

FEATURES

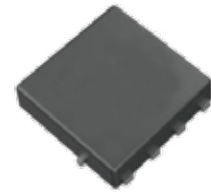
- | $R_{DS(ON)} = 2m\Omega @ V_{GS} = 10V$
- | $R_{DS(ON)} = 2.6m\Omega @ V_{GS} = 4.5V$
- | Advanced Trench Technology
- | Excellent $R_{DS(ON)}$ and Low Gate Charge
- | 100% UIS TESTED!
- | 100% ΔV_d s TESTED!

APPLICATION

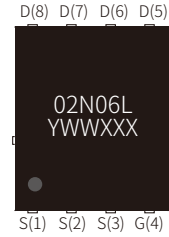
- | Load Switch
- | PWM Application
- | Power Management

APPROVALS

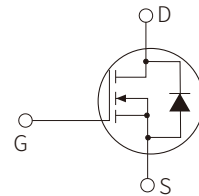
RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003



PDFN5×6-8L



Marking



Schematic Symbol

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Drain-to-Source Voltage	V_{DS}	60	V
Pulsed Drain Current ⁽¹⁾	I_{DM}	680	A
Continuous Drain Current	I_D	$T_c = 25^\circ C$ 170	A
		$T_c = 100^\circ C$ 102	A
Power Dissipation $T_c = 25^\circ C$	P_D	156	W
Gate-to-Source Voltage	V_{GS}	± 20	V
Single Pulsed Avalanche Energy ⁽²⁾	E_{AS}	361	mJ
Junction & Storage Temperature Range	T_J, T_{STG}	-55 ~ +150	$^\circ C$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	0.8	$^\circ C/W$

ELECTRICAL CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Off Characteristics						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _{DS} =250μA	60			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _{DS} =250μA	1.2	1.8	2.4	V
Drain Leakage Current	I _{DSS}	V _{DS} =60V, V _{GS} =0V			1.0	μA
On Characteristics						
Gate Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V			±100	nA
Static Drain-Source ON-Resistance	R _{DS(on)}	V _{GS} =10V, I _D =20A		2	2.6	mΩ
		V _{GS} =4.5V, I _D =15A		2.6	3.7	mΩ
Dynamic Characteristics						
Input capacitance	C _{iss}	V _{GS} =0V, V _{DS} =25V, f = 1MHz		5300		pF
Output capacitance	C _{oss}			2150		pF
Reverse transfer capacitance	C _{rss}			125		pF
Total Gate Charge	Q _g	V _{DS} =30V, V _{GS} =0 to 10V I _D =30A		101		nC
Gate-Source Charge	Q _{gs}			17		nC
Gate Drain("Miller") Charge	Q _{gd}			22		nC
Switching Characteristics						
Turn-on Delay Time	t _{d(on)}	V _{DD} =30V, V _{GS} =10V R _{GEN} = 3Ω, I _D =30A		16		nS
Turn-on Rise Time	t _r			38		nS
Turn-Off Delay Time	t _{d(off)}			78		nS
Turn-Off Fall Time	t _f			95		nS
Drain-Source Diode Characteristics and Max Ratings						
Drain to Source Diode Forward Voltage	V _{SD}	I _S =30A, V _{GS} =0V			1.2	V
Body Diode Reverse Recovery Time	t _{rr}	I _F =30A di/dt = 100A/us		54.7		nS
Body Diode Reverse Recovery Charge	Q _{rr}			60		nC
Maximum Continuous Drain to Source Diode Forward Current	I _S				170	A
Maximum Pulsed Drain to Source Diode Forward Current	I _{SM}				680	A

Notes:

1. Repetitive Rating: Pulse Width Limited by Maximum Junction Temperature
2. EAS condition: Starting T_J=25°C, V_{DD}=30V, V_G=10V, R_G=25ohm, L=0.5mH, I_{AS}=38A
3. Pulse Test: Pulse Width≤300μs, Duty Cycle≤0.5%

