

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
60V	5mΩ@10V	70A
	8mΩ@4.5V	

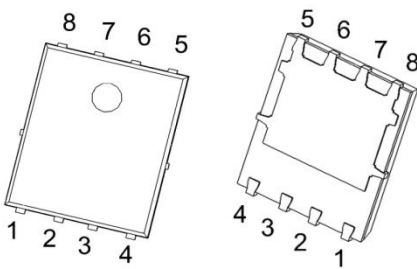
Feature

- Fast Switching
- Low Gate Charge and R_{ds(on)}
- Low Reverse transfer capacitances
- 100% Single Pulse avalanche energy Test

Applications

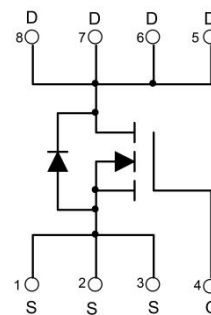
- Power switching application
- Hard switched and high frequency circuits
- Uninterruptible power supply

Package

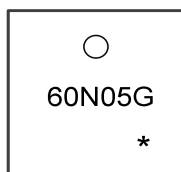


PDFN5X6-8L

Circuit diagram



Marking



60N05G : Product code
* : Month code.

Absolute maximum ratings (Ta=25°C, unless otherwise noted)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	60	V
Gate-Source Voltage	V_{GSS}	±20	V
Continuous Drain Current(Tc=25°C)	I_D	70	A
Pulse Drain Current Tested	I_{DM}	280	A
Single Pulse Avalanche Energy ¹	E_{AS}	289	mJ
Maximum Power Dissipation(Tc=25°C)	P_D	70	W
Thermal Resistance-Junction to Case	$R_{\theta JC}$	2.08	°C/W
Maximum Junction Temperature	T_J	-55 to 150	°C
Storage Temperature Range	T_{STG}	-55 to 150	°C

