Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
150V	13mΩ@10V	50A

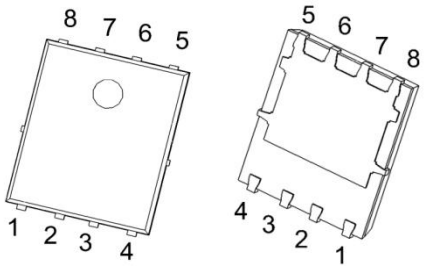
Feature

- Low RDS(on) & FOM
- Extremely low switching loss
- Excellent stability and uniformity
- Fast switching and soft recovery

Applications

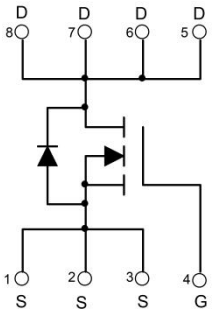
- Consumer electronic power supply
- Motor control Synchronous rectification
- Isolated DC/DC convertor
- Invertors

Package

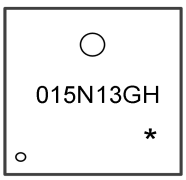


PDFN5X6-8L

Circuit diagram



Marking



015N13GH : Product code
* : Month code

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

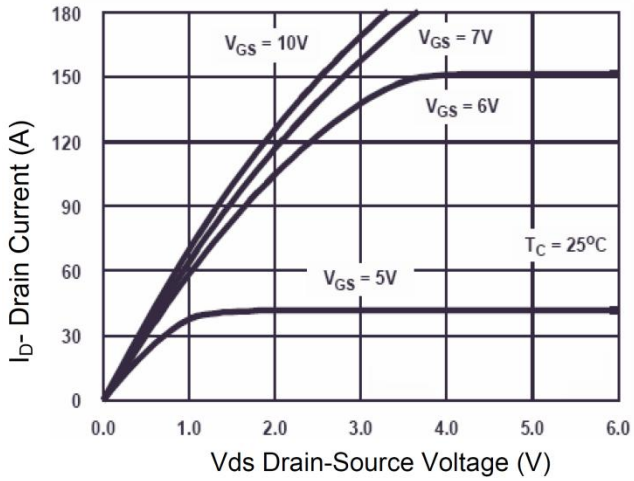
Parameter	Symbol	Value	Unit
Drain source voltage	V_{DS}	150	V
Gate source voltage	V_{GS}	±20	V
Continuous drain current[1], TC=25 ℃	I_D	50	A
Pulsed drain current[2], TC=25 ℃	I_{DM}	200	A
Power dissipation[3], TC=25 ℃	P_D	160	W
Single pulsed avalanche energy[4]	E_{AS}	480	mJ
Thermal resistance, junction-case	$R_{\theta JC}$	0.78	℃/W
Operation and storage temperature	T_{stg}, T_j	-55 to 150	℃

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

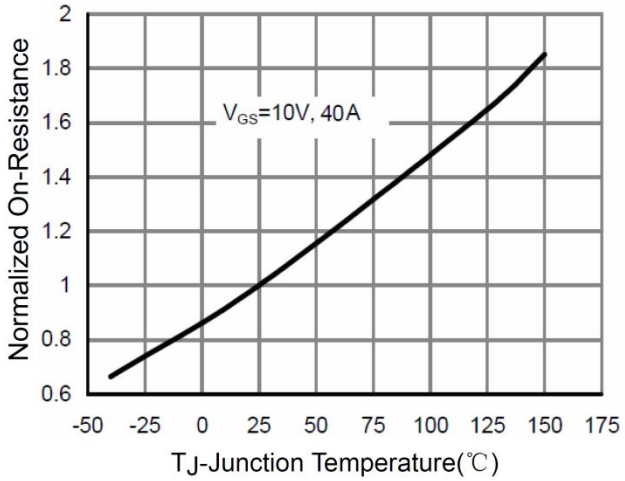
Parameter	Symbol	Test condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	BV_{DSS}	VGS=0 V, ID=250 μA	150			V
Drain-source leakage current	I_{DSS}	VDS=120 V, VGS=0 V			1	μA
Gate-source leakage current	I_{GSS}	VGS=±20 V			±100	nA
Gate threshold voltage	$V_{GS(th)}$	VDS=VGS, ID=250 μA	2	3	4	V
Drain-source on-state resistance	$R_{DS(ON)}$	VGS=10 V, ID=20 A		13	16	mΩ
Dynamic Characteristics						
Input capacitance	C_{iss}	VGS=0 V, VDS=25 V, f=1 MHz		6998		pF
Output capacitance	C_{oss}			422		pF
Reverse transfer capacitance	C_{rss}			22		pF
Switching Characteristics						
Turn-on delay time	$t_{d(on)}$	VGS=10 V, VDS=30 V, RG=2.5 Ω, ID=2 A		22.1		ns
Rise time	t_r			5.2		ns
Turn-off delay time	$t_{d(off)}$			44		ns
Fall time	t_f			8.4		ns
Total gate charge	Q_g	ID=30 A, VDS=30 V, VGS=10 V		160		nC
Gate-source charge	Q_{gs}			36		nC
Gate-drain charge	Q_{gd}			68		nC
Drain-Source Diode Characteristics						
Diode forward voltage	V_{SD}	IS=1 A, VGS=0 V			1.2	V
Reverse recovery time	t_{rr}	IS=12 A,di/dt=100 A/μs		102.9		ns
Reverse recovery charge	Q_{rr}			379		nC
Peak reverse recovery current	I_{rrm}			6.4		A

