Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
40V	20mΩ@10V	23A
	27mΩ@4.5V	
-40V	34mΩ@-10V	-14A
	45mΩ@-4.5V	

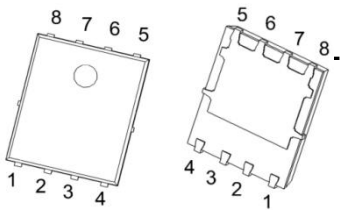
Feature

- High density cell design for ultra low Rdson
- Fully characterized avalanche voltage and current
- Fast Switching Speed

Application

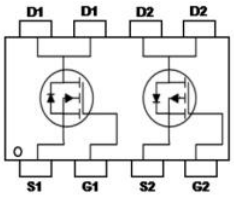
- Load switching
- Inverters
- Power Management

Package

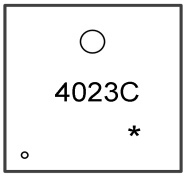


PDFN5X6-8L

Circuit diagram



Marking



4023C : Product code
* : Month code.

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

Parameter	Symbol	Value		Unit
		N-Channel	P-Channel	
Drain-Source Voltage	V_{DS}	40	-40	V
Gate-Source Voltage	V_{GS}	±20	±20	V
Continuous Drain Current(TC=25℃)	I_D	23	-14	A
Pulsed Drain Current	I_{DM}	92	-56	A
Maximum Power Dissipation(TC=25℃)	P_D	25		W
Thermal Resistance from Junction to Case	$R_{\theta JC}$	5		℃/W
Operating Junction and Storage Temperature Range	T_J,T_{STG}	-55 To 150	-55 To 150	℃

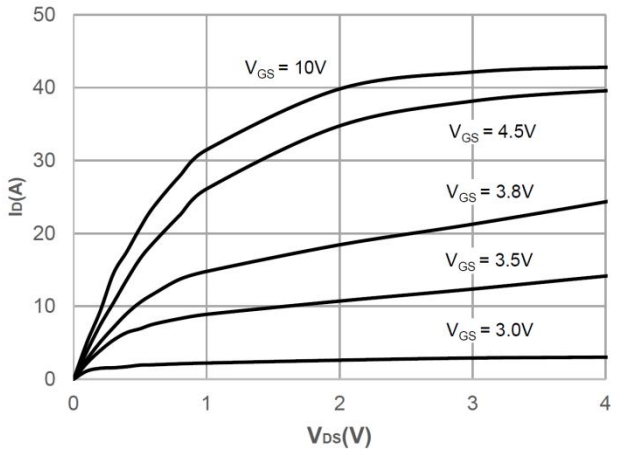
N-Electrical characteristics (T_A=25 ºC, unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	VGS=0V , ID=250uA	40	---	---	V
Drain-Source Leakage Current	I_{DSS}	VDS=32V , VGS=0V , TJ=25℃	---	---	1	uA
Gate-Source Leakage Current	I_{GSS}	VGS=±20V , VDS=0V	---	---	±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	VGS=VDS , ID =250uA	1	1.5	2.5	V
Drain-source on-resistance	$R_{DS(ON)}$	VGS=10V , ID=10A	---	20	25	mΩ
		VGS=4.5V , ID=8A	---	27	36	
Dynamic Characteristics						
Input Capacitance	C_{iss}	VDS=15V , VGS=0V , f=1MHz	---	810	---	pF
Output Capacitance	C_{oss}		---	85	---	
Reverse Transfer Capacitance	C_{rss}		---	60	---	
Total Gate Charge	Q_g	VDS=15V , VGS=10V , ID=10A	---	15.8	---	nC
Gate-Source Charge	Q_{gs}		---	3.8	---	
Gate-Drain Charge	Q_{gd}		---	2.9	---	
Switching Characteristics						
Turn-On Delay Time	$T_{d(on)}$	VDD=20V , VGS=10V , RG=3Ω ID=10A	---	4.8	---	ns
Rise Time	T_r		---	6.4	---	
Turn-Off Delay Time	$T_{d(off)}$		---	18.8	---	
Fall Time	T_f		---	3.4	---	
Drain-Source Diode Characteristics						
Diode Forward Voltage	V_{SD}	V_{GS}=0V , I_S=1A , T_J=25℃	---	---	1.2	V