PARAMETER CHARACTERISTIC CURVE

Fig 1: Output Characteristics

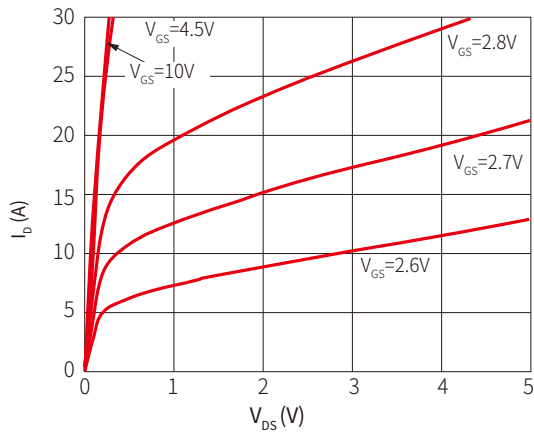


Figure 2: Typical Transfer Characteristics

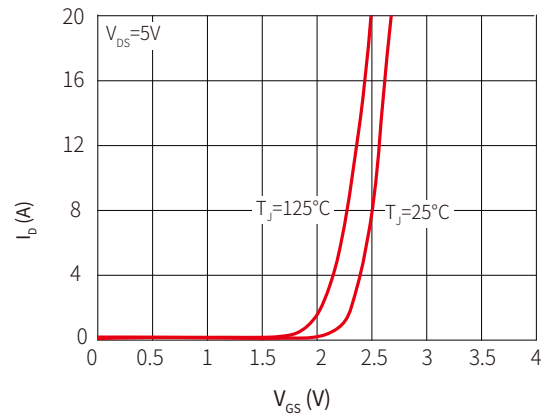


Figure 3: On-Resistance vs. Drain Current

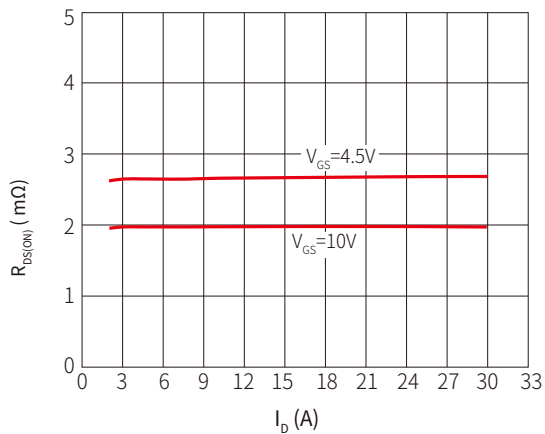


Figure 4: Body Diode Characteristics

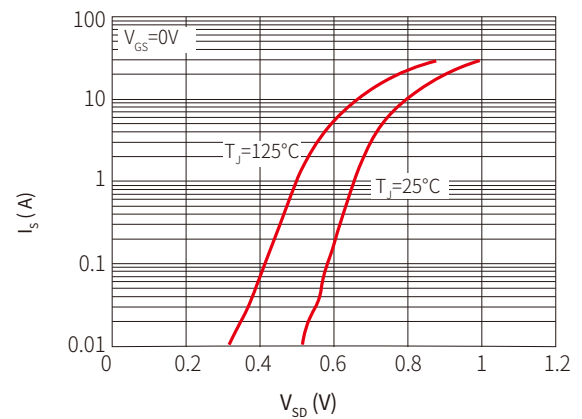


Figure 5: Gate Charge Characteristics

