

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
30V	4.8mΩ@10V	20A
	5.5mΩ@6V	
	6.6mΩ@4.5V	

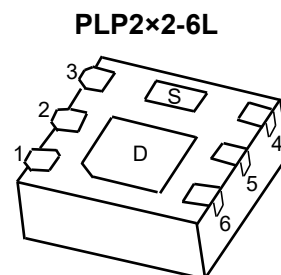
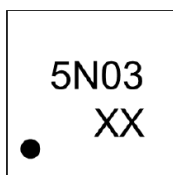
Feature

- Trench Technology Power MOSFET
- Low $R_{DS(ON)}$
- Low Gate Charge

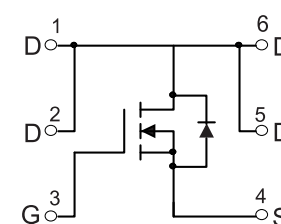
Application

- Load Switch
- DC/DC Converter

MARKING:



Schematic diagram



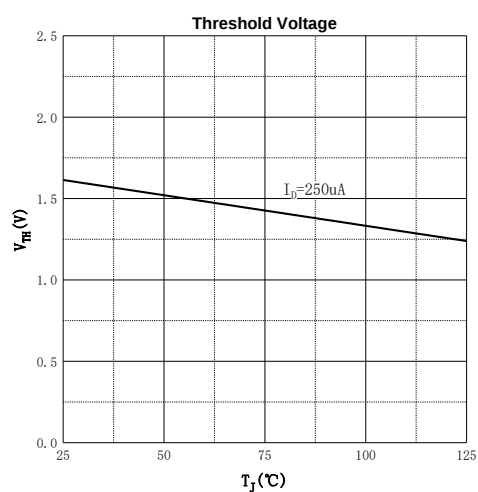
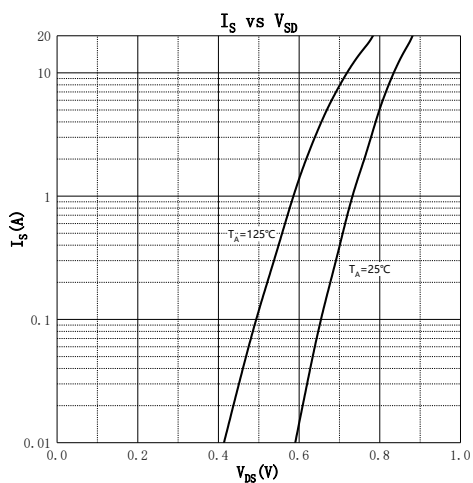
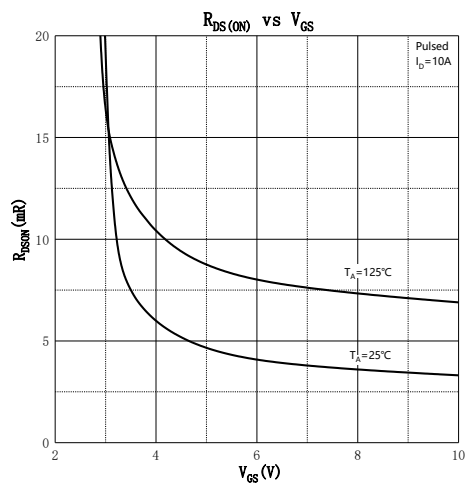
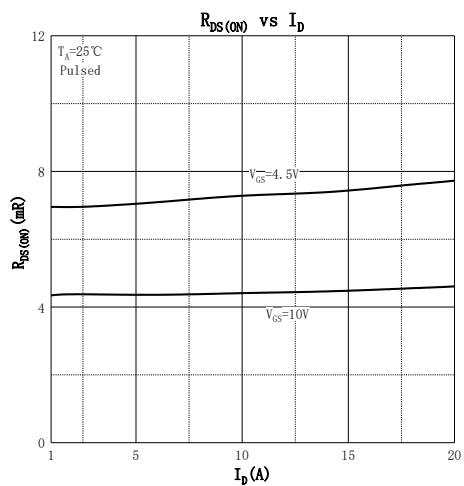
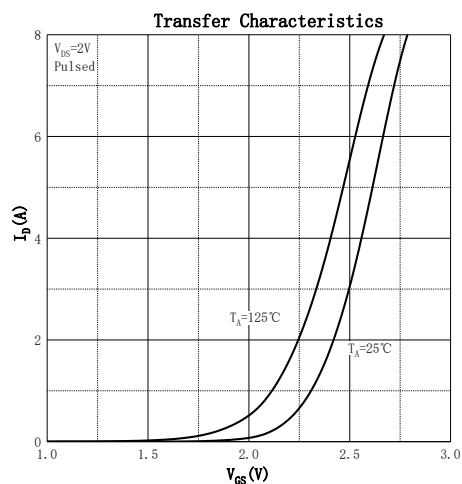
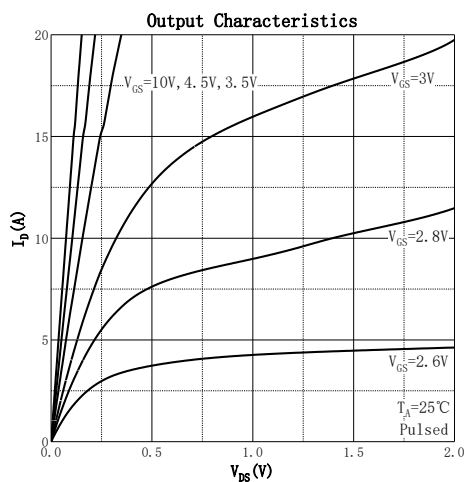
ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