Notes:
1) Calculated continuous current based on maximum allowable junction temperature.
2) Repetitive rating; pulse width limited by max. junction temperature.
3) Pd is based on max. junction temperature, using junction-case thermal resistance.
4) VDD=50 V,VG=10V, RG=25Ω, L=0.5 mH, starting Tj=25 °C.

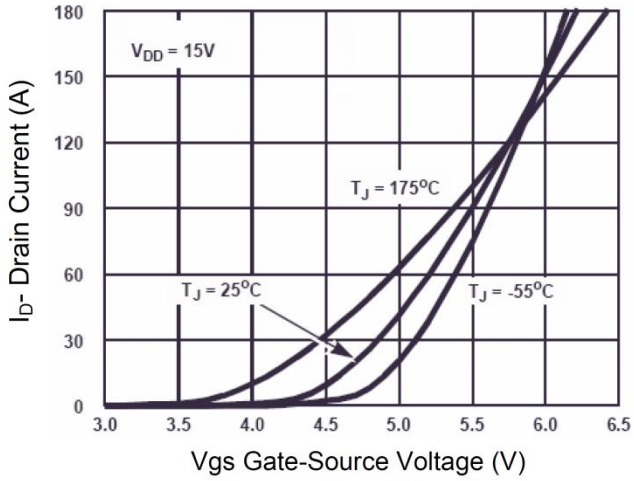
Typical Characteristics



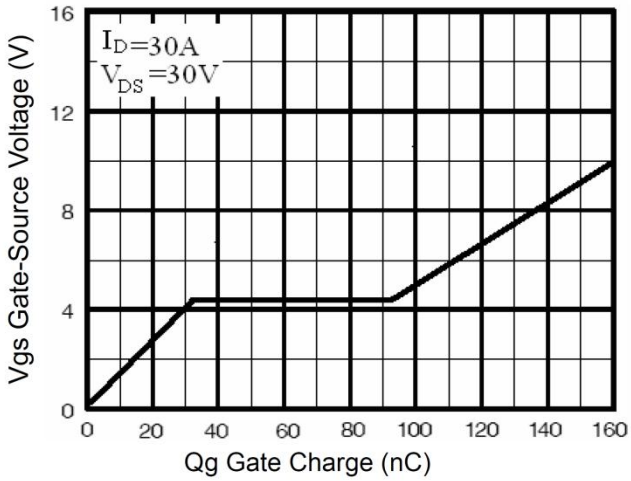
Output Characteristics



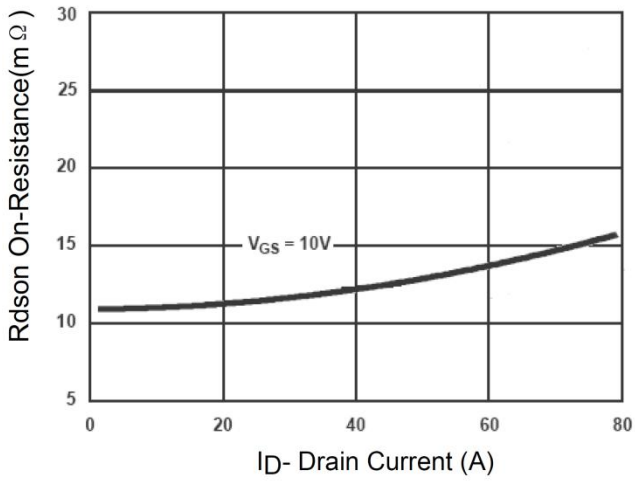
Rdson-JunctionTemperature



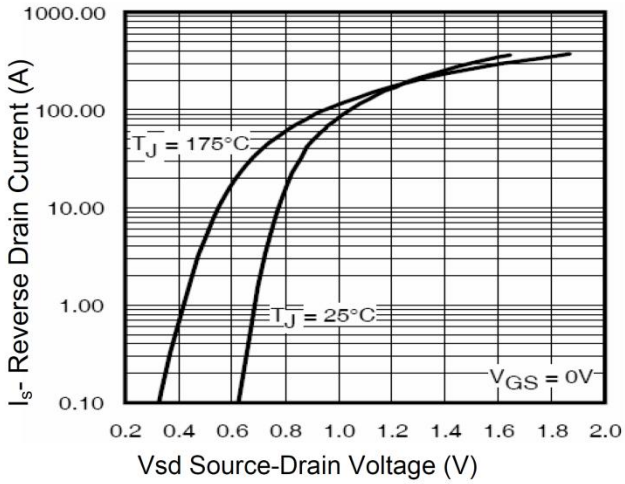
Transfer Characteristics



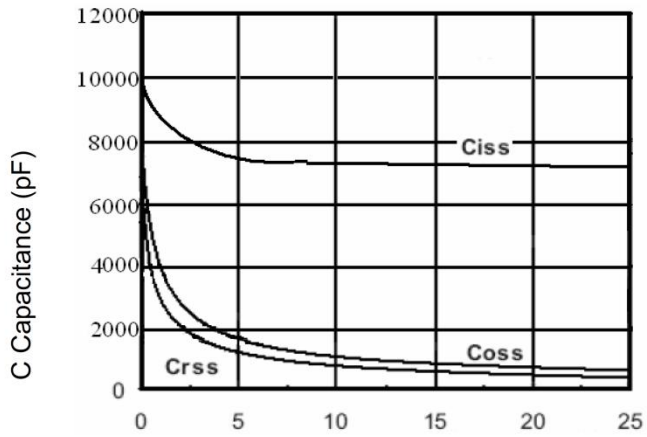
Gate Charge



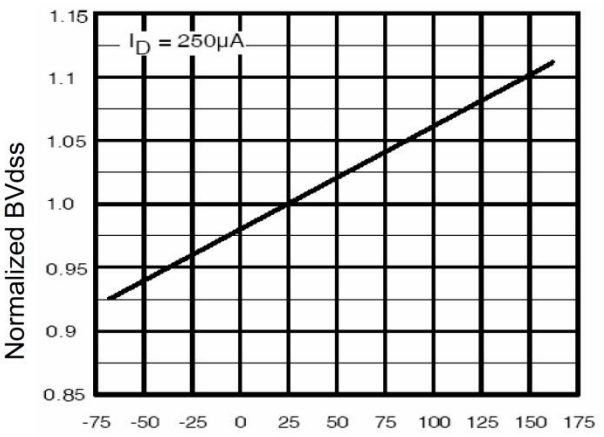
