

Product Summary

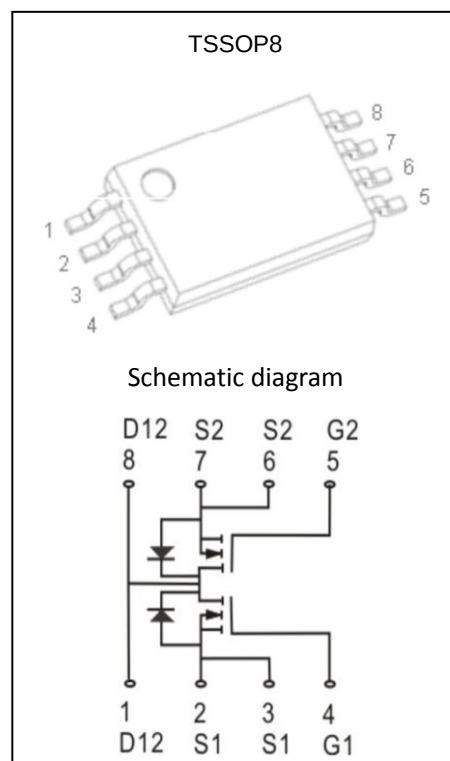
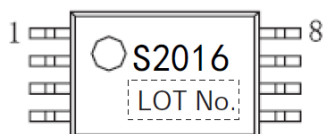
$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
20V	16mΩ@4.5V	6A
	21mΩ@2.5V	

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	6	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	$^{\circ}\text{C}$