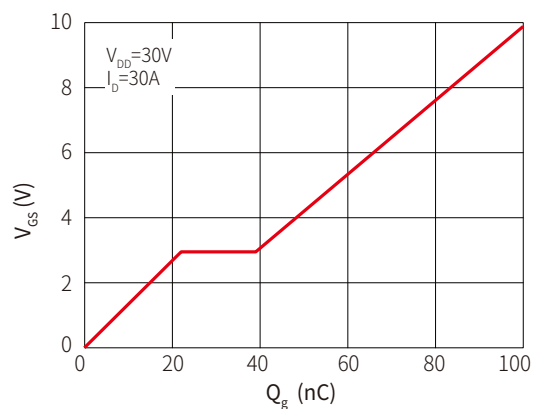


Figure 6: Capacitance Characteristics

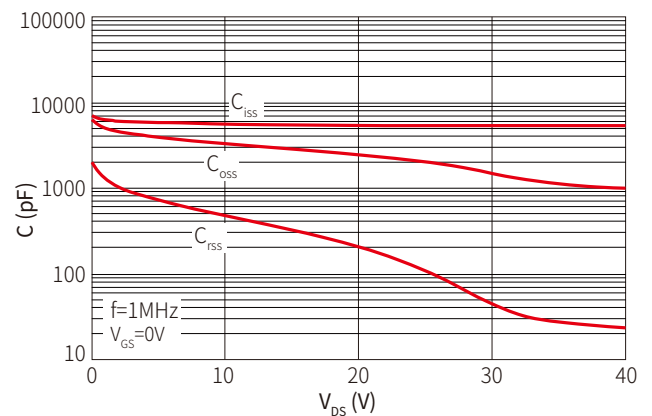
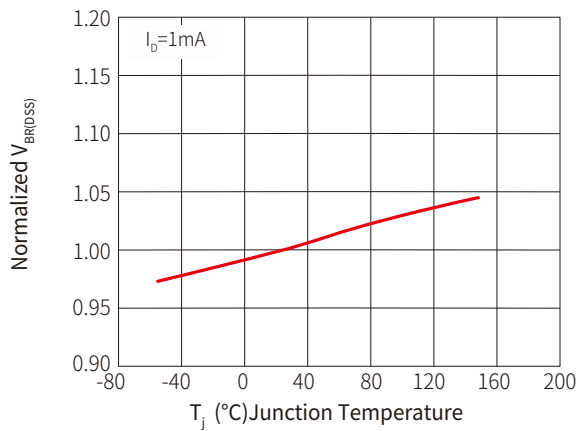
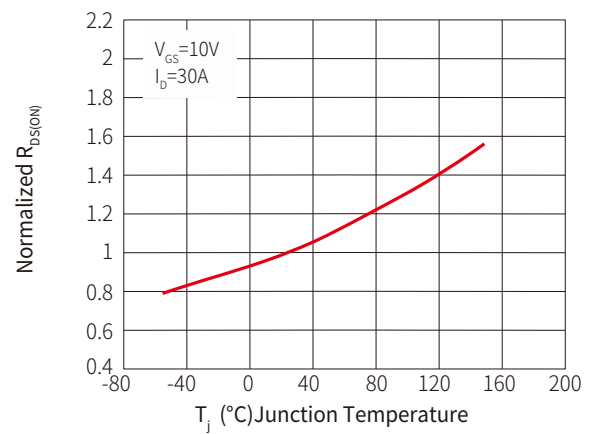
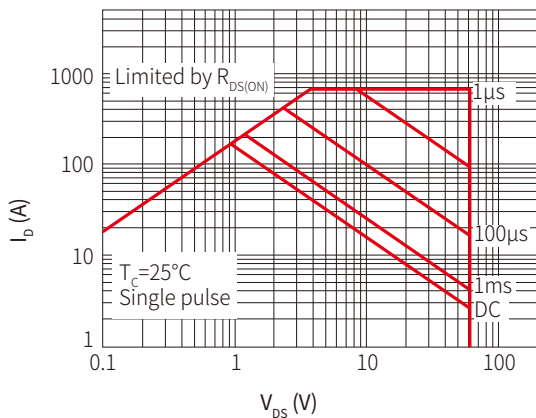
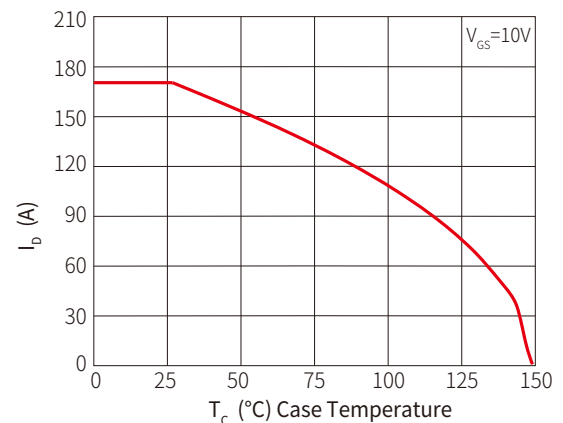
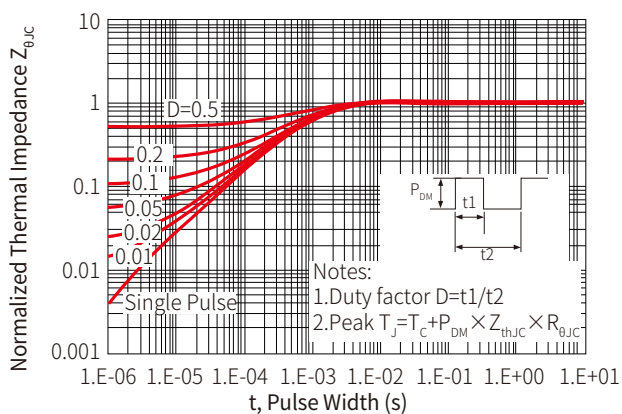
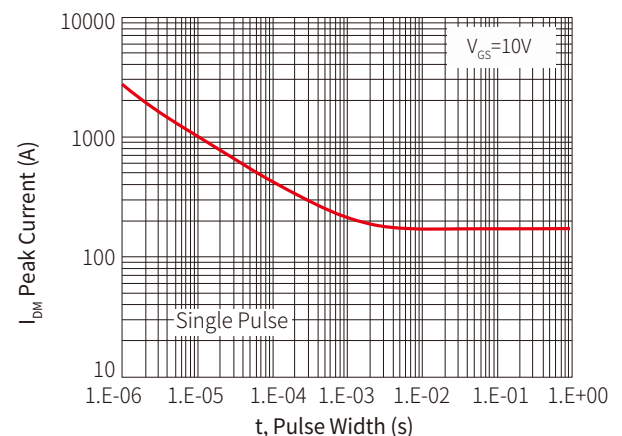
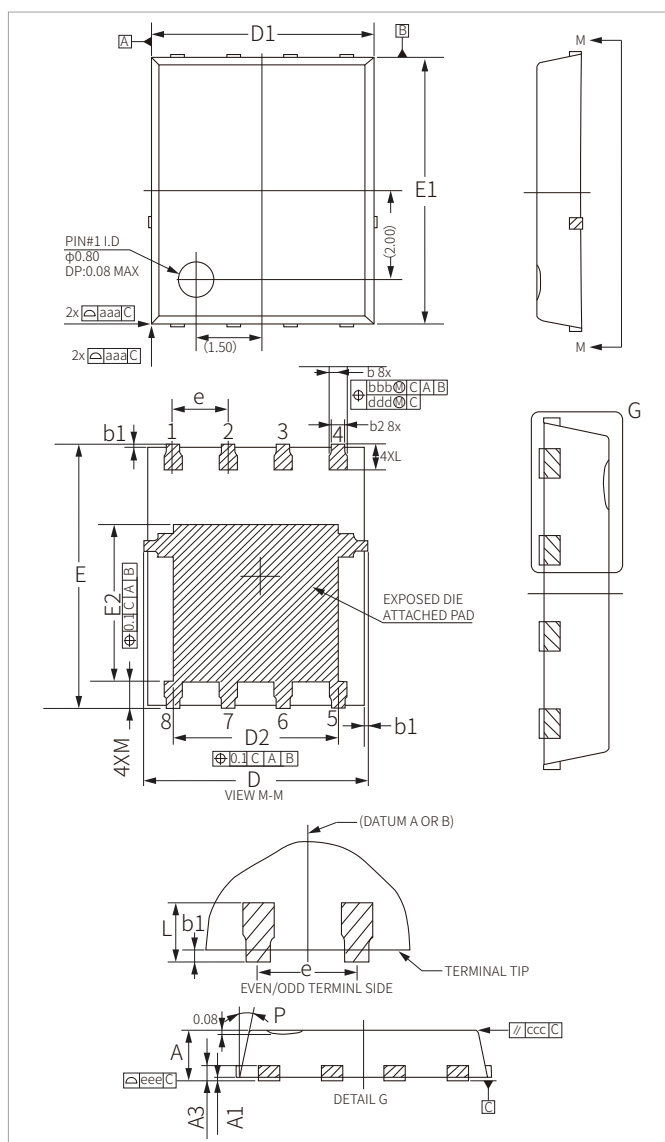


