Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
60V	2.8mΩ@10V	100A

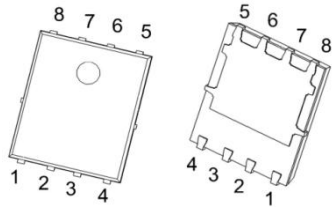
Feature

- Fast Switching
- Low Gate Charge and Rdson
- Advanced Split Gate Trench Technology
- 100% Single Pulse avalanche energy Test

Applications

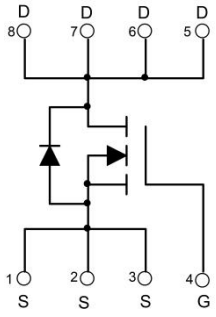
- DC-DC Converters
- Power Management

Package

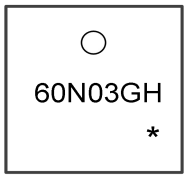


PDFN5X6-8L

Circuit diagram



Marking



60N03GH =Device Code
*** =Month Code**

Absolute maximum ratings (Ta=25℃ unless otherwise noted)

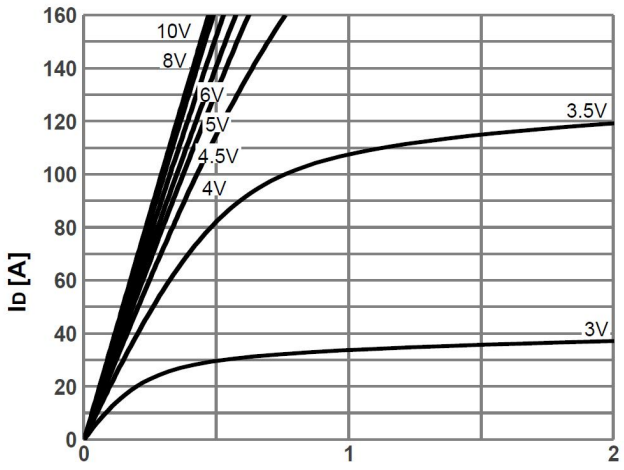
Parameter	Symbol	Rating	Units
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current1 (Tc=25℃)	I_D	100	A
Pulsed Drain Current[2]	I_{DM}	400	A
Single Pulse Avalanche Energy[3]	E_{AS}	681	mJ
Total Power Dissipation[4] (Tc=25℃)	P_D	125	W
Thermal Resistance Junction-Case[1]	$R_{\theta JC}$	1.0	℃/W
Storage Temperature Range	T_{STG}	-55 to 150	℃
Operating Junction Temperature Range	T_J	-55 to 150	℃

Electrical characteristics (Ta=25℃, unless otherwise noted)

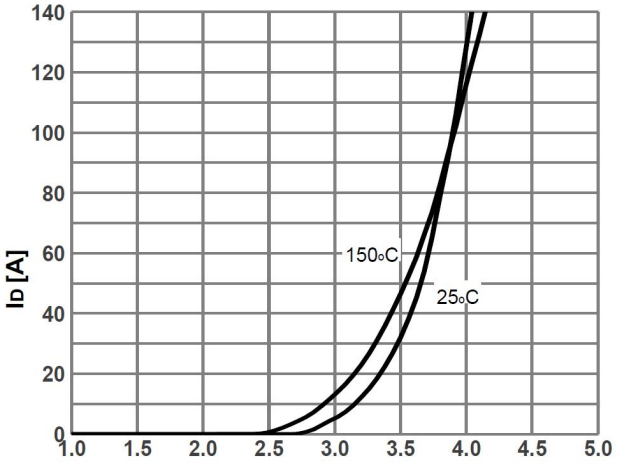
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	VGS=0V , ID=250uA	60	---	---	V
Drain-Source Leakage Current	I_{DSS}	VDS=48V , VGS=0V	---	---	1	uA
Gate-Source Leakage Current	I_{GSS}	VGS=±20V , VDS=0V	---	---	±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	VGS=VDS , ID =250uA	2.0	2.5	4.0	V
Static Drain-Source On-Resistance[2]	$R_{DS(ON)}$	VGS=10V , ID=20A	---	2.8	3.5	mΩ
Dynamic characteristics						
Input Capacitance	C_{iss}	VDS=30V , VGS=0V , f=1MHz	---	4250	---	pF
Output Capacitance	C_{oss}		---	975	---	
Reverse Transfer Capacitance	C_{rss}		---	41	---	
Switching Characteristics						
Total Gate Charge	Q_g	VDS=30V , VGS=10V , ID=20A	---	68	---	nC
Gate-Source Charge	Q_{gs}		---	19	---	
Gate-Drain Charge	Q_{gd}		---	14	---	
Turn-On Delay Time	$T_{d(on)}$	VDD=30V , VGS=10V , RG=4.7Ω, ID=20A	---	6	---	ns
Rise Time	T_r		---	12	---	
Turn-Off Delay Time	$T_{d(off)}$		---	24	---	
Fall Time	T_f		---	5	---	
Diode Characteristics						
Diode Forward Voltage2	V_{SD}	VGS=0V , IS=1A , TJ=25℃	---	---	1.2	V

