

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
20V	18mΩ@10V	5A
	22mΩ@4.5V	

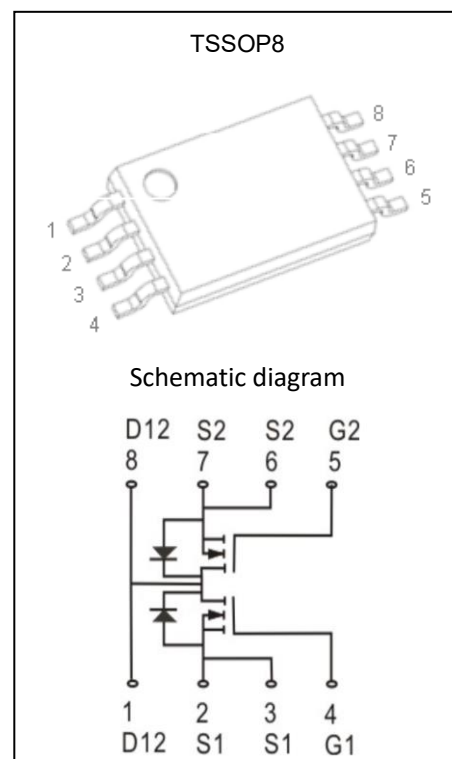
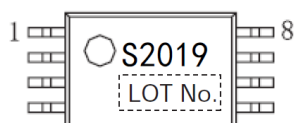
Feature

- TrenchFET Power MOSFET
- Excellent $R_{DS(on)}$
- Low Gate Charge
- High Power and Current Handling Capability
- Surface Mount Package

Application

- Battery Protection
- Load Switch
- Power Management

MARKING:



ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 10	V
Continuous Drain Current	I_D	5	A
Pulsed Drain Current ⁽¹⁾	I_{DM}	25	A
Power Dissipation	P_D	2	W
Thermal Resistance from Junction to Ambient ⁽²⁾	$R_{\theta JA}$	62.5	$^{\circ}\text{C/W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}\text{C}$
Lead Temperature for Soldering Purposes(1/8" from case for 10s)	T_L	260	$^{\circ}\text{C}$

MOSFET ELECTRICAL CHARACTERISTICS($T_a=25^{\circ}\text{C}$ unless otherwise noted)

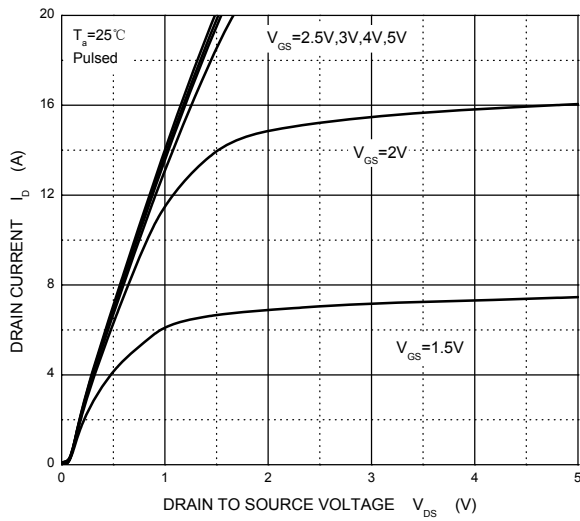
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	20			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 18V, V_{GS} = 0V$			1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 10V, V_{DS} = 0V$			± 100	nA
Gate threshold voltage ⁽³⁾	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.45	0.7	1.2	V
Drain-source on-resistance ⁽³⁾	$R_{DS(on)}$	$V_{GS} = 4.5V, I_D = 5A$		18	27	mΩ
		$V_{GS} = 2.5V, I_D = 6A$		22	35	
Forward tranconductance ⁽³⁾	g_{FS}	$V_{DS} = 5V, I_D = 4.5A$	5			S
Diode Forward voltage ⁽³⁾	V_{DS}	$V_{GS} = 0V, I_S = 1.25A$			1.2	V
Dynamic characteristics ⁽⁴⁾						
Input Capacitance	C_{iss}	$V_{DS} = 8V, V_{GS} = 0V, f = 1MHz$		365		pF
Output Capacitance	C_{oss}			77		
Reverse Transfer Capacitance	C_{rss}			65		
Total gate charge	Q_g	$V_{DS} = 10V, V_{GS} = 4.5V, I_D = 4A$		11		nC
Gate-source charge	Q_{gs}			2.3		
Gate-drain charge	Q_{gd}			2.5		
Switching Characteristics ⁽⁴⁾						
Turn-on delay time	$t_{d(on)}$	$V_{GS} = 4V, V_{DD} = 10V,$ $I_D = 1A, R_{GEN} = 10\Omega$		18		ns
Turn-on rise time	t_r			5		
Turn-off delay time	$t_{d(off)}$			43		
Turn-off fall time	t_f			20		