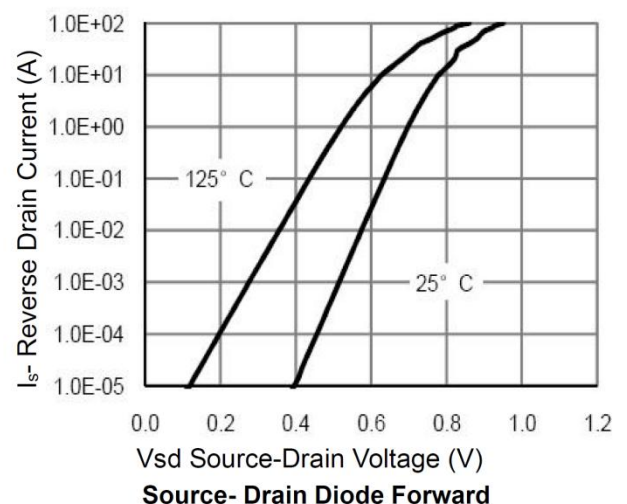
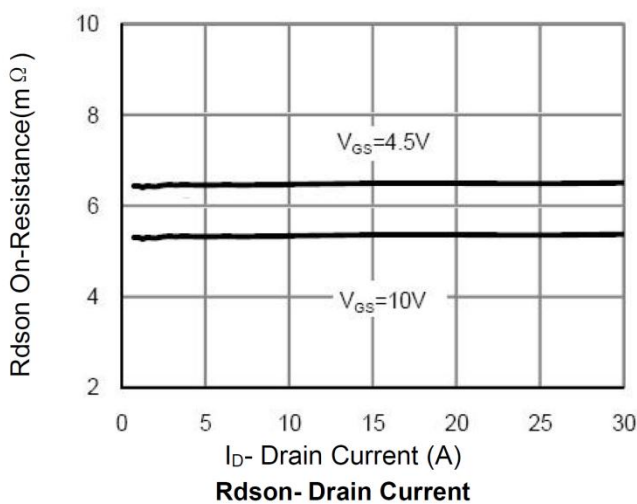
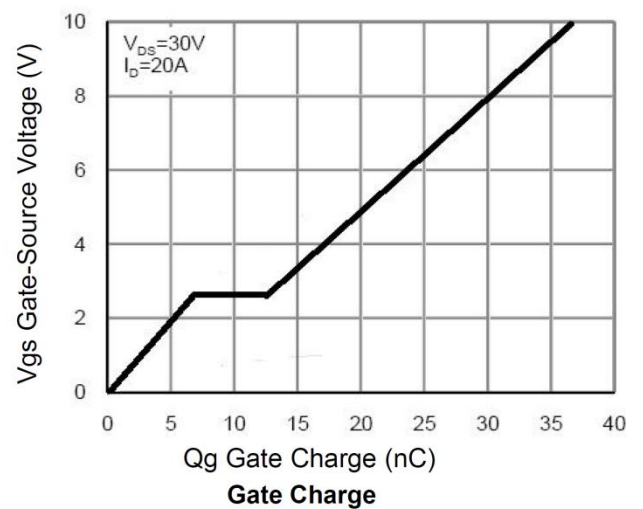
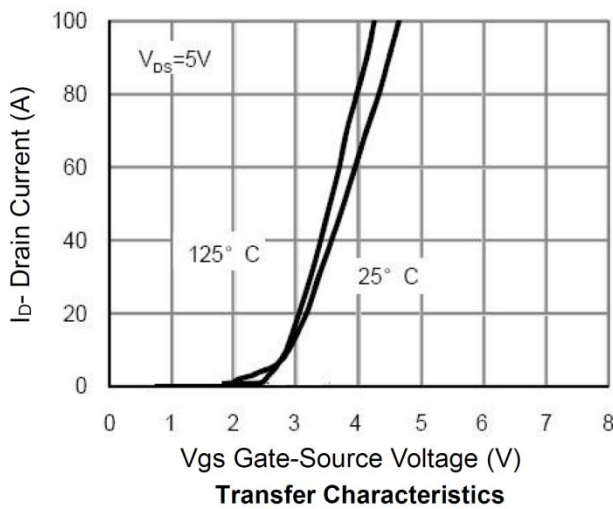
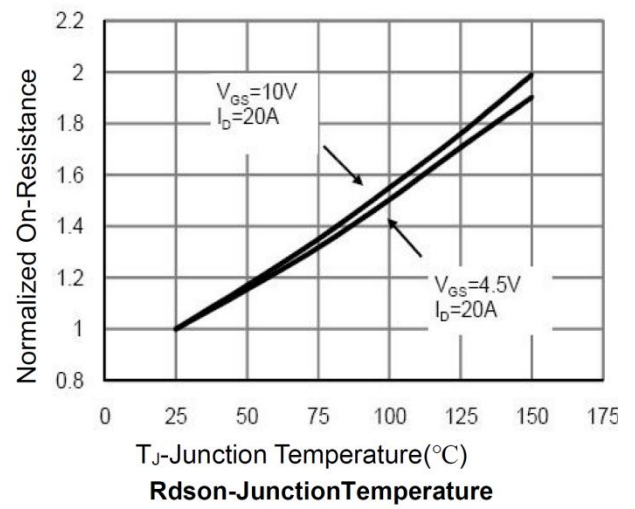
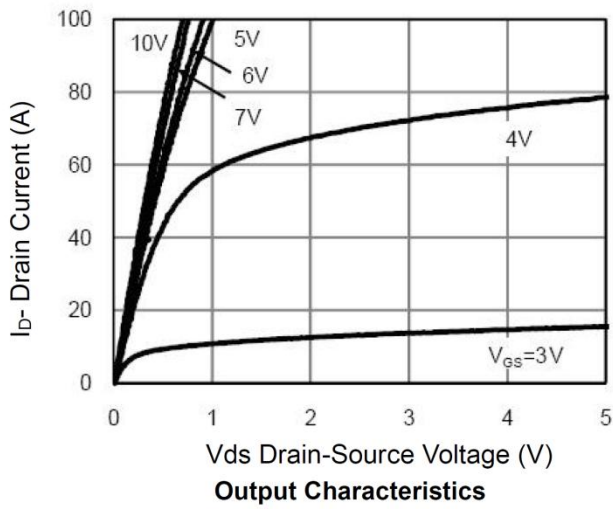
Electrical characteristics (Ta=25°C, unless otherwise noted)