**Figure 7: Normalized Breakdown Voltage vs. Junction Temperature****Figure 8: Normalized on Resistance vs. Junction Temperature****Figure 9: Maximum Safe Operating Area****Figure 10: Maximum Continuous Drain Current vs. Ambient Temperature****Figure 11: Normalized Maximum Transient Thermal Impedance****Figure 12: Peak Current Capacity**

PDFN5×6-8L PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.17	0.035	0.046
A1	0.00	0.05	0.000	0.002
A3	0.254REF		0.010REF	
b	0.31	0.51	0.012	0.020
b1	0.03	0.13	0.001	0.005
b2	0.21	0.41	0.008	0.016
D	5.15BSC		0.203BSC	
D1	5.00BSC		0.197BSC	
D2	3.70	3.90	0.146	0.154
E	6.15BSC		0.242BSC	
E1	6.00BSC		0.236BSC	
E2	3.56	3.76	0.140	0.148
e	1.27BSC		0.050BSC	
L	0.51	0.71	0.020	0.028
M	0.51	0.71	0.020	0.028
P	10°	12°	0.394°	0.472°
aaa	0.10		0.004	
bbb	0.10		0.004	
ccc	0.10		0.004	
ddd	0.05		0.002	
eee	0.08		0.003	

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SNM02N06GL	PDFN5×6-8L	5000PCS	13”

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By QR Code

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