Notes :

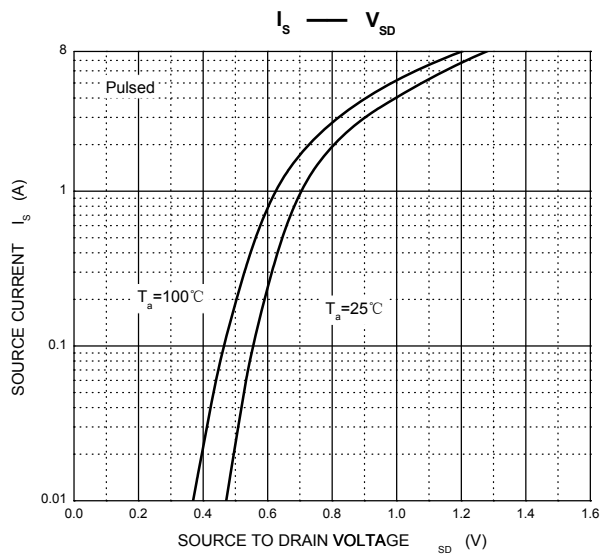
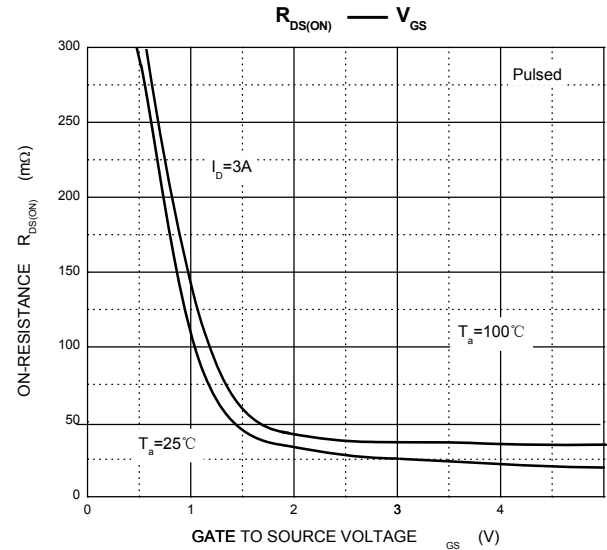
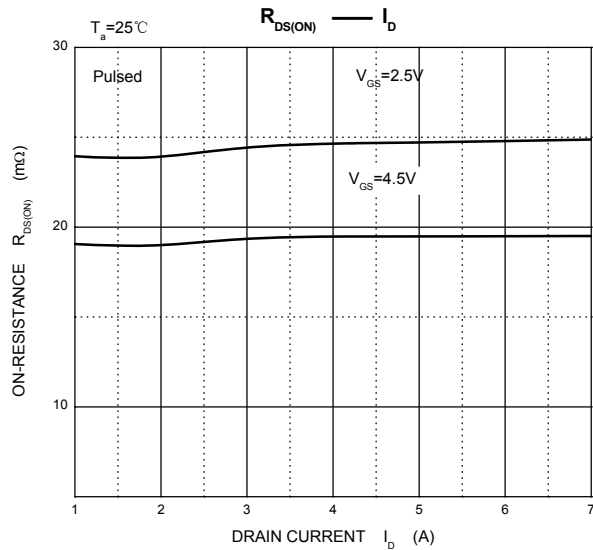
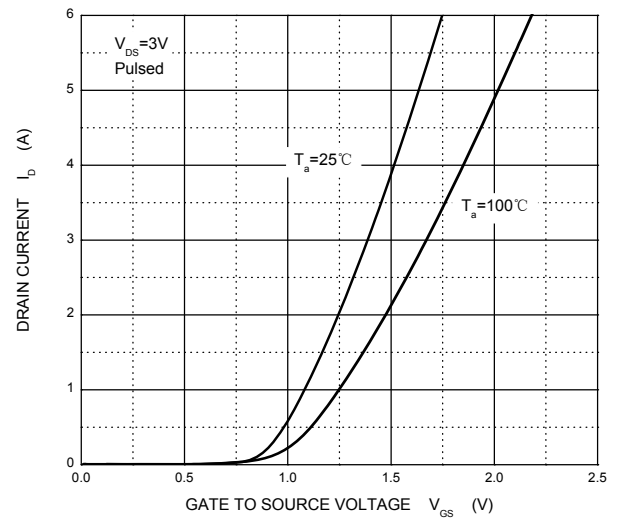
- 1.Repetitive rating: Pluse width limited by maximum junction temperature
- 2.Surface Mounted on FR4 board, $t \leq 10$ sec.
3. Pulse test : Pulse width $\leq 300\mu s$, duty cycles $\leq 2\%$.
4. Guaranteed by design, not subject to production.

