

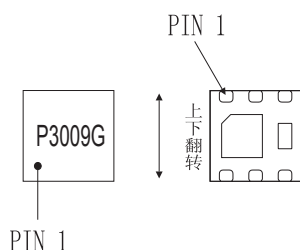
Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-30V	20mΩ@-10V	-9A
	30mΩ@-4.5V	

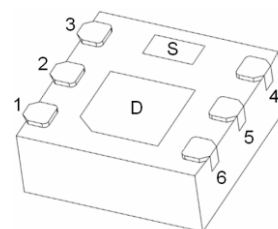
DESCRIPTION

The GPMP3009G2 uses advanced trench technology to provide excellent $R_{DS(on)}$, low gate charge and operation with low gate voltage. This device is suitable for use as a load switching application and a wide variety of other applications.

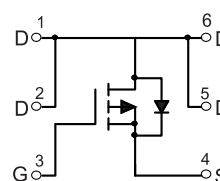
MARKING:



DFN2×2-6L



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	I_D	-9	A
Plused Drain Current ⁽¹⁾	I_{DM}	-36	A
Power Dissipation ⁽²⁾	P_D	0.75	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	165	$^{\circ}\text{C/W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}\text{C}$

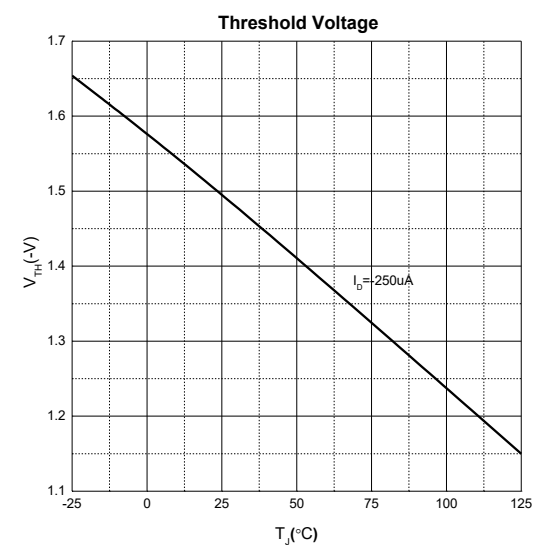
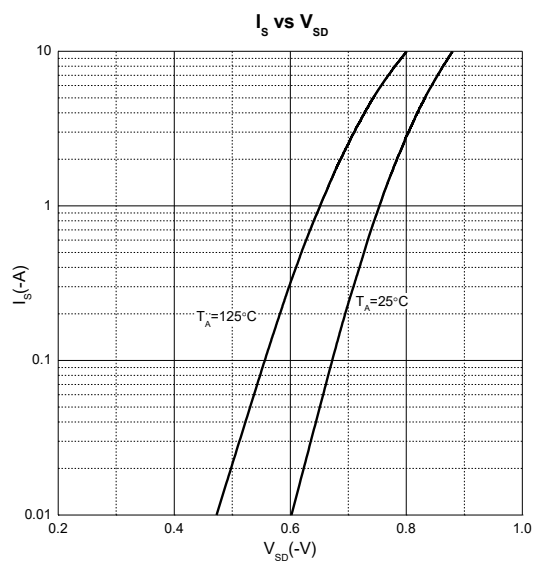
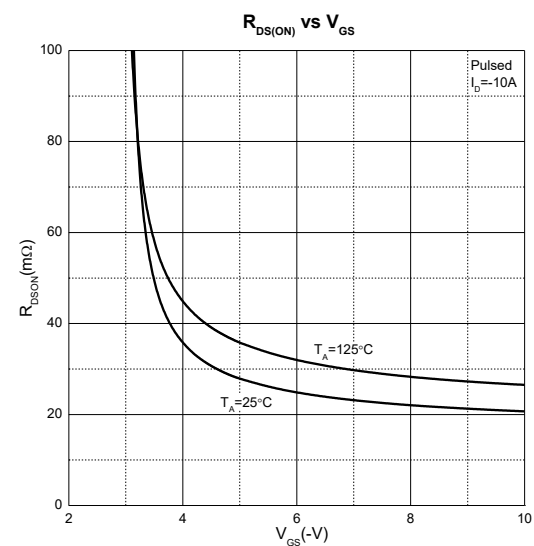
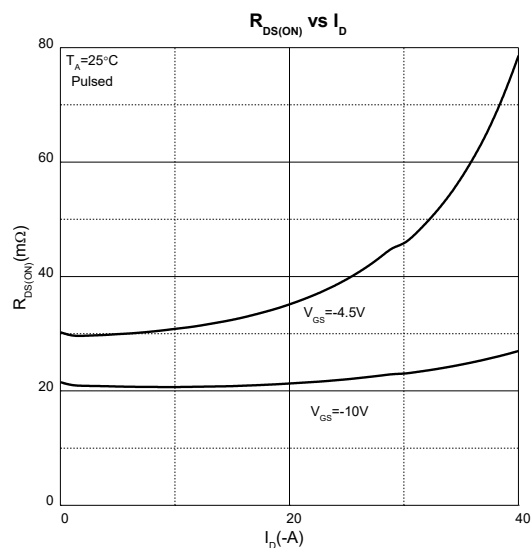
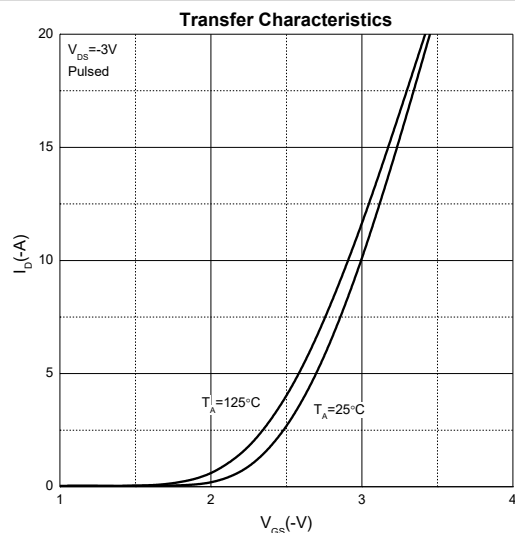
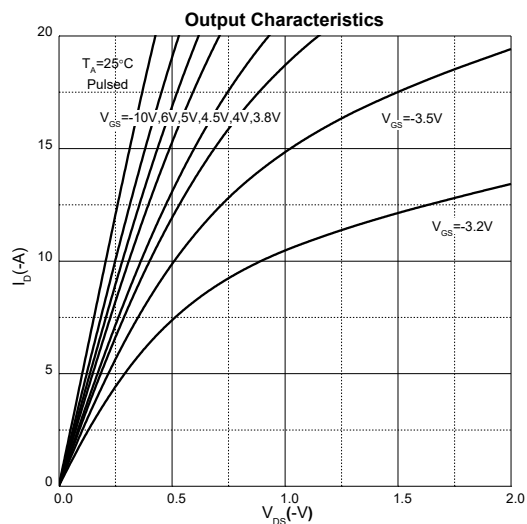
MOSFET ELECTRICAL CHARACTERISTICS(T_a=25°C unless otherwise noted)

