

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
100V	60mΩ@10V	14A
	70mΩ@10V	

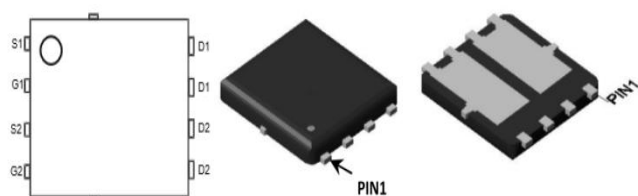
Feature

- Fast switching speed
- Surface mount package
- Reliable and Rugged
- ROHS Compliant & Halogen-Free

Applications

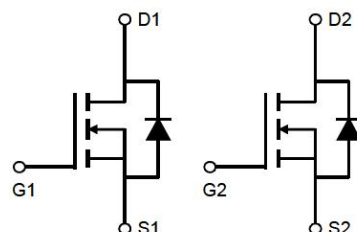
- Power management functions
- Industrial and Motor Drive application
- DC-DC Converters

Package

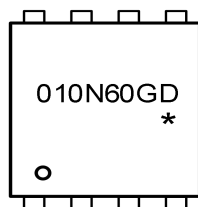


PDFN5x6-8L

Circuit diagram



Marking



010N60GD =Device Code
* =Month Code

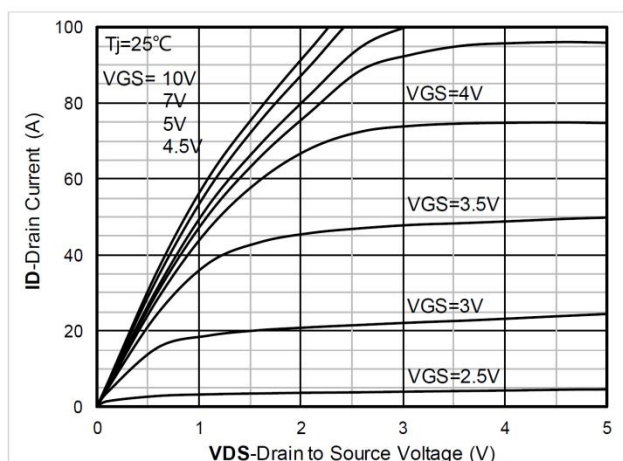
Absolute maximum ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Rating	Units
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current – Continuous	I_D	14	A
Drain Current – Pulsed	I_{DM}	56	A
Power Dissipation ($T_C=25^\circ\text{C}$)	P_D	47.8	W
Thermal Resistance Junction to Case	$R_{\theta JC}$	2.6	$^\circ\text{C/W}$
Storage Temperature Range	T_{STG}	-50 to 150	$^\circ\text{C}$
Operating Junction Temperature Range	T_J	-50 to 150	$^\circ\text{C}$

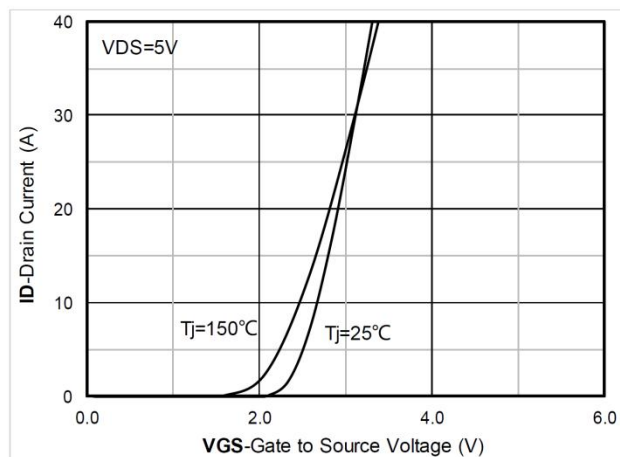
Electrical characteristics (Ta=25°C, unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	B _V DSS	VGS=0V , ID=250uA	100	---	---	V
Drain-Source Leakage Current	I _D SS	VDS=100V , VGS=0V	---	---	1	uA
Gate-Source Leakage Current	I _G SS	VGS=± 20V , VDS=0V	---	---	± 100	nA
Gate Threshold Voltage	V _{GS} (th)	VGS=VDS , ID =250uA	1	1.8	2.5	V
Static Drain-Source On-Resistance	R _{DS} (ON)	VGS=10V , ID=6A	---	60	75	mΩ
		VGS=4.5V , ID=4A	---	70	95	mΩ
Dynamic Characteristics						
Total Gate Charge	Q _g	VGS=10V,VDS=50V,ID=5.0A	---	6.1	---	nC
Gate-Source Charge	Q _{gs}		---	1.7	---	
Gate-Drain Charge	Q _{gd}		---	1.5	---	
Turn-On Delay Time	T _d (on)	VGS=10V,VDD=50V, ID=5.0A, RGEN=2Ω	---	8.8	---	ns
Rise Time	T _r		---	3.7	---	
Turn-Off Delay Time	T _d (off)		---	19	---	
Fall Time	T _f		---	7.5	---	
Input Capacitance	C _{iss}	VDS=50V,VGS=0V,f=1MHZ	---	345	---	pF
Output Capacitance	C _{oss}		---	65	---	
Reverse Transfer Capacitance	C _{rss}		---	9.8	---	
Drain-Source Body Diode Characteristics						
Diode Forward Voltage	V _{SD}	VGS=0V , IS=1A , TJ=25℃	---	---	1.2	V