Typical Electrical and Thermal Characteristics

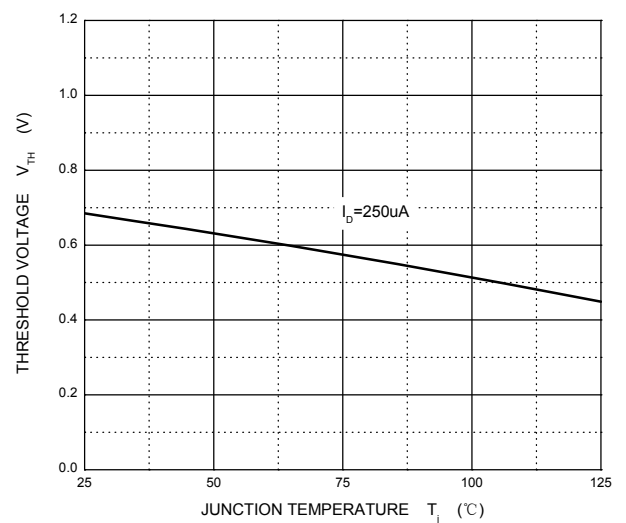
Output Characteristics

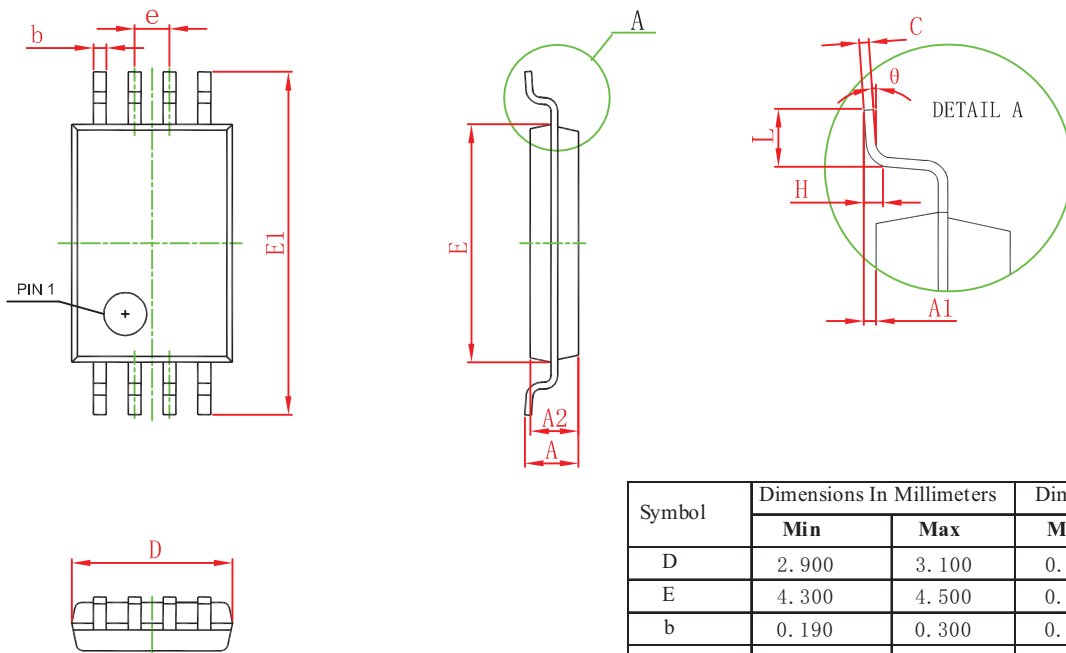


Transfer Characteristics



Threshold Voltage



TSSOP8 Package Information


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
D	2.900	3.100	0.114	0.122
E	4.300	4.500	0.169	0.177
b	0.190	0.300	0.007	0.012
c	0.090	0.200	0.004	0.008
E1	6.250	6.550	0.246	0.258
A		1.200		0.047
A2	0.800	1.000	0.031	0.039
A1	0.050	0.150	0.002	0.006
e	0.65 (BSC)		0.026 (BSC)	
L	0.500	0.700	0.020	0.028
H	0.25(TYP)		0.01(TYP)	
θ	1°	7°	1°	7°