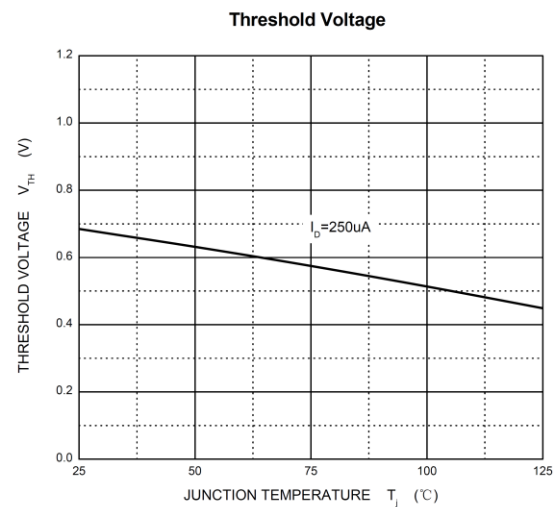
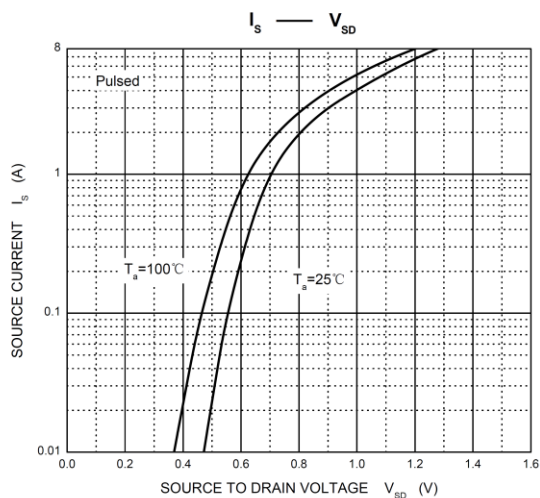
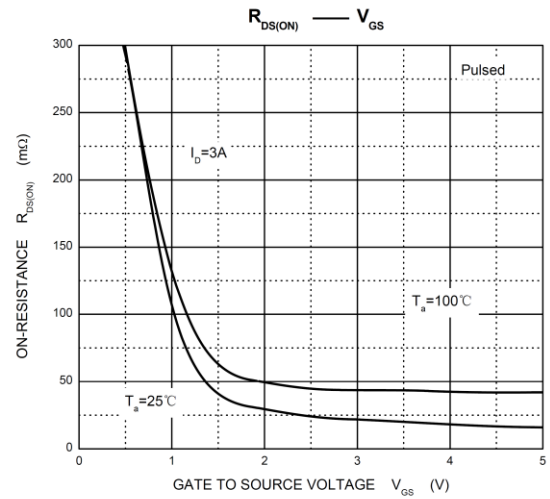
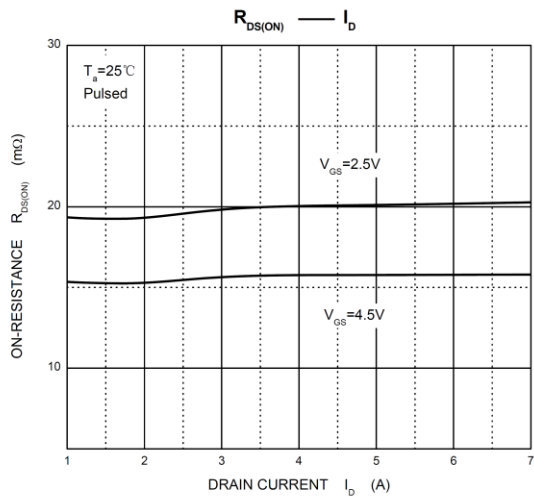
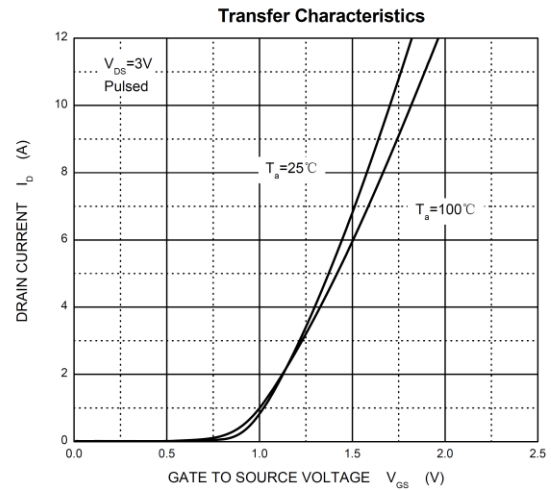
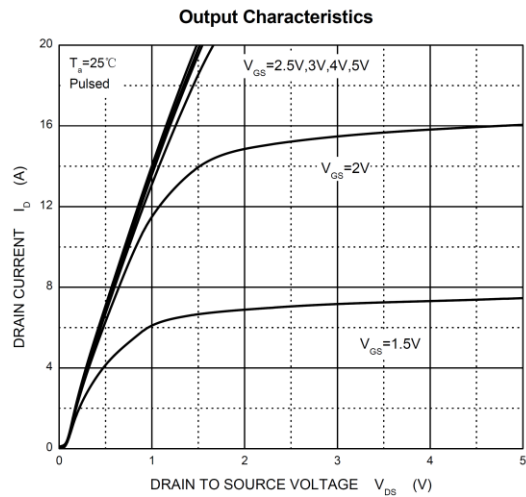
MOSFET ELECTRICAL CHARACTERISTICS($T_A=25^{\circ}\text{C}$ unless otherwise noted)

