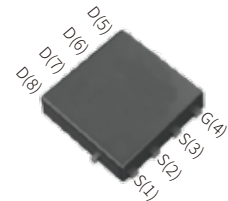


FEATURES

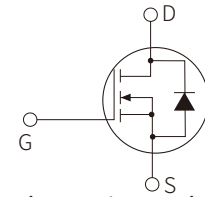
- | Fast switching speed
- | Surface mount package
- | 100% Single Pulse avalanche energy Test



PDFN5×6-8L

APPLICATION

- | DC-DC Converters
- | Motor Control



Schematic Symbol

APPROVALS

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

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	30	V
Pulse Drain Current Tested	I_{DM}	420	A
Continuous Drain Current	I_D	$T_c=25^{\circ}\text{C}$ 105	A
		$T_c=100^{\circ}\text{C}$ 70	A
Gate-Source Voltage	V_{GSS}	± 20	V
Power Dissipation ($T_c=25^{\circ}\text{C}$)	P_D	60	W
Junction Temperature	T_J	-55 to 150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 to 150	$^{\circ}\text{C}$
Thermal Resistance- Junction to Case	$R_{\theta JC}$	2.1	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_{DS}=250\mu A$	30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_{DS}=250\mu A$	1.1	1.6	2.2	V
Drain Leakage Current	I_{DSS}	$V_{DS}=30V, V_{GS}=0V$			1	μA
Gate Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$			± 100	nA
On-State Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=20A$		2.2	2.9	m Ω
		$V_{GS}=4.5V, I_D=10A$		3.3	4.3	m Ω
Diode Characteristics						
Diode Forward Voltage	V_{SD}	$I_S=1A, V_{GS}=0V, T_J=25^{\circ}C$			1.2	V
Reverse Recovery Time	t_{rr}	$I_S=20A, di/dt=100A/\mu s, T_J=25^{\circ}C$		19		ns
Reverse Recovery Charge	Q_{rr}			7		nC
Maximum Body-Diode Continuous Current	I_S				105	A
Dynamic Characteristics						
Input capacitance	C_{iss}	$V_{GS}=0V, V_{DS}=25V,$ $f=1MHz$		3800		pF
Output capacitance	C_{oss}			456		pF
Reverse transfer capacitance	C_{rss}			388		pF
Turn-on Delay Time	$t_{d(on)}$	$V_{DD}=15V, V_{GS}=4.5V$ $R_G=1.8\Omega, I_D=60A$		11		nS
Turn-on Rise Time	t_r			20		nS
Turn-Off Delay Time	$t_{d(off)}$			60		nS
Turn-Off Fall Time	t_f			29		nS