Note :
1. The data tested by surface mounted on a 1 inch2 FR-4 board with 2OZ copper.
2. The data tested by pulsed , pulse width ≦ 300us , duty cycle ≦ 2%
3. The EAS data shows Max. rating . The test condition is VDD=30V,VGS=10V,L=0.5mH,RG=25Ω

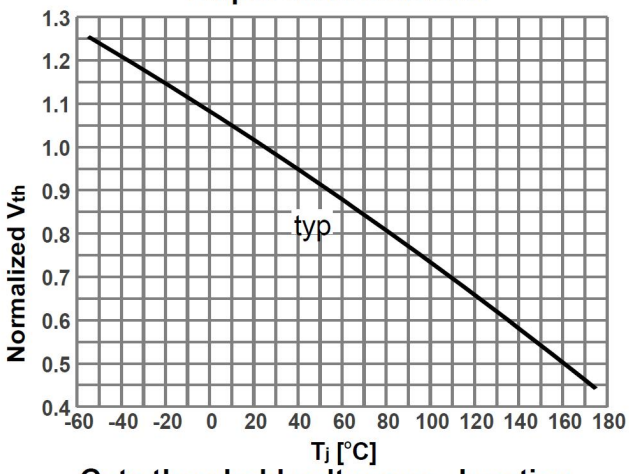
Typical Characteristics



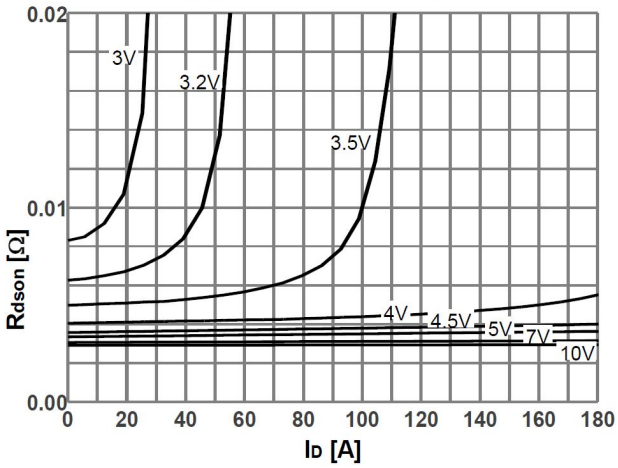
output characteristics



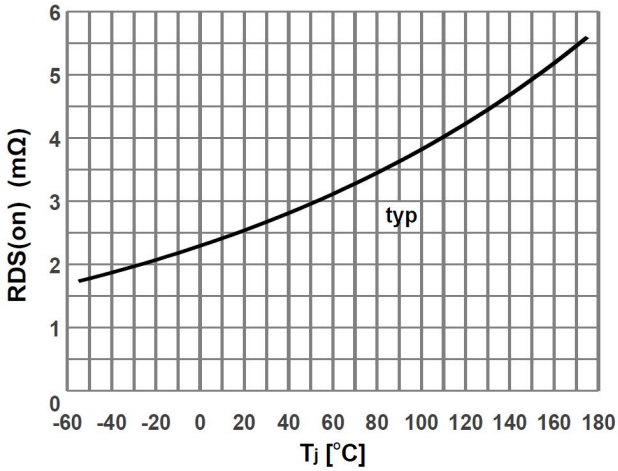
transfer characteristics



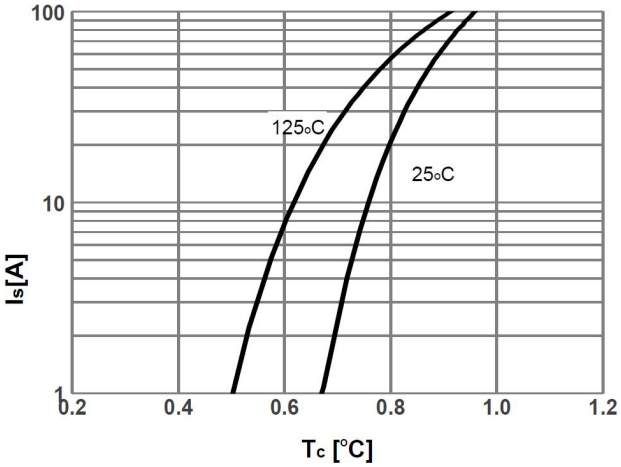
Gate threshold voltage vs. Junction temperature