Rdson- Drain Current



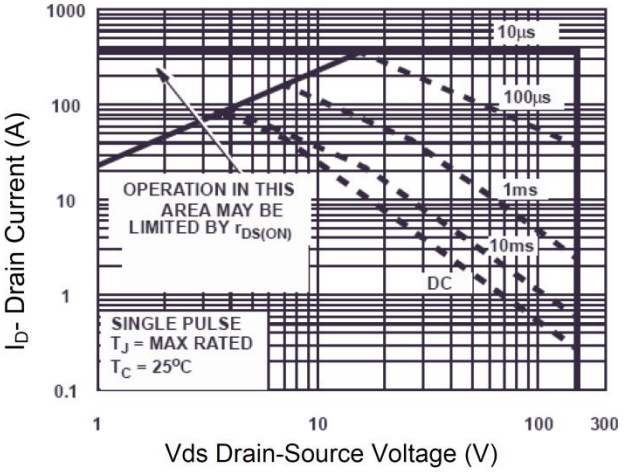
Source- Drain Diode Forward



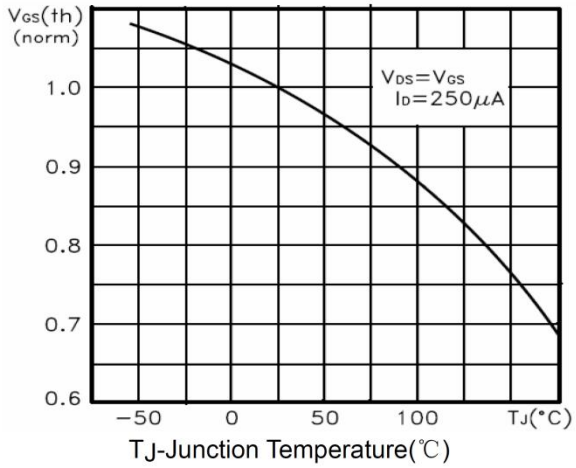
Capacitance vs Vds



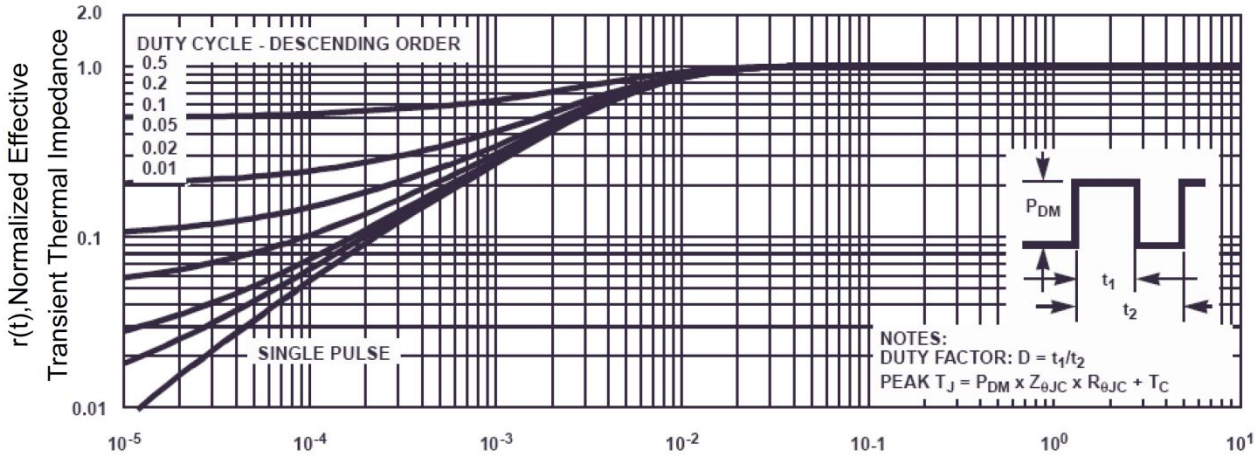
BVDSS vs Junction Temperature



Safe Operation Area

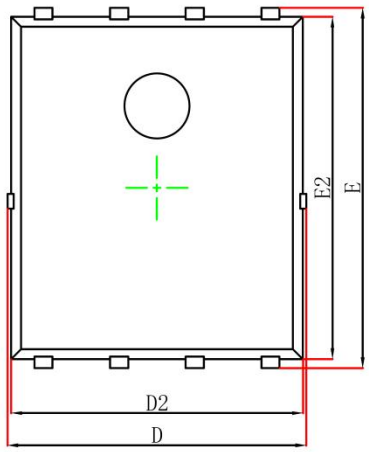


VGS(th) vs Junction Temperature

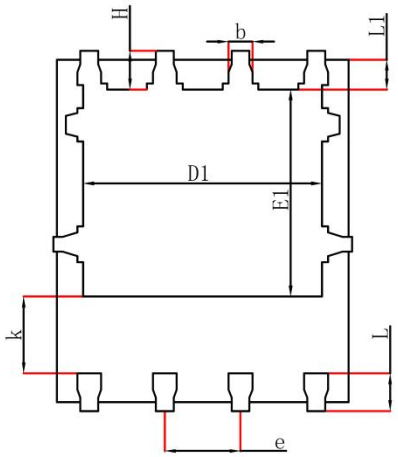


Normalized Maximum Transient Thermal Impedance

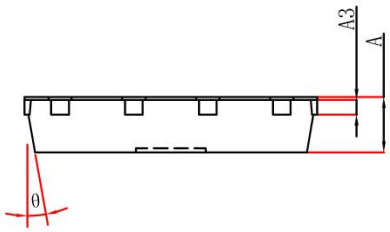
PDFN5X6-8L Package Information



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°

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for MOSFET ***category:***

Click to view products by Siliup ***manufacturer:***

