

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-12V	10mΩ@-4.5V	-16A
	14mΩ@-2.5V	

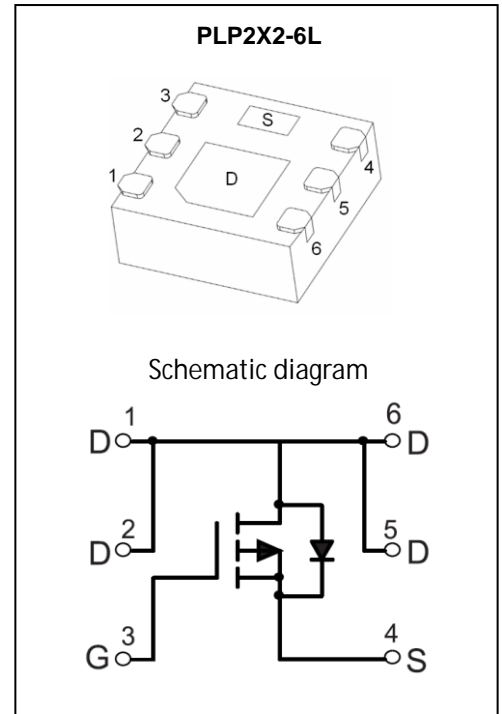
Feature

- TrenchFET Power MOSFET
- Excellent $R_{DS(on)}$ and Low Gate Charge

Application

- DC/DC Converter
- Load Switch for Portable Devices
- Battery Switch

MARKING:



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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-12	V
Gate-Source Voltage	V_{GS}	± 10	V
Continuous Drain Current	I_D	-16	A
Pulsed Drain Current ⁽¹⁾	I_{DM}	-65	A
Power Dissipation ⁽²⁾ ($T_a=25^{\circ}C$)	P_D	2.5	W
Maximum Power Dissipation ⁽³⁾ ($T_c=25^{\circ}C$)		18	W
Thermal Resistance from Junction to Ambient ⁽⁴⁾	$R_{\theta JA}$	50	$^{\circ}C/W$
Thermal Resistance from Junction to Case ⁽⁴⁾	$R_{\theta JC}$	6.9	$^{\circ}C/W$
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}C$

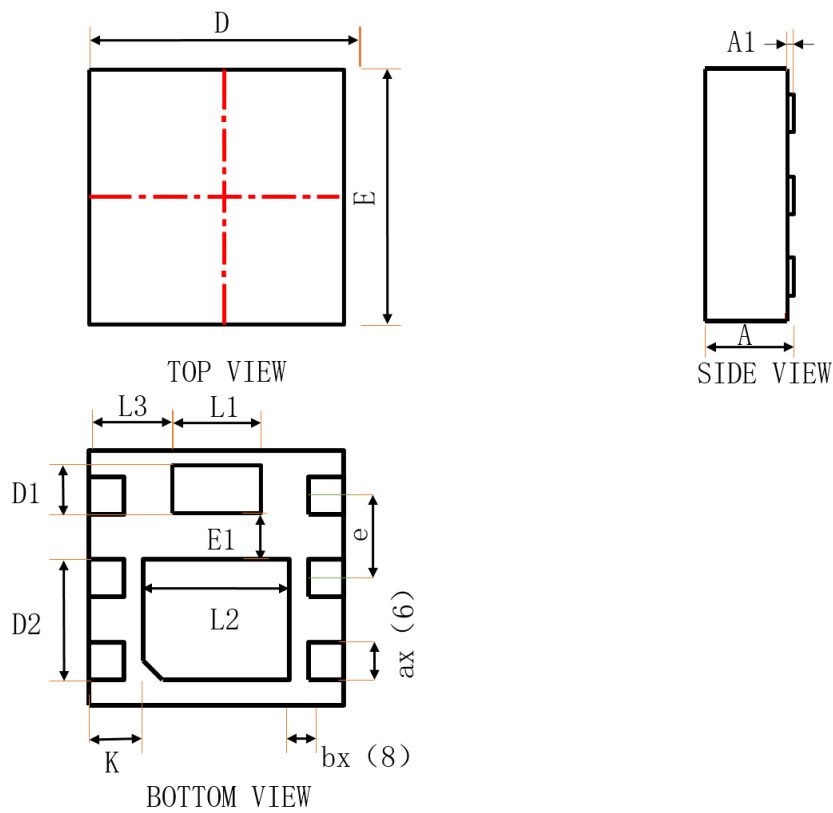
MOSFET ELECTRICAL CHARACTERISTICS(T_A=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-12			V
Zero gate voltage drain current	I _{DSS}	V _{DS} = -12V, V _{GS} = 0V			-1	μA
Gate-body leakage current	I _{GSS}	V _{GS} = ±10V, V _{DS} = 0V			±100	nA
Gate threshold voltage ⁽⁵⁾	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-0.4	-0.7	-1	V
Drain-source on-resistance ⁽⁵⁾	R _{DS(on)}	V _{GS} = -4.5V, I _D = -6.7A		10	18	mΩ
		V _{GS} = -2.5V, I _D = -4.2A		14	27	
Forward tranconductance ⁽⁵⁾	g _{FS}	V _{DS} = -10V, I _D = -6.7A		40		S
Dynamic characteristics⁽⁶⁾						
Input Capacitance	C _{iss}	V _{DS} = -6V, V _{GS} = 0V, f = 1MHz		1658		pF
Output Capacitance	C _{oss}			354		
Reverse Transfer Capacitance	C _{rss}			341		
Gate resistance	R _g	f = 1MHz		45		Ω
Switching Characteristics						
Total Gate Charge	Q _g	V _{DS} = -6V, V _{GS} = -4.5V, I _D = -5A		18	23	nC
Gate-Source Charge	Q _{gs}			3		
Gate-Drain Charge	Q _{gd}			4.7		
Turn-on delay time	t _{d(on)}	V _{DD} = -6V, V _{GEN} = -4.5V, I _D = -4A R _L = 6Ω, R _{GEN} = 1Ω		33	40	ns
Turn-on rise time	t _r			31	40	
Turn-off delay time	t _{d(off)}			58	75	
Turn-off fall time	t _f			26	35	
Source-Drain Diode characteristics						
Diode Forward voltage ⁽⁴⁾	V _{DS}	V _{GS} = 0V, I _S = -2A			-1.2	V

Notes:

1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. This test is performed with no heat sink at T_a=25°C.
3. This test is performed with infinite heat sink at T_c=25°C.
4. Surface mounted on FR4 board, t_s≤10S.
5. Pulse Test: Pulse With ≤300μs, Duty Cycle≤2%.
6. Guaranteed by design, not subject to production testing.

PLP2X2-6L Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.650	0.750	0.026	0.030
A1	0.025	0.075	0.001	0.003
D	1.900	2.100	0.075	0.083
E	1.900	2.100	0.075	0.083
D1	0.330	0.420	0.013	0.017
D2	0.900	1.000	0.035	0.039
e	0.650REF		0.026REF	
ax(6)	0.250	0.350	0.010	0.014
bx(8)	0.225	0.325	0.009	0.013
L1	0.650	0.750	0.026	0.030
L2	1.100	1.200	0.043	0.047
L3	0.600	0.700	0.024	0.028
K	0.375	0.475	0.015	0.019
E1	0.310	0.410	0.012	0.016

Attention:

- GreenPower Electronics reserves the right to improve product design function and reliability without notice.
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