PARAMETER CHARACTERISTIC CURVE

Fig 1: Output Characteristics

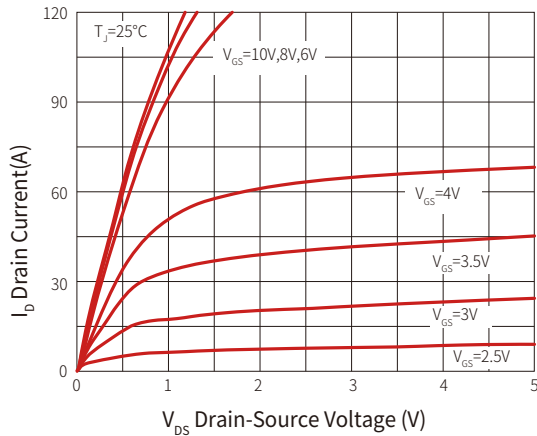


Figure 2: Transfer Characteristics

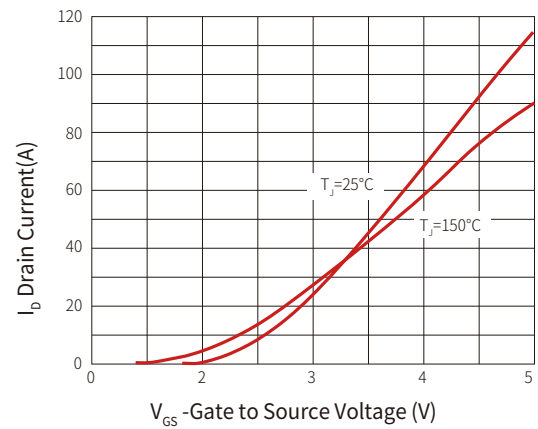


Figure 3: Capacitance Characteristics

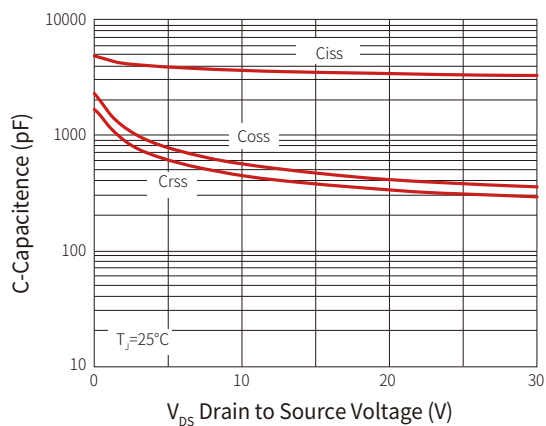


Figure 4: Gate Charge

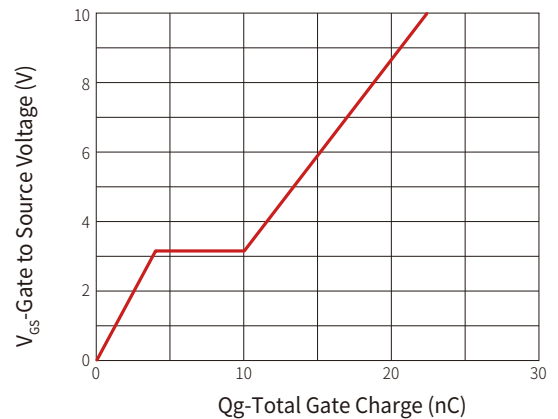


Figure 5: Current dissipation

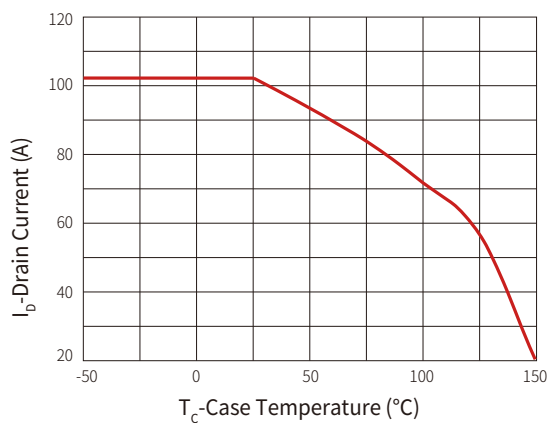
