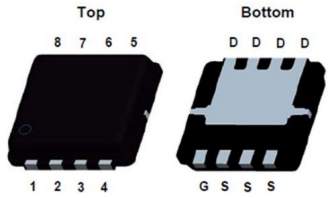
GPM080P02UNA

20V P-Channel MOSFET

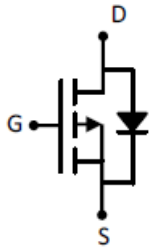
Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-20V	8mΩ@-4.5V	-50A
	10mΩ@-2.5V	

PDFN3.3X3.3-8L



Schematic diagram



Feature

- Trench Technology Power MOSFET
- Low $R_{DS(ON)}$
- Low Gate Charge
- Low Gate Resistance
- 100% UIS Tested
- 100% ΔV_{DS} Tested

Application

- Power Switching Application

MARKING:



M080P02U = Device Code

XX = Date Code

Solid Dot = Green Indicater

ABSOLUTE MAXIMUM RATINGS (T_A = 25℃ unless otherwise noted)

Parameter		Symbol	Value	Unit
Drain-Source Voltage		V_{DS}	-20	V
Gate-Source Voltage		V_{GS}	±12	V
Continuous Drain Current[1,5]	T_C = 25℃	I_D	-50	A
	T_C = 100℃		-32	
Pulsed Drain Current[2]		I_{DM}	-200	A
Single Pulsed Avalanche Current[3]		I_{AS}	-31	A
Single Pulsed Avalanche Energy[3]		E_{AS}	200	mJ
Power Dissipation[4,5]	T_C = 25℃	P_D	31	W
Thermal Resistance from Junction to Ambient[5]		$R_{\theta JA}$	65	℃/W
Thermal Resistance from Junction to Case		$R_{\theta JC}$	4	℃/W
Operating Junction and Storage Temperature Range		T_J, 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	-20			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = -20V, V_{GS} = 0V			-1	μA
Gate-Body Leakage Current	I_{GSS}	V_{GS} = ±12V, V_{DS} = 0V			±100	nA
On Characteristics[3]						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = -250μA	-0.4	-0.6	-1.0	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS} = -4.5V, I_D = -10A		8	11	mΩ
		V_{GS} = -2.5V, I_D = -10A		10	13	
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS} = -10V, V_{GS} = 0V, f = 1MHz		4536		pF
Output Capacitance	C_{oss}			521		
Reverse Transfer Capacitance	C_{rss}			465		
Gate Resistance	R_g	V_{DS} = 0V, V_{GS} = 0V, f = 1MHz		14		Ω
Switching Characteristics						
Total Gate Charge	Q_g	V_{DS} = -15V, V_{GS} = -4.5V, I_D = -10A		49.7		nC
Gate-Source Charge	Q_{gs}			5.7		
Gate-Drain Charge	Q_{gd}			13.7		
Turn-On Delay Time	$t_{d(on)}$	V_{DD} = -10V, V_{GS} = -10V, I_D = -13A, R_G = 2.7Ω		10		ns
Turn-On Rise Time	t_r			110		
Turn-Off Delay Time	$t_{d(off)}$			155		
Turn-Off Fall Time	t_f			160		
Source-Drain Diode Characteristics						
Diode Forward Voltage[3]	V_{SD}	V_{GS} = 0V, I_S = -10A			-1.2	V

Notes :

1.The maximum current rating is limited by package.

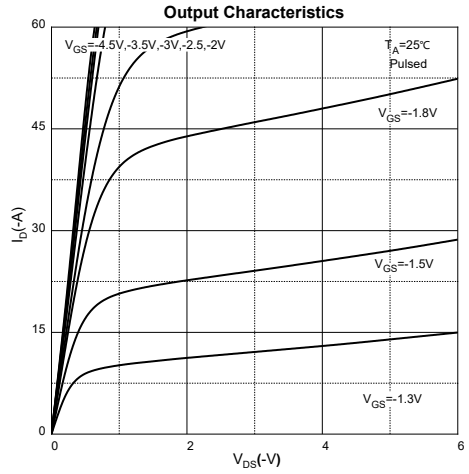
2.Pulse Test : Pulse Width ≤ 10μs, duty cycle ≤ 1%.

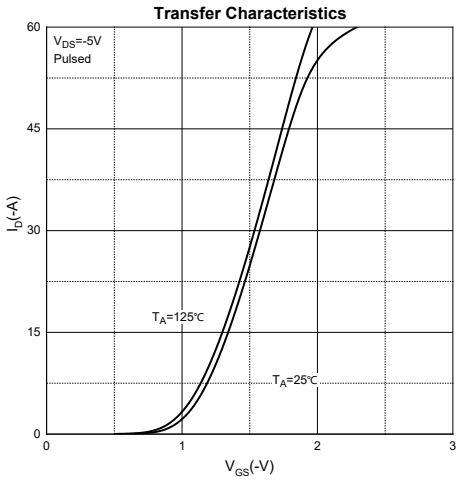
3.Pulse Test : Pulse Width ≤ 300μs, duty cycle ≤ 2%.