Other Similar products are found below :

IRFD120 IRFY240C JANTX2N5237 2SK2267(Q) BUK455-60A/B MIC4420CM-TR VN1206L NDP4060 SI4482DY IPS70R2K0CEAKMA1 SQD23N06-31L-GE3 TK16J60W,S1VQ(O 2SK2614(TE16L1,Q) DMN1017UCP3-7 EFC2J004NUZTDG DMN1053UCP4-7 SQJ469EP-T1-GE3 NTE2384 DMC2700UDMQ-7 DMN2080UCB4-7 DMN61D9UWQ-13 US6M2GTR DMN31D5UDJ-7 DMP22D4UFO-7B DMN1006UCA6-7 DMN16M9UCA6-7 STF5N65M6 IRF40H233XTMA1 STU5N65M6 DMN6022SSD-13 DMN13M9UCA6-7 DMTH10H4M6SPS-13 DMN2990UFB-7B IPB80P04P405ATMA2 2N7002W-G MCAC30N06Y-TP MCQ7328-TP NTMC083NP10M5L NVMFS2D3P04M8LT1G BXP7N65D BXP4N65F AOL1454G WMJ80N60C4 BXP2N20L BXP2N65D BXT1150N10J BXT1700P06M TSM60NB380CP ROG RQ7L055BGTCR DMNH15H110SK3-13