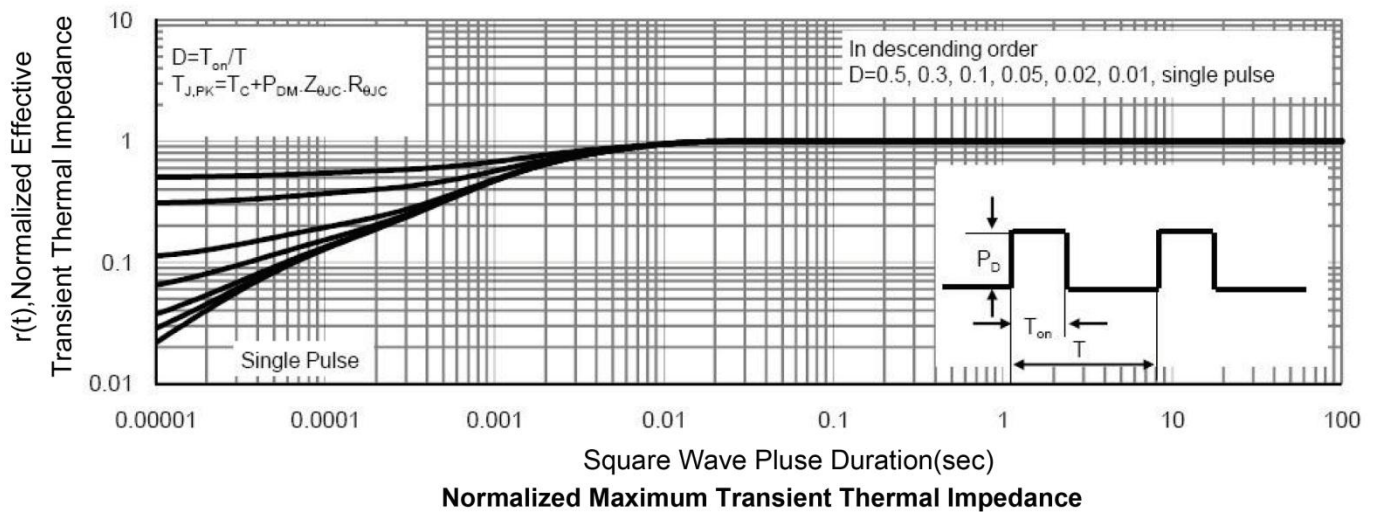
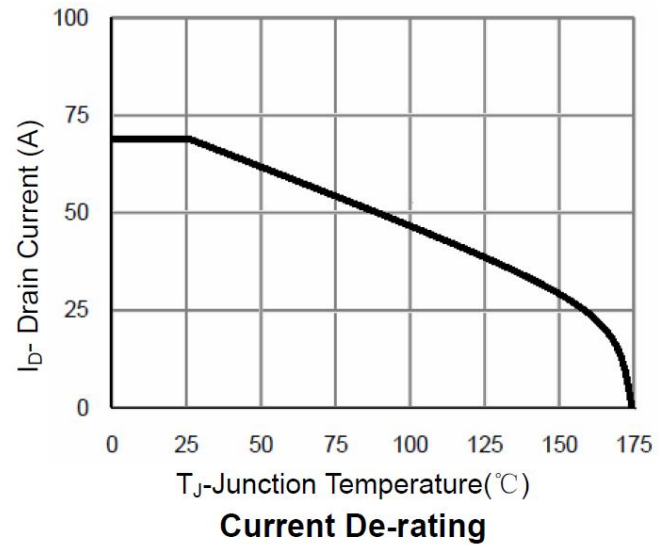
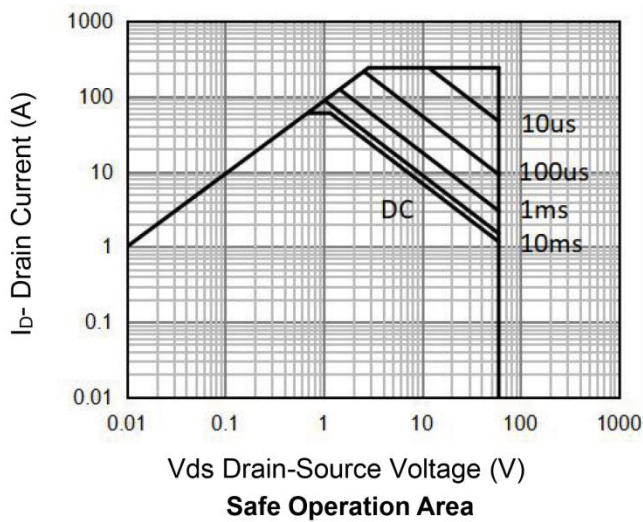
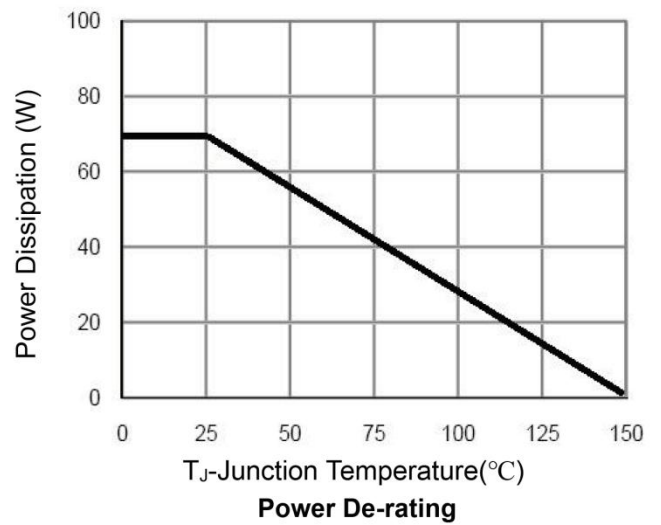
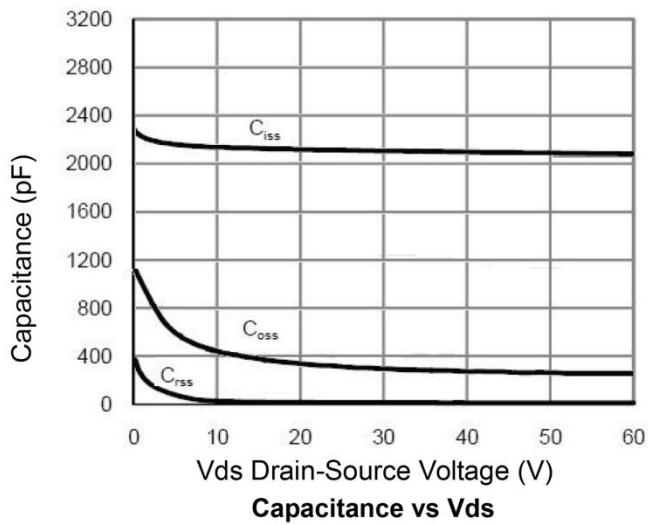
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Static Electrical Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	VGS=0V, ID=250mA	60	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	VDS=48V, VGS=0V	-	-	1	uA
Gate Leakage Current	I_{GSS}	VGS=±20V, VDS=0V	-	-	±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	VDS=VGS, ID=250uA	1.0	2.0	3.0	V
Drain-Source On-state Resistance	$R_{DS(ON)}$	VGS=10V, ID=20A	-	5	6.3	mΩ
		VGS=4.5V, ID=10A	-	8	10.5	
Dynamic and Switching Characteristics						
Input Capacitance	C_{iss}	VGS=0V, VDS=30V, F=1MHz	-	2083	-	pF
Output Capacitance	C_{oss}		-	793	-	
Reverse Transfer Capacitance	C_{rss}		-	16	-	
Total Gate Charge	Q_g	VDS=30V, VGS=10V, ID=20A	-	37.5	-	nC
Gate-Source Charge	Q_{gs}		-	6.5	-	
Gate-Drain Charge	Q_{gd}		-	10	-	
Turn-on Delay Time	$t_{d(ON)}$	VDD=30V, ID=20A, VGS=10V, RG=4.7Ω	-	9	-	nS
Turn-on Rise Time	t_r		-	3.5	-	
Turn-off Delay Time	$t_{d(OFF)}$		-	32	-	
Turn-off Fall Time	t_f		-	5.5	-	
Source-Drain Characteristics						
Diode Forward Voltage	V_{SD}	IS=1A, VGS=0V	-	-	1.2	V