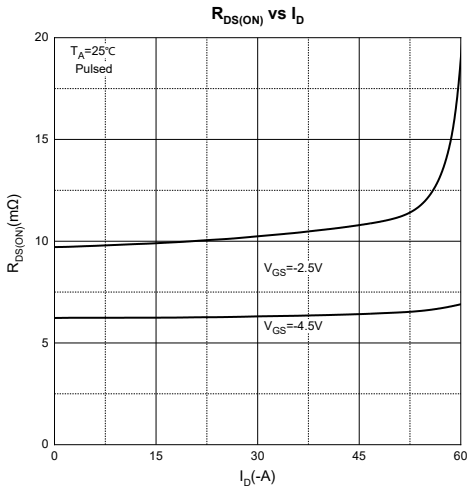
4.The power dissipation P_D is limited by $T_{J(MAX)}$ = 150°C.

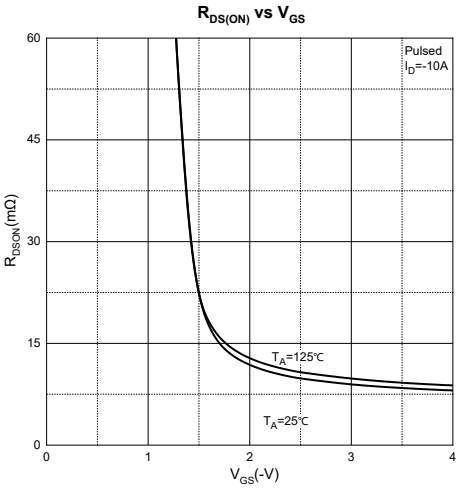
5.Device mounted on 1in^2 FR-4 board with 2oz. Copper, in a still air environment with T_A =25°C.

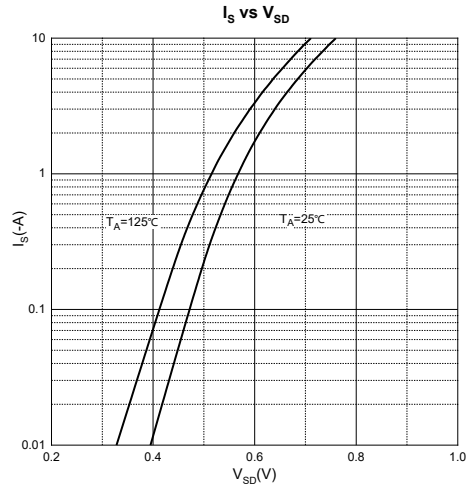
Typical Characteristics

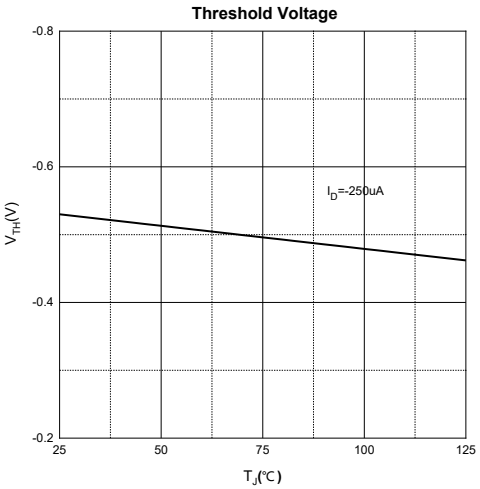




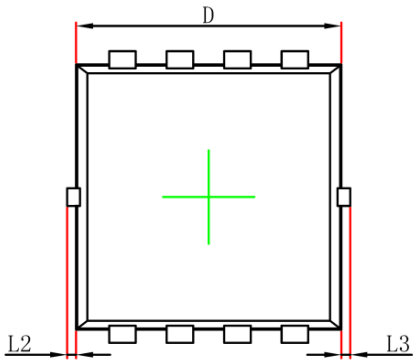




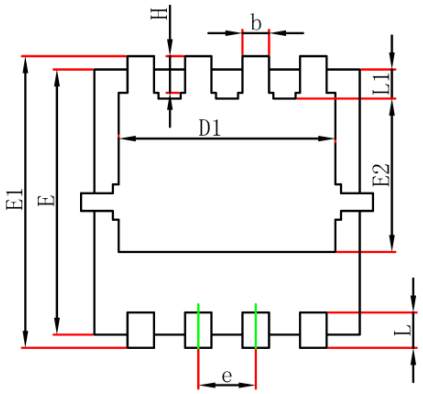




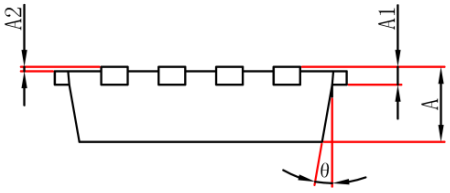
PDFN3.3X3.3-8L Package Information



Top View
[顶视图]



Bottom View
[背视图]



Side View
[侧视图]

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.10	0.25	0.004	0.010
A2	0.000	0.050	0.000	0.002
D	2.900	3.200	0.114	0.126
D1	2.300	2.600	0.091	0.102
E	2.900	3.200	0.114	0.126
E1	3.150	3.450	0.124	0.136
E2	1.535	1.935	0.060	0.076
b	0.200	0.400	0.008	0.016
e	0.550	0.750	0.022	0.030
L	0.300	0.500	0.012	0.020
L1	0.180	0.480	0.007	0.019
L2	0.000	0.100	0.000	0.004
L3	0.000	0.100	0.000	0.004
H	0.315	0.515	0.012	0.020
θ	0°	12°	0°	12°

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.