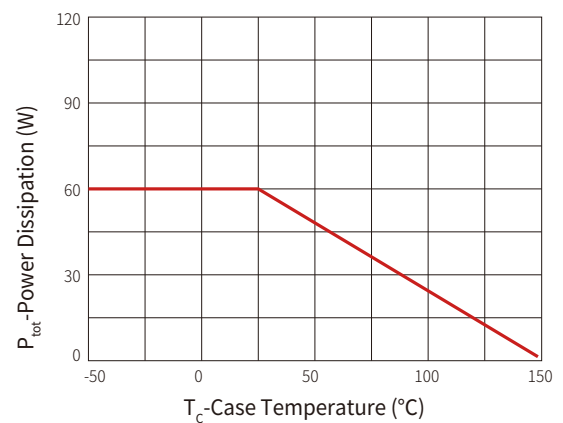
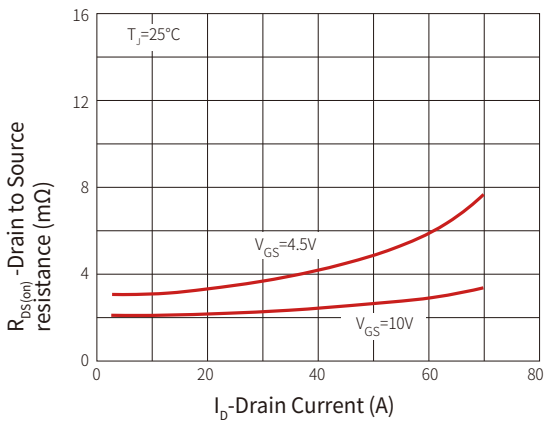
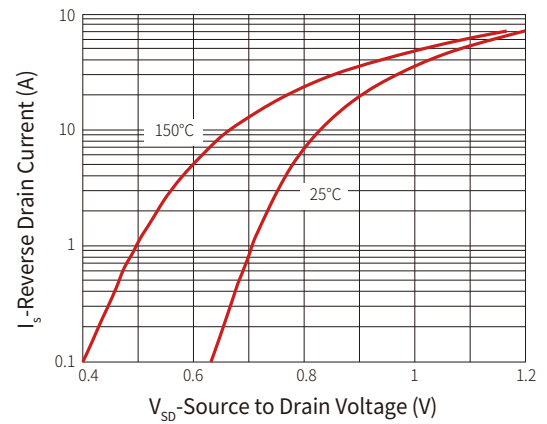
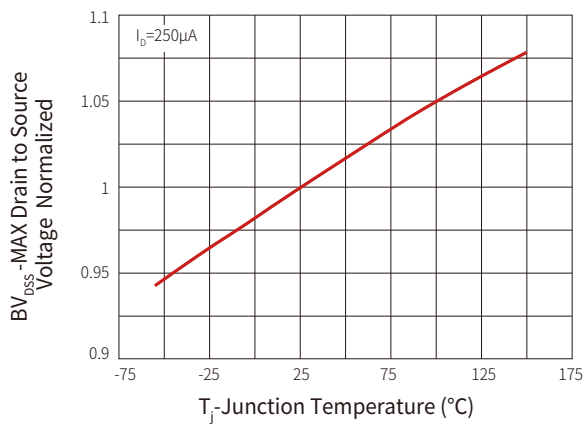
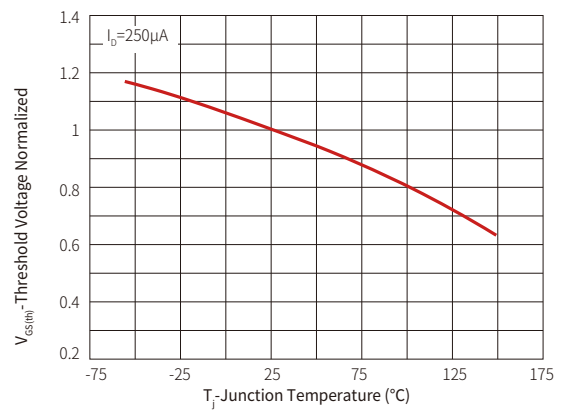
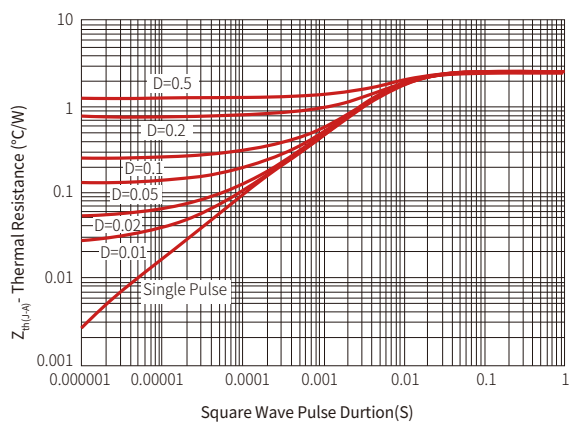
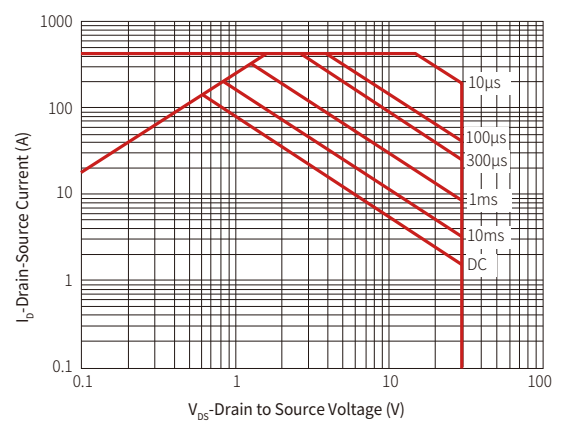
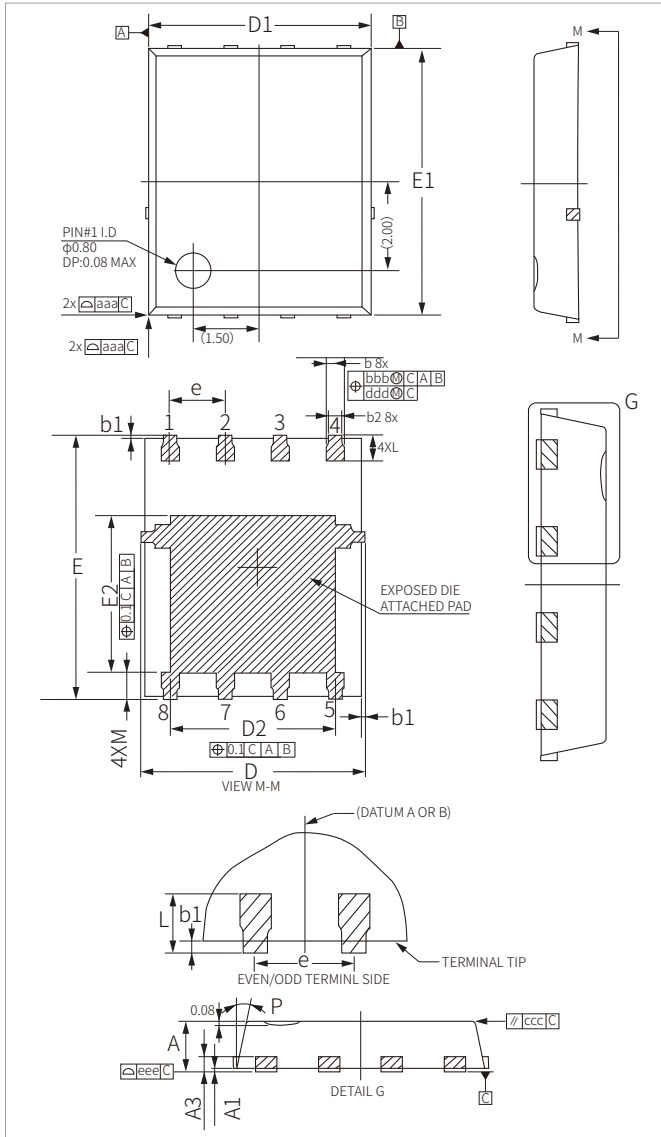


Figure 6: Power dissipation



**Figure 7: $R_{DS(on)}$ VS Drain Current****Figure 8: Forward Characteristics Of Reverse Diode****Figure 9: Normalized Threshold voltage****Figure 10: Normalized Threshold voltage****Figure 11: Maximum Transient Thermal Impedance****Figure 12: Safe Operation Area**

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	Marking	QTY/Reel	Reel Size
SNM150N03G	PDFN5×6-8L	 150N03 XXXX	5000PCS	13"

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