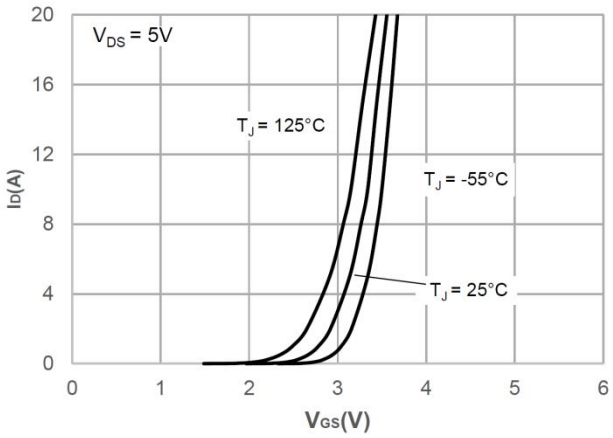
P-Electrical characteristics (T_A=25 °C, unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	VGS=0V , ID=-250uA	-40	---	---	V
Drain-Source Leakage Current	I_{DSS}	VDS=-32V , VGS=0V , TJ=25℃	---	---	-1	uA
Gate-Source Leakage Current	I_{GSS}	VGS=±20V , VDS=0V	---	---	±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	VGS=VDS , ID =-250uA	-1	-1.5	-2.5	V
Drain-source on-resistance	$R_{DS(ON)}$	VGS=-10V , ID=-5A	---	34	43	mΩ
		VGS=-4.5V , ID=-3A	---	45	60	
Dynamic Characteristics						
Input Capacitance	C_{iss}	VDS=-15V , VGS=0V , f=1MHz	---	964	---	pF
Output Capacitance	C_{oss}		---	110	---	
Reverse Transfer Capacitance	C_{rss}		---	80	---	
Total Gate Charge	Q_g	VDS=-15V , VGS=-10V , ID=-10A	---	21	---	nC
Gate-Source Charge	Q_{gs}		---	3.5	---	
Gate-Drain Charge	Q_{gd}		---	5.2	---	
Switching Characteristics						
Turn-On Delay Time	$T_{d(on)}$	VDD=-15V , VGS=-10V , RG=3.3Ω ID=-6A	---	5.1	---	ns
Rise Time	T_r		---	15	---	
Turn-Off Delay Time	$T_{d(off)}$		---	23	---	
Fall Time	T_f		---	11	---	
Drain-Source Diode Characteristics						
Diode Forward Voltage	V_{SD}	V_{GS}=0V , I_S=-1A , T_J=25℃	---	---	-1.2	V

