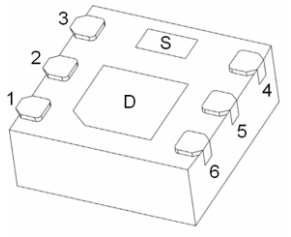
GPMP3009G2

30V P-Channel MOSFET

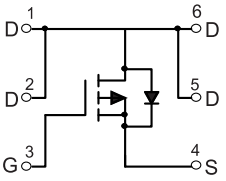
Product Summary

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

DFN2×2-6L



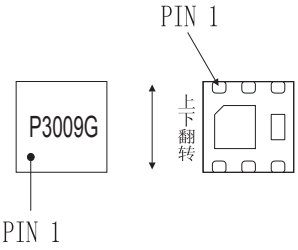
Schematic diagram



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 applicationand a wide variety of other applications.

MARKING:



ABSOLUTE MAXIMUM RATINGS (T_A=25℃ 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	1.5	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	85	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~ +150	℃

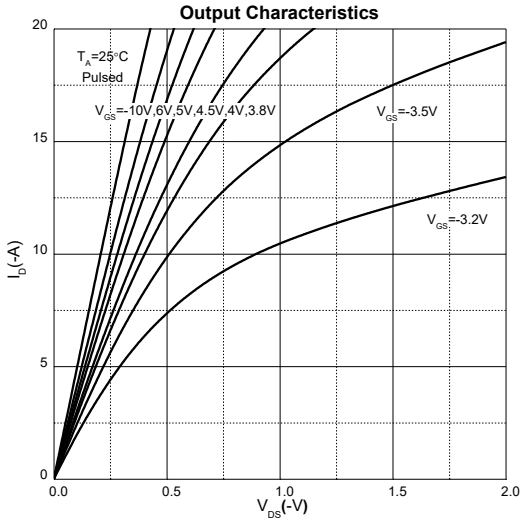
MOSFET ELECTRICAL CHARACTERISTICS(T_A=25℃ unless otherwise noted)

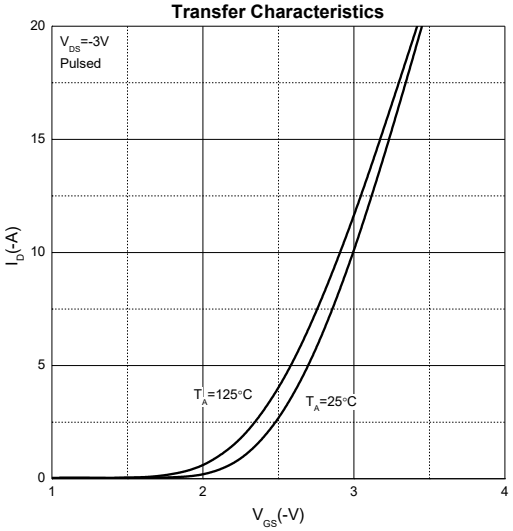
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Off Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =-250μA	-30			V
Zero Gate Voltage Drain Crrent	I_{DSS}	V_{DS} =-24V,V_{GS} = 0V			-1	μA
Gate-Body Leakage Current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±100	nA
On Characteristics(3)						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-1.0	-1.5	-3.0	V
Drain-Source O-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 Dlay 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

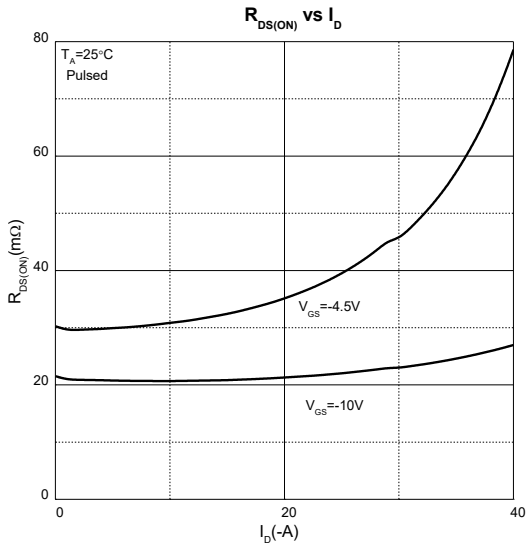
Notes:

