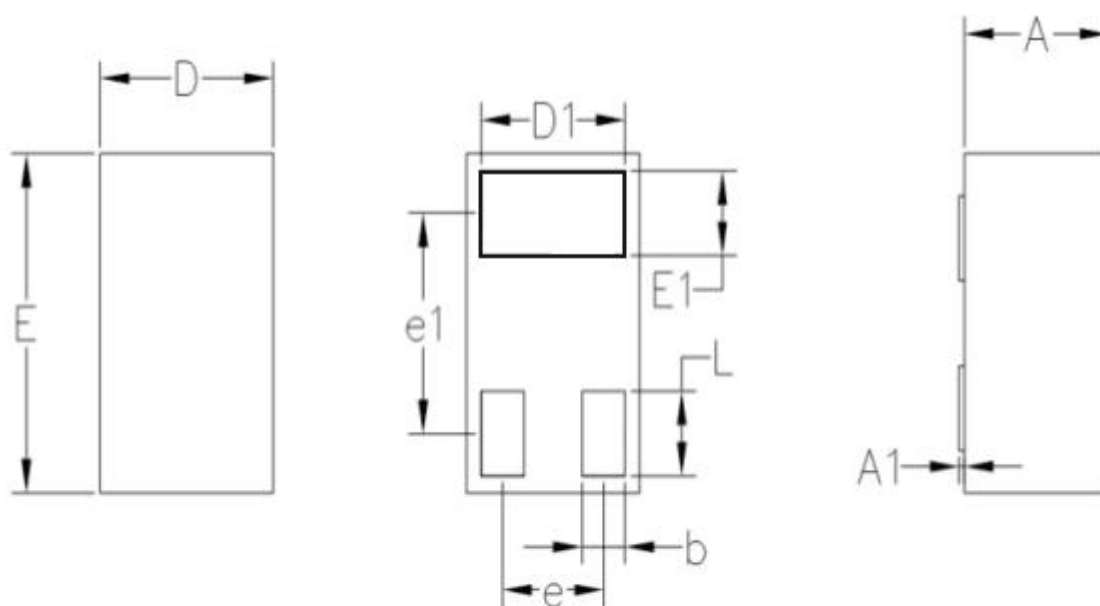
Electrical Characteristics (TA=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =250μA	20			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =20V,V _{GS} = 0V			1	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±10V, V _{DS} = 0V			±20	μA
Gate threshold voltage ⁽²⁾	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.4	0.7	1.0	V
Drain-source on-resistance ⁽²⁾	R _{DS(on)}	V _{GS} =4.5V, I _D =500mA		220	400	mΩ
		V _{GS} =2.5V, I _D =500mA		280	500	
Forward tranconductance	g _{FS}	V _{DS} =10V, I _D =150mA	150			mS
Dynamic characteristics ⁽⁴⁾						
Input Capacitance	C _{iss}	V _{DS} =16V,V _{GS} =0V,f=1MHz		79	120	pF
Output Capacitance	C _{oss}			13	20	
Reverse Transfer Capacitance	C _{rss}			9	15	
Switching Characteristics ⁽⁴⁾						
Turn-on delay time ⁽³⁾	t _{d(on)}	V _{DS} =10V,I _D =500mA, V _{GS} =4.5V,R _G =10Ω		6.7		ns
Turn-on rise time ⁽³⁾	t _r			4.8		
Turn-off delay time ⁽³⁾	t _{d(off)}			17.3		
Turn-off fall time ⁽³⁾	t _f			7.4		
Source-Drain Diode characteristics						
Diode Forward voltage ⁽³⁾	V _{DS}	I _S =0.15A, V _{GS} = 0V			1.2	V

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		