

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
30V	9m Ω @10V	25A
	14m Ω @4.5V	

Feature

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

Application

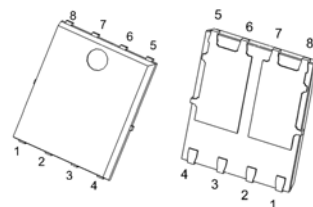
- Power Switching Application

MARKING:

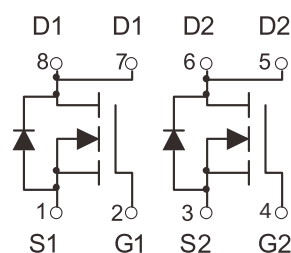


M130ND03L = Device Code
 XX = Date Code
 Solid Dot = Green Indicator

PDFN5×6-8L



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	$T_C = 25^\circ\text{C}$	I_D	25	A
Continuous Drain Current ⁶	$T_A = 25^\circ\text{C}$	I_D	8	A
Pulsed Drain Current ²		I_{DM}	100	A
Single Pulsed Avalanche Current ³		I_{AS}	17	A
Single Pulsed Avalanche Energy ³		E_{AS}	72	mJ
Power Dissipation ⁵	$T_C = 25^\circ\text{C}$	P_D	25	W
Power Dissipation ⁶	$T_A = 25^\circ\text{C}$	P_D	2.5	W
Thermal Resistance from Junction to Ambient ⁶		$R_{\theta JA}$	50	$^\circ\text{C/W}$
Thermal Resistance from Junction to Case		$R_{\theta JC}$	5	$^\circ\text{C/W}$
Junction Temperature		T_J	150	$^\circ\text{C}$
Storage Temperature		T_{STG}	-55~+150	$^\circ\text{C}$

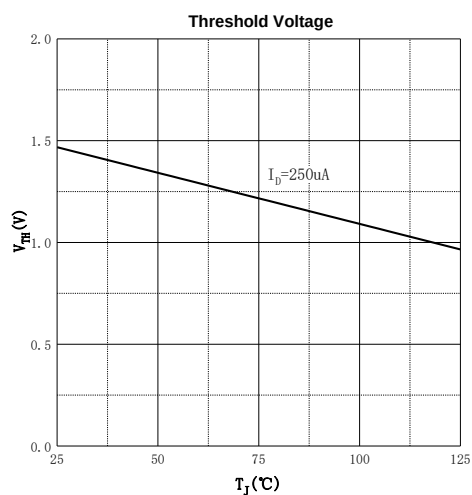
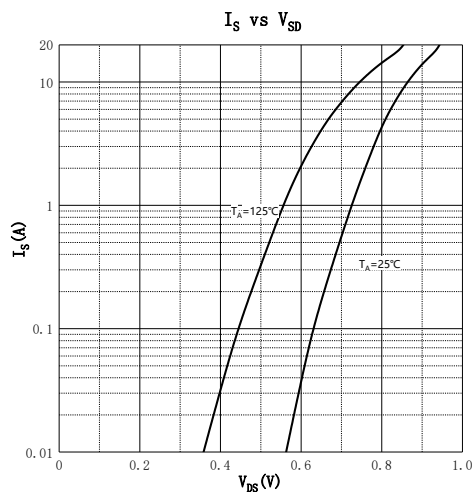
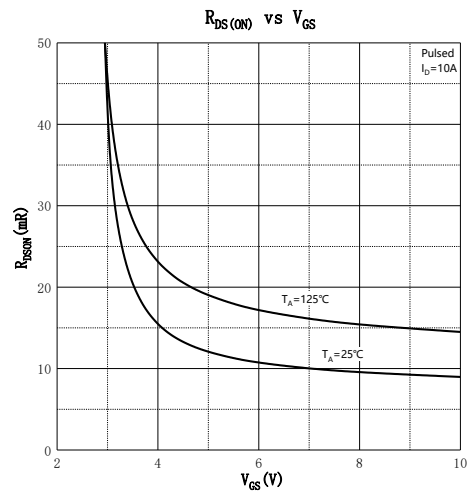
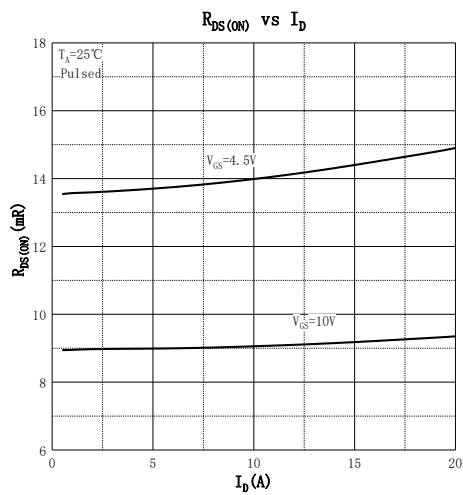
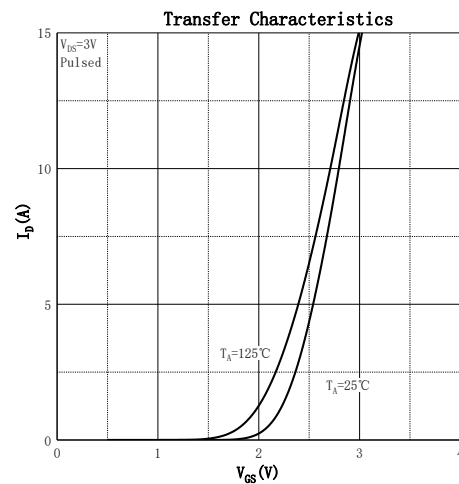
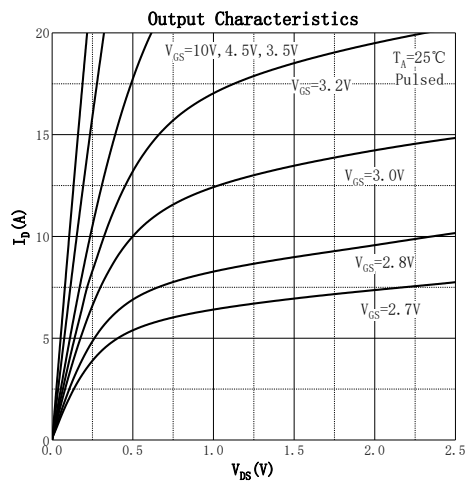
MOSFET ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ\text{C}$ unless otherwise noted)