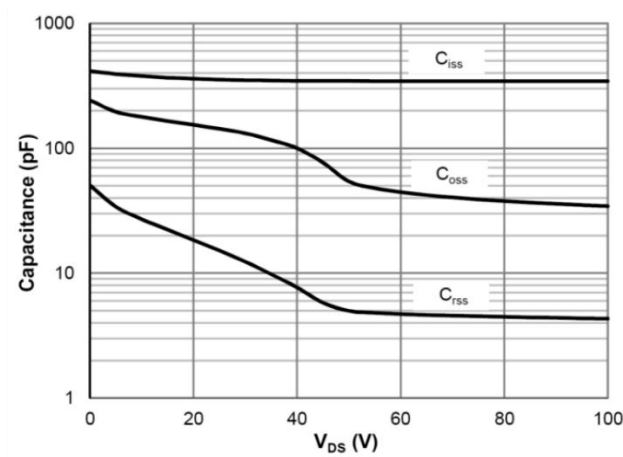
Typical Characteristics



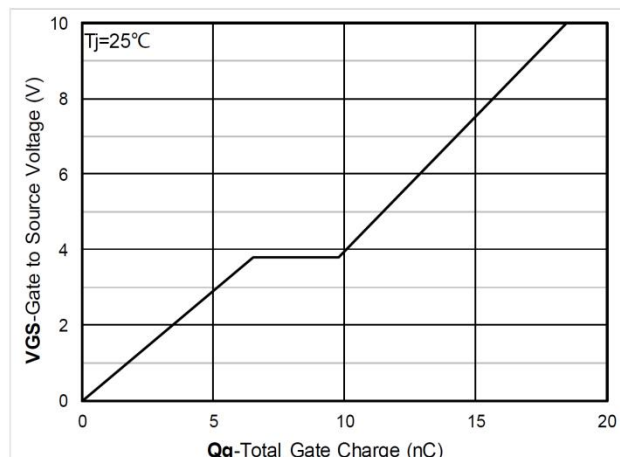
Output Characteristics



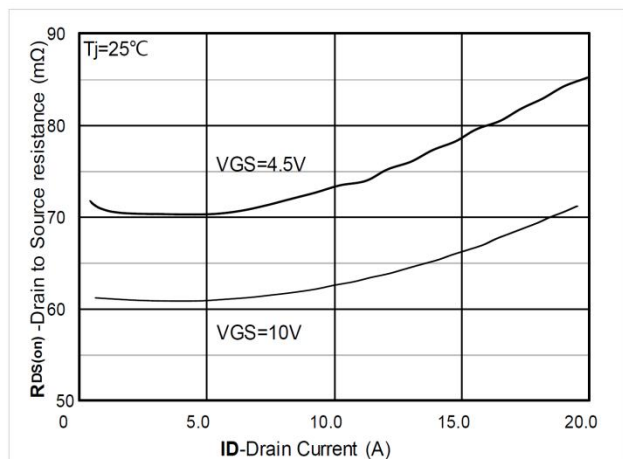
Transfer Characteristics



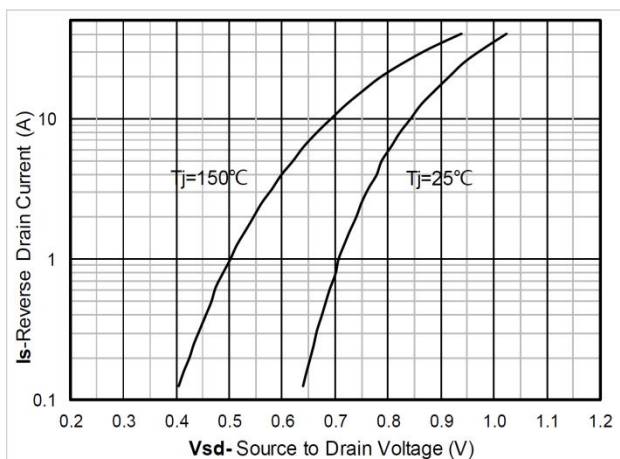