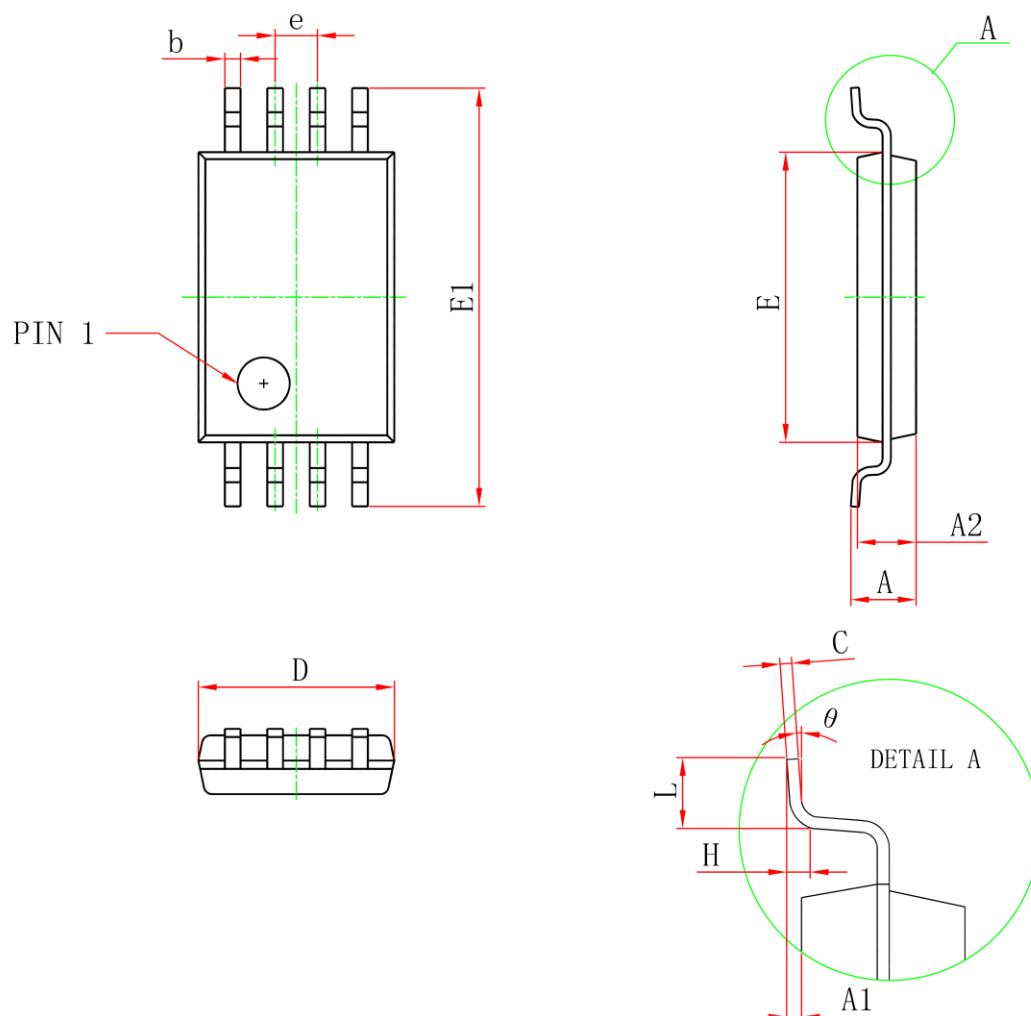
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-Source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =250μA	20			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =18V,V _{GS} = 0V			1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±10V, V _{DS} = 0V			±100	nA
Gate Threshold Voltage ⁽³⁾	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.45	0.7	1.2	V
Drain-Source on-Resistance ⁽³⁾	R _{DS(on)}	V _{GS} =4.5V, I _D =6A		16	20	mΩ
		V _{GS} =2.5V, I _D =5A		21	27	
Forward Tranconductance ⁽³⁾	g _{FS}	V _{DS} =5V, I _D =4.5A		10		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		800		pF
Output Capacitance	C _{oss}			155		
Reverse Transfer Capacitance	C _{rss}			125		
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} =10Ω		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 cycle $\leq 2\%$.
4. Guaranteed by design, not subject to production.

Typical Electrical and Thermal Characteristics



TSSOP8 Package Information


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
D	2.800	3.100	0.110	0.122
E	4.300	4.500	0.169	0.177
b	0.200	0.300	0.008	0.012
c	0.090	0.200	0.004	0.008
E1	6.200	6.600	0.244	0.260
A	1.200MAX		0.047MAX	
A2	0.800	1.050	0.031	0.041
A1	0.050	0.150	0.002	0.006
e	0.650BSC		0.026TYP	
L	0.450	0.750	0.018	0.030
H	0.250TYP		0.010TYP	
θ	1°	7°	1°	7°

Attention:

- GreenPower Electronics reserves the right to improve product design function and reliability without notice.
- Any and all semiconductor products have certain probability to fail or malfunction, which may result in personal injury, death or property damage. Customer are solely responsible for providing adequate safe measures when design their systems.
- GreenPower Electronics products belong to consumer electronics or other civilian electronic products.