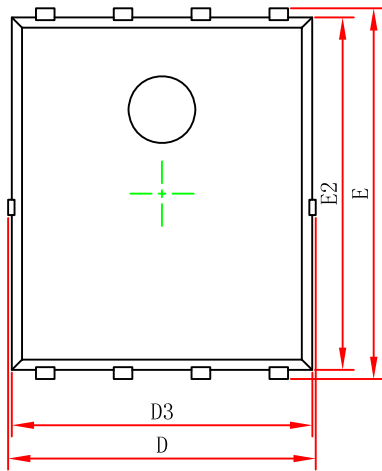
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Off Characteristics						
Drain - Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 24V, V _{GS} = 0V			1	μA
Gate - Body Leakage Current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±100	nA
On Characteristics ⁴						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	1	1.5	3	V
Drain-source On-resistance	R _{DS(on)}	V _{GS} = 10V, I _D = 11A		9	13	mΩ
		V _{GS} = 4.5V, I _D = 11A		14	20	
Forward Transconductance	g _{FS}	V _{DS} = 5V, I _D = 11A	20			S
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} = 15V, V _{GS} = 0V, f = MHz		937		pF
Output Capacitance	C _{oss}			147		
Reverse Transfer Capacitance	C _{rss}			137		
Gate Resistance	R _g	V _{DS} = 0V, V _{GS} = 0V, f = 1MHz		2		Ω
Switching Characteristics						
Total Gate Charge	Q _g	V _{DS} = 15V, V _{GS} = 10V, I _D = 11A		18.5		nC
Gate-source Charge	Q _{gs}			3.4		
Gate-drain Charge	Q _{gd}			4.6		
Turn-on Delay Time	t _{d(on)}	V _{DD} = 15V, V _{GS} = 10V, R _L = 1.3Ω R _G = 6Ω		9.4		ns
Turn-on Rise Time	t _r			25		
Turn-off Delay Time	t _{d(off)}			37		
Turn-off Fall Time	t _f			22		
Source - Drain Diode Characteristics						
Diode Forward Voltage ⁴	V _{SD}	V _{GS} = 0V, I _S = 11A			1.2	V

Notes :

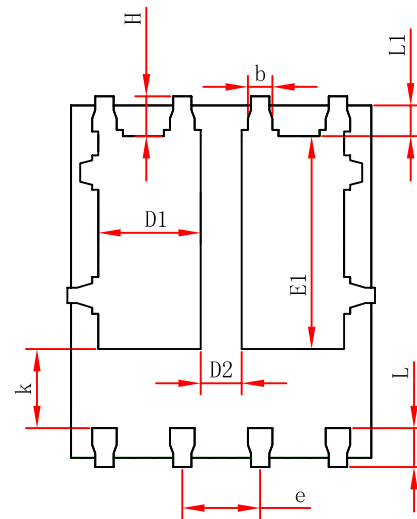
- 1.The maximum current rating is limited by package.And device mounted on a large heatsink
- 2.Pulse Test : Pulse Width $\leq 10\mu s$, duty cycle $\leq 1\%$.
- 3.EAS condition: $V_{DD} = 15V, V_{GS} = 10V, L = 0.5mH, R_G = 25\Omega$ Starting $T_J = 25^\circ\text{C}$.
- 4.Pulse Test : Pulse Width $\leq 300\mu s$, duty cycle $\leq 2\%$.
- 5.The power dissipation P_D is limited by $T_{J(MAX)} = 150^\circ\text{C}$.And device mounted on a large heatsink
- 6.Device mounted on 1in^2 FR-4 board with 2oz. Copper, in a still air environment with $T_A = 25^\circ\text{C}$.

Typical Characteristics

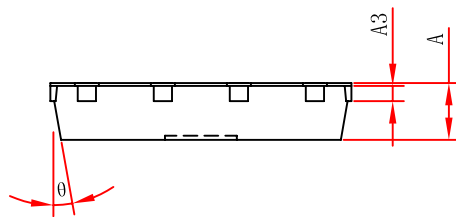


PDFN5×6-8L Package Information


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	0.900	1.000	0.035	0.039
A3	0.254 REF.		0.010 REF.	
D	4.944	5.096	0.195	0.201
E	5.974	6.126	0.235	0.241
D1	1.470	1.870	0.058	0.074
D2	0.470	0.870	0.019	0.034
E1	3.375	3.575	0.133	0.141
D3	4.824	4.976	0.190	0.196
E2	5.674	5.826	0.223	0.229
k	1.190	1.390	0.047	0.055
b	0.350	0.450	0.014	0.018
e	1.270 TYP.		0.050 TYP.	
L	0.559	0.711	0.022	0.028
L1	0.424	0.576	0.017	0.023
H	0.574	0.726	0.023	0.029
θ	10°	12°	10°	12°

单击下面可查看定价，库存，交付和生命周期等信息

[>>GP\(格瑞宝\)](#)