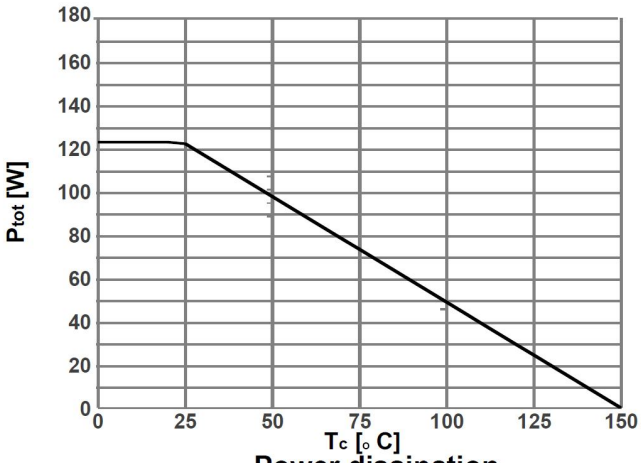
On-state resistance vs. Drain current



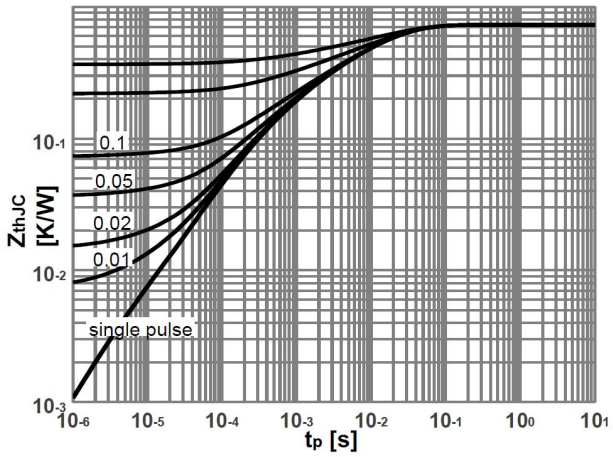
On-state resistance vs. Junction temperature



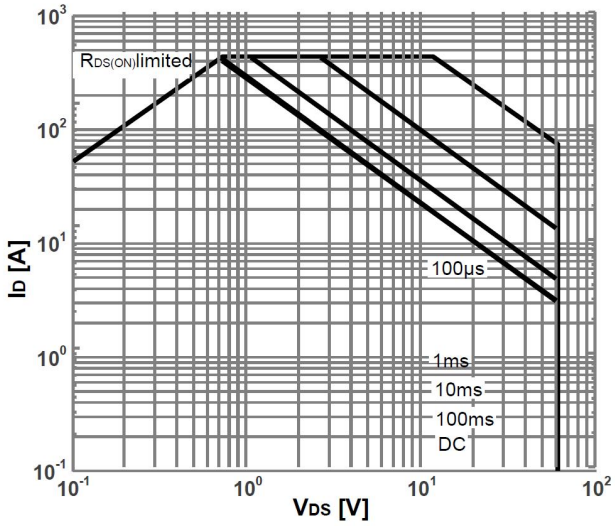
Forward characteristics of reverse diode