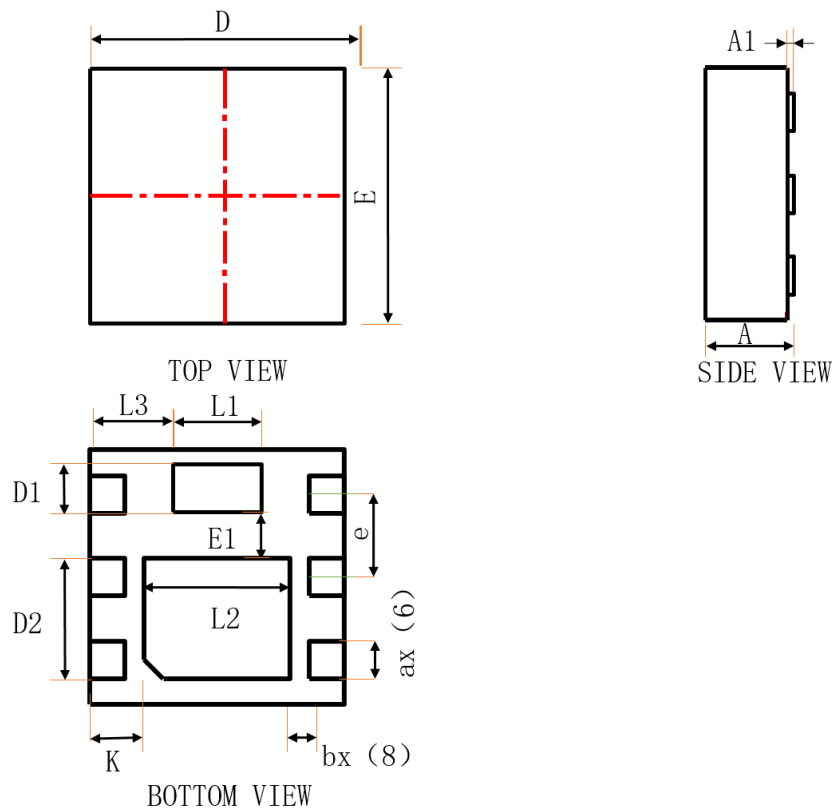
Parameter	Symbol	Value	Unit
Drain - Source Voltage	V_{DS}	30	V
Gate - Source Voltage	V_{GS}	± 20	V
Continuous Drain Current ^{1,5}	I_D	20	A
Pulsed Drain Current ²	I_{DM}	80	A
Power Dissipation ^{4,5}	P_D	6.3	W
Thermal Resistance from Junction to Ambient ⁵	$R_{\theta JA}$	83	$^\circ\text{C/W}$
Thermal Resistance from Junction to Case ⁵	$R_{\theta JC}$	20	$^\circ\text{C/W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^\circ\text{C}$

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

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Off Characteristics						
Drain - Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	30			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 30V, V_{GS} = 0V$			1	μA
Gate - Body Leakage Current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 100	nA
On Characteristics ³						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1	2	3	V
Drain-source On-resistance	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 3A$		4.8	6	m Ω
		$V_{GS} = 6V, I_D = 3A$		5.5	7	
		$V_{GS} = 4.5V, I_D = 3A$		6.6	9	
		Dynamic Characteristics				
Input Capacitance	C_{iss}	$V_{DS} = 15V, V_{GS} = 0V, f = 1MHz$		886		pF
Output Capacitance	C_{oss}			739		
Reverse Transfer Capacitance	C_{rss}			54		
Gate Resistance	R_g	$V_{DS} = 0V, V_{GS} = 0V, f = 1MHz$		1.8		Ω
Switching Characteristics						
Total Gate Charge	Q_g	$V_{DS} = 15V, V_{GS} = 10V, I_D = 15A$		13.9		nC
Gate-source Charge	Q_{gs}			6.6		
Gate-drain Charge	Q_{gd}			2.3		
Turn-on Delay Time	$t_{d(on)}$	$V_{DD} = 10V, V_{GS} = 10V, R_L = 1\Omega, R_G = 6\Omega$		3.5		ns
Turn-on Rise Time	t_r			3.6		
Turn-off Delay Ttime	$t_{d(off)}$			13.7		
Turn-off Fall Time	t_f			6.9		
Source - Drain Diode Characteristics						
Diode Forward Voltage ³	V_{SD}	$V_{GS} = 0V, I_S = 3A$			1.2	V

Typical Characteristics



PLP2*2-6L 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