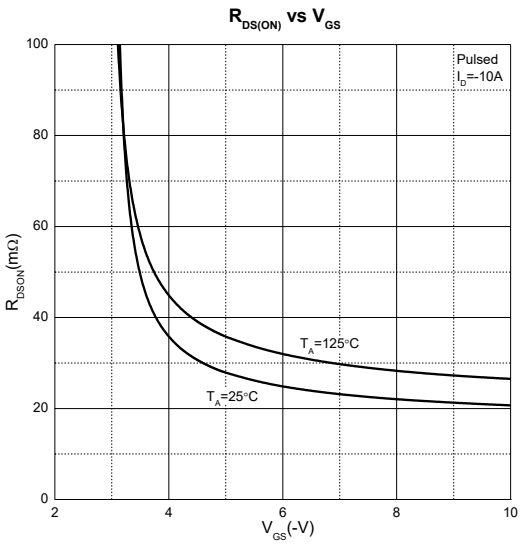
1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. This test is performed with no heat sink at Ta=25℃.
3. Pulse Test: Pulse With ≤300μs,Duty Cycle≤2%.
4. Guaranteed by design, not subject to production testing.

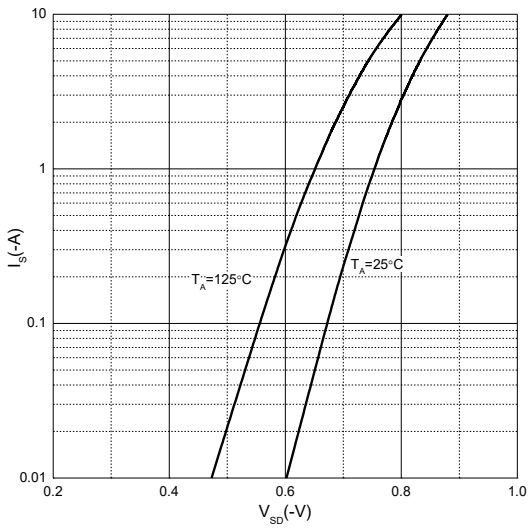
Typical Characteristics

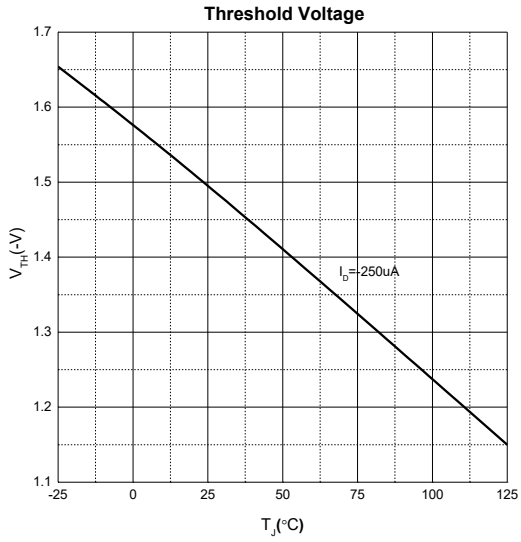




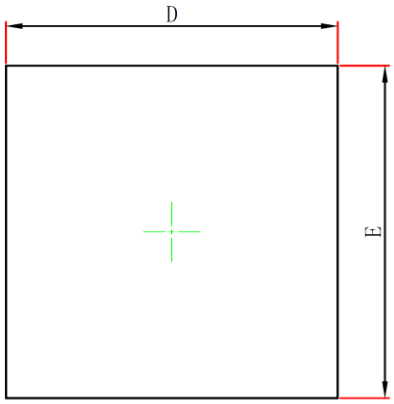




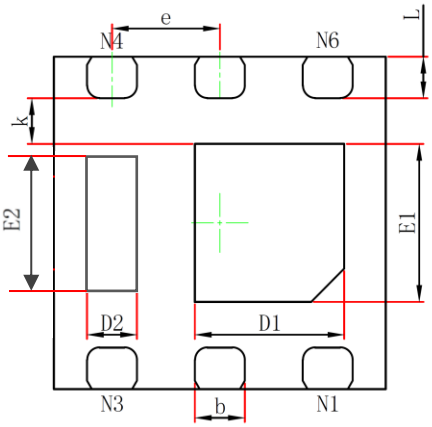




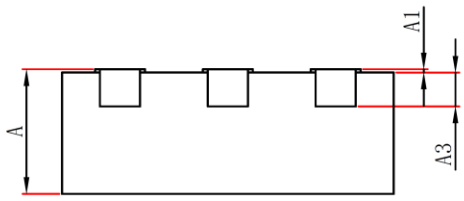
DFN2X2-6L Package Information



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.