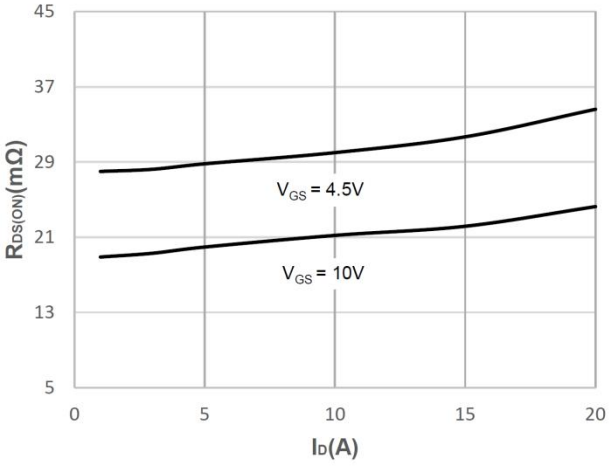
N-Channel Typical Characteristics



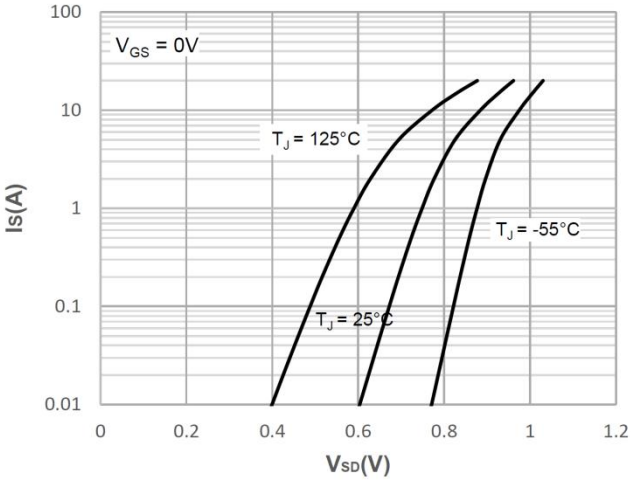
Output Characteristics



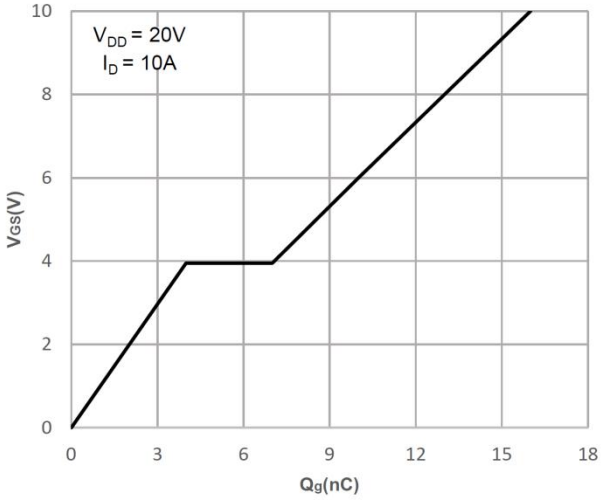
Typical Transfer Characteristics



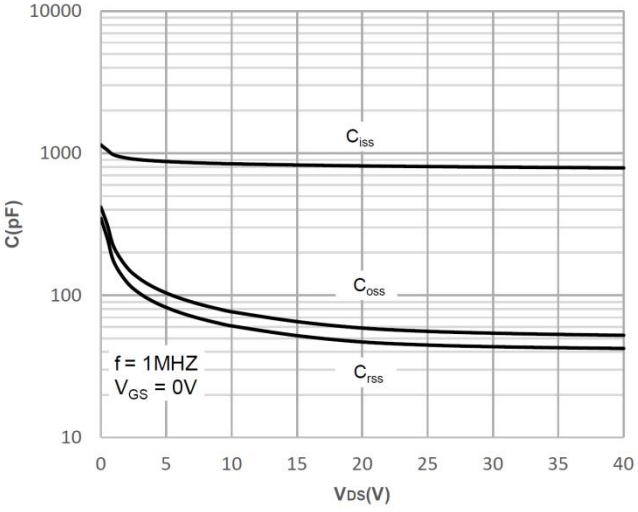
On-resistance vs. Drain Current



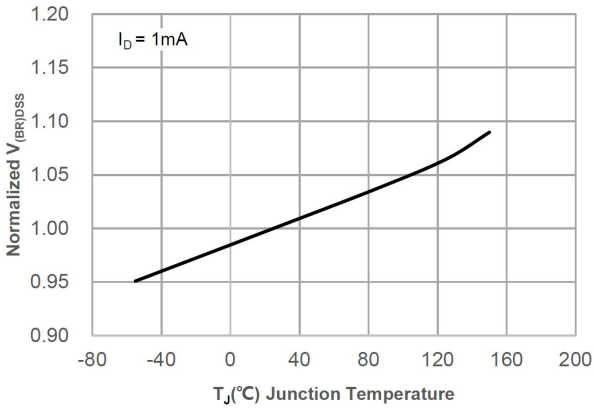
Body Diode Characteristics



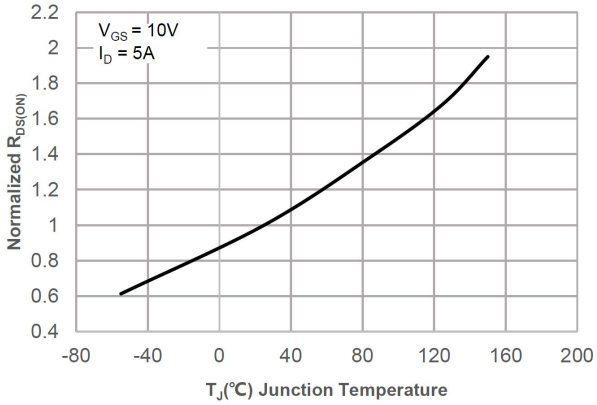
Gate Charge Characteristics