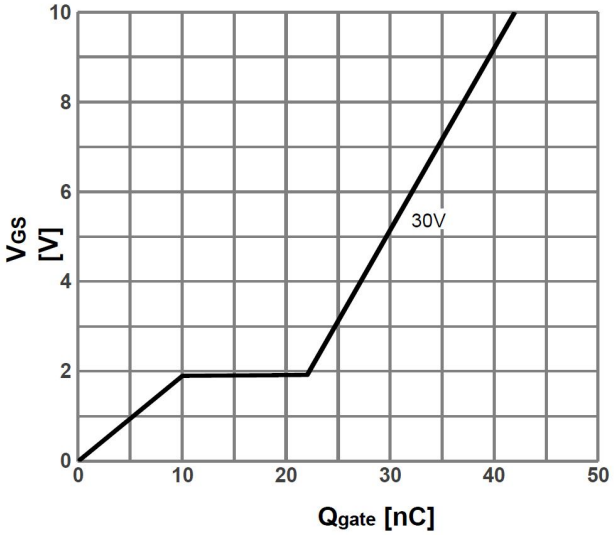
Power dissipation



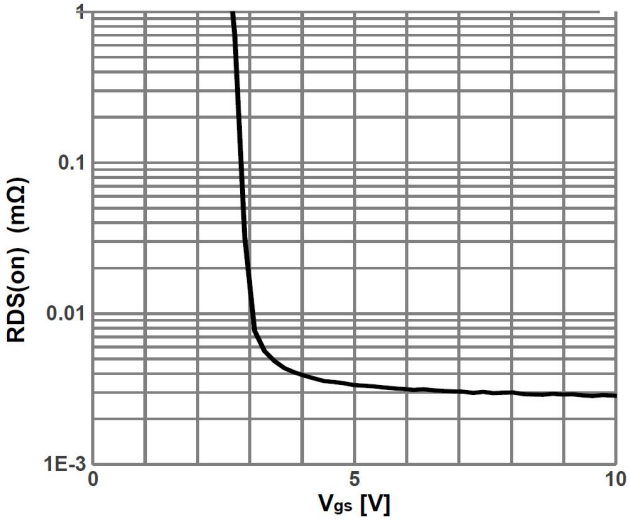
Maximum Transient Thermal Impedance



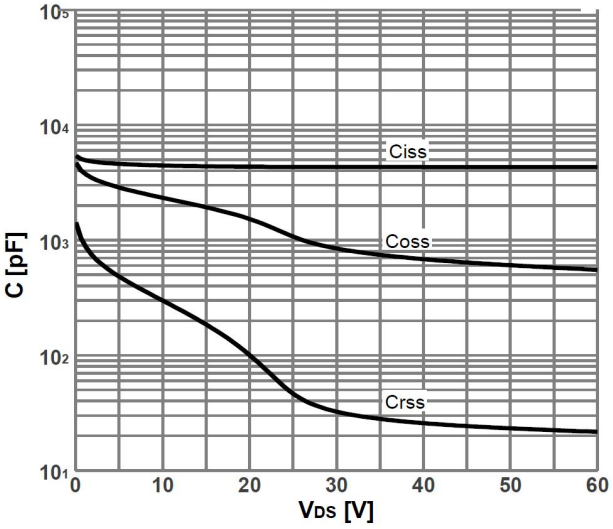
Safe Operation Area



Typ. gate charge

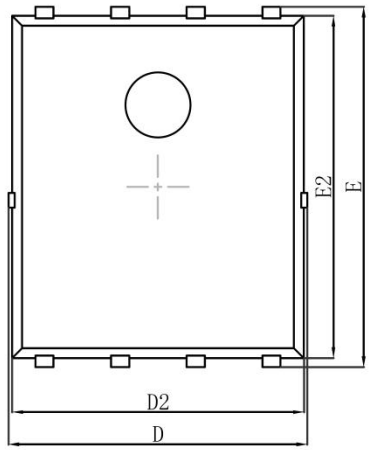


On-state resistance vs. Vgs characteristics

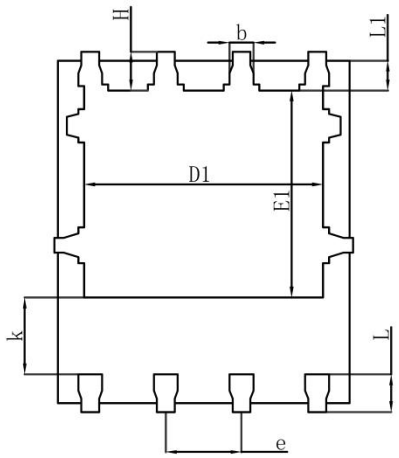


Capacitances

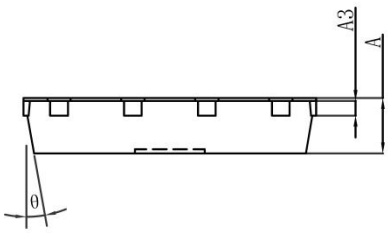
PDFN5X6-8L Package Information



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	0.254REF.		0.010REF.	
D	4.944	5.096	0.195	0.201
E	5.974	6.126	0.235	0.241
D1	3.910	4.110	0.154	0.162
E1	3.375	3.575	0.133	0.141
D2	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	1.270TYP.		0.050TYP.	
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°