Capacitance Characteristics



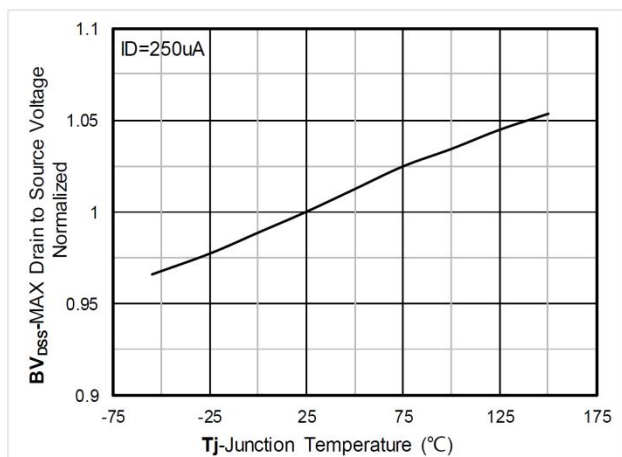
Gate Charge



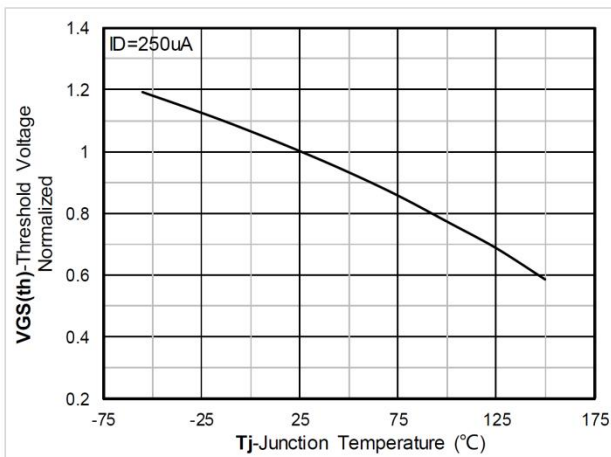
RDS(on) VS Drain Current



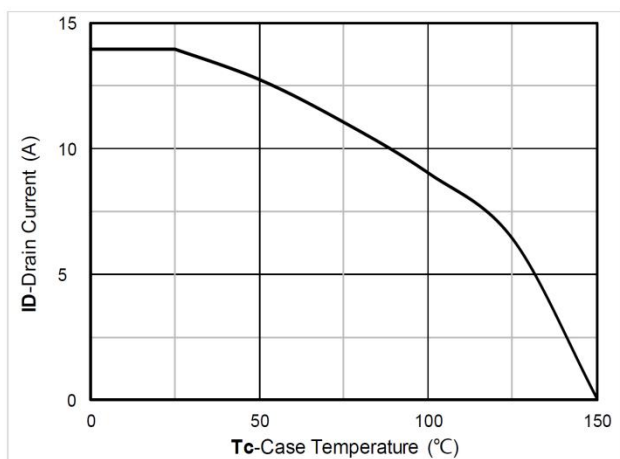
Forward characteristics of reverse diode