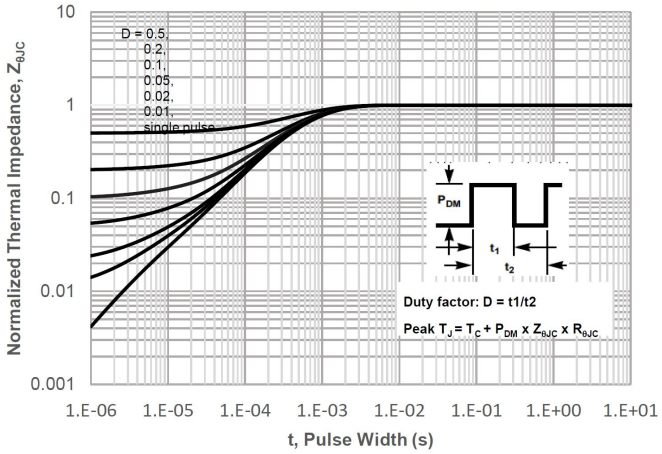
Capacitance Characteristics



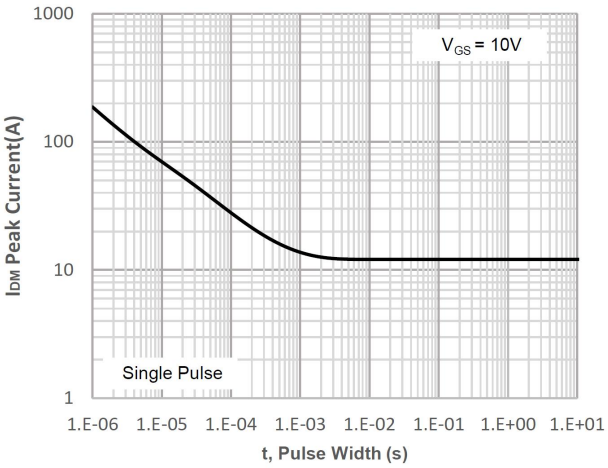
Normalized Breakdown voltage vs. Junction Temperature



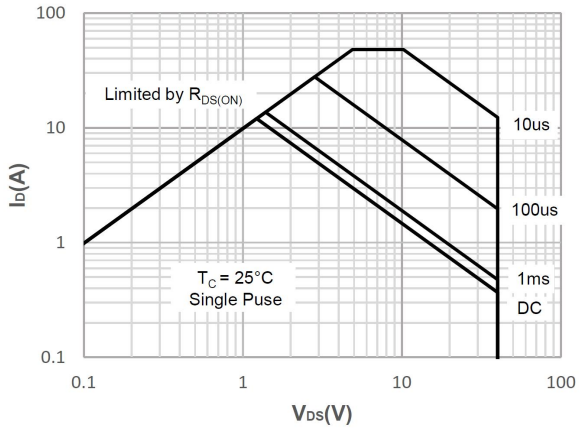
Normalized on Resistance vs. Junction Temperature



Normalized Maximum Transient Thermal Impedance

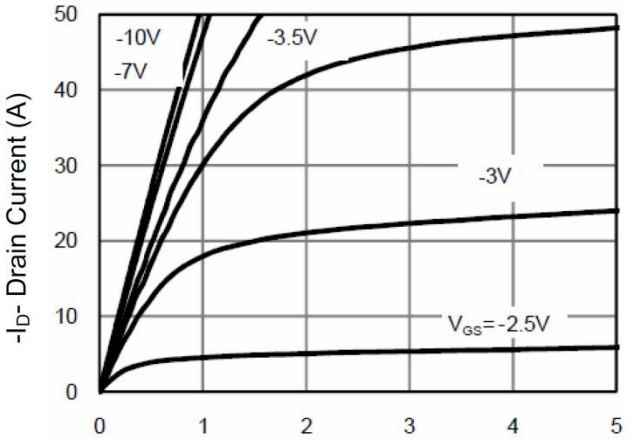


Peak Current Capacity

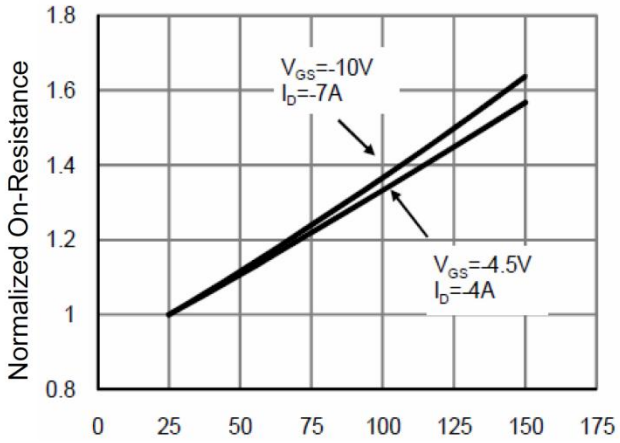


Maximum Safe Operating Area