Note :

- The EAS data shows Max. rating . The test condition is VDD=30V, VGS=10V, L=0.5mH, RG=25Ω

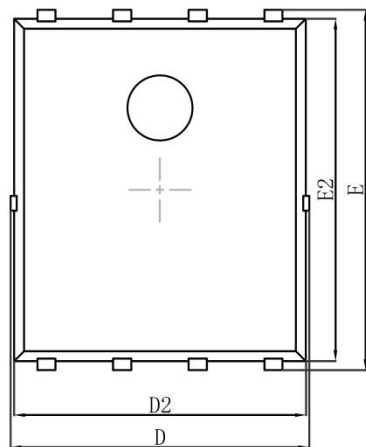
Typical Characteristics



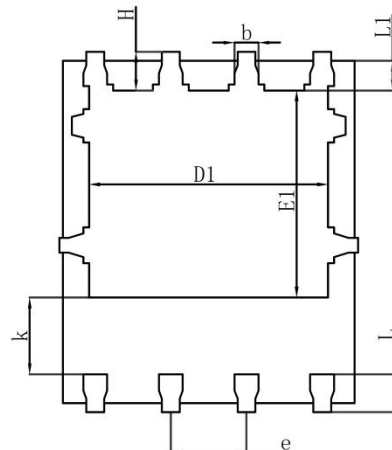




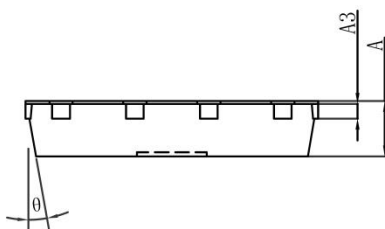
PDFN5X6-8L Package Information



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°

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