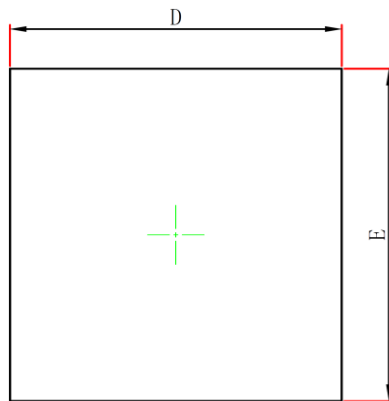
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Off Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-30			V
Zero gate voltage drain current	I _{DSS}	V _{DS} = -24V, V _{GS} = 0V			-1	μA
Gate-body leakage current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±100	nA
On Characteristics ⁽³⁾						
Gate threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-1.0	-1.5	-3.0	V
Drain-source on-resistance	R _{DS(on)}	V _{GS} = -10V, I _D = -10A		20	25	mΩ
		V _{GS} = -4.5V, I _D = -8A		30	35	
Forward tranconductance	g _{FS}	V _{DS} = -10V, I _D = -9.1A		12		S
Dynamic characteristics ⁽⁴⁾						
Input Capacitance	C _{iss}	V _{DS} = -15V, V _{GS} = 0V, f = 1MHz		886		pF
Output Capacitance	C _{oss}			111		
Reverse Transfer Capacitance	C _{rss}			98		
Total Gate Charge	Q _g	V _{DS} = -15V, V _{GS} = -4.5V, I _D = -9.1A			18	nC
Gate-Source Charge	Q _{gs}				2.6	
Gate-Drain Charge	Q _{gd}				4.0	
SWITCHING CHARACTERISTICS ⁽⁴⁾						
Turn-on delay time	t _{d(on)}	V _{DD} = -15V, I _D = -1A, V _{GS} = -10V, R _G = 1Ω, R _L = 15Ω			12	ns
Turn-on rise time	t _r				13	
Turn-off delay time	t _{d(off)}				60	
Turn-off fall time	t _f				20	
Drain-Source Diode Characteristics						
Diode Forward Current	I _S				-9	A
Diode Forward Voltage ⁽³⁾	V _{SD}	V _{GS} = 0V, I _{SD} = -2A			-1.2	V

Notes:

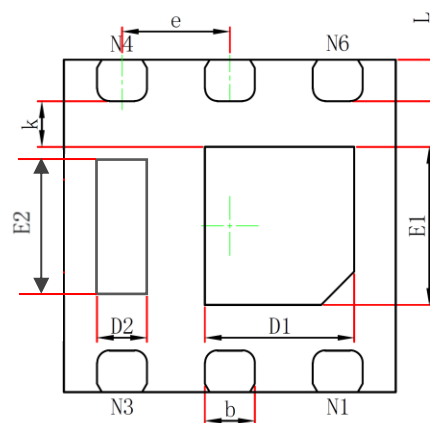
1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. This test is performed with no heat sink at T_a=25°C.
3. Pulse Test: Pulse With ≤300μs, Duty Cycle ≤2%.
4. Guaranteed by design, not subject to production testing.

Typical Characteristics

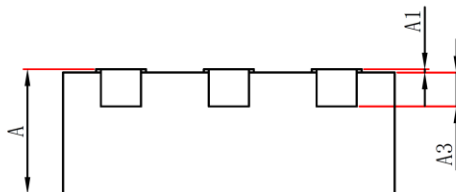


DFN2X2-6L Package Information


TOP VIEW



BOTTOM VIEW



SIDE VIEW

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.850	0.028	0.033
A1	0	0.050	0	0.002
A3	0.120	0.220	0.005	0.009
D	1.900	2.100	0.075	0.083
E	1.900	2.100	0.075	0.083
D1	0.800	1.050	0.031	0.041
E1	0.800	1.050	0.031	0.041
D2	0.200	0.400	0.008	0.016
E2	0.450	0.850	0.018	0.033
k	0.200MIN		0.008MIN	
b	0.250	0.350	0.010	0.014
e	0.65BSC		0.026TYP	
L	0.174	0.326	0.007	0.013

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.