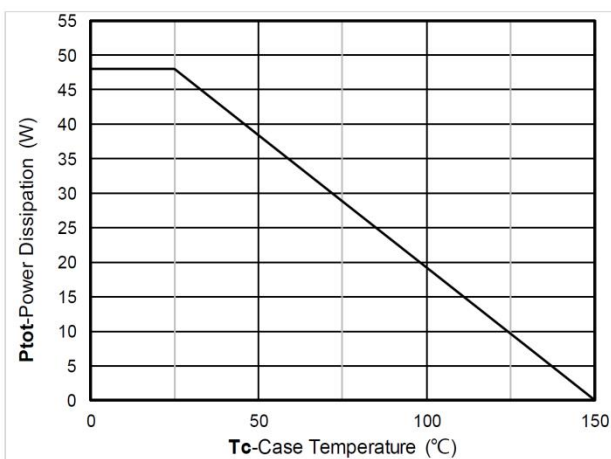
Normalized breakdown voltage



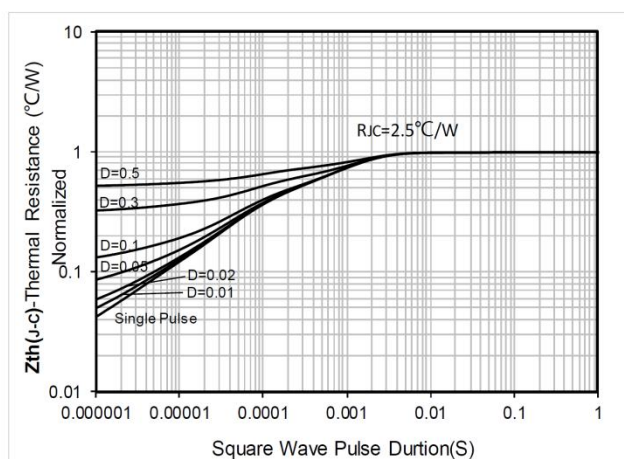
Normalized Threshold voltage



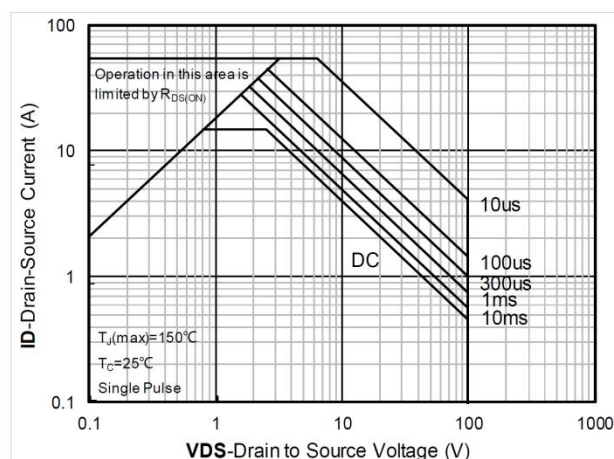
Current dissipation



Power dissipation



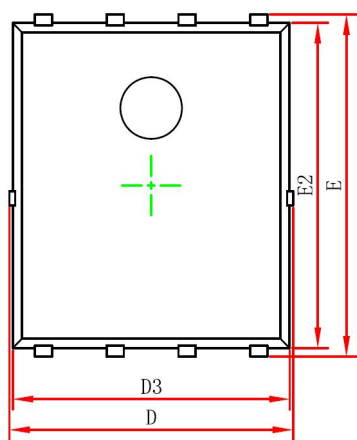
Maximum Transient Thermal Impedance



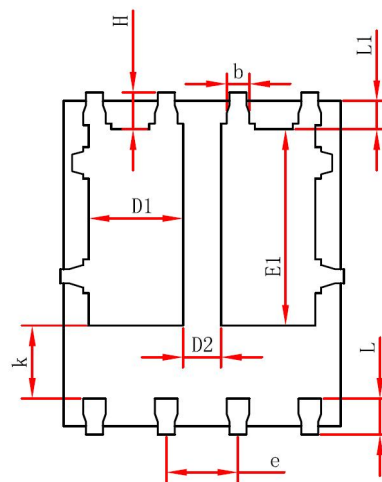
Safe Operation Area



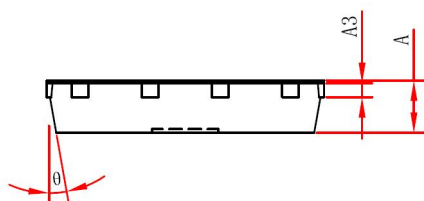
PDFN5x6-8L Package Information



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	0.254 REF.		0.010REF.	
D	4.944	5.096	0.195	0.201
E	5.974	6.126	0.235	0.241
D1	1.470	1.870	0.058	0.074
D2	0.470	0.870	0.019	0.034
E1	3.375	3.575	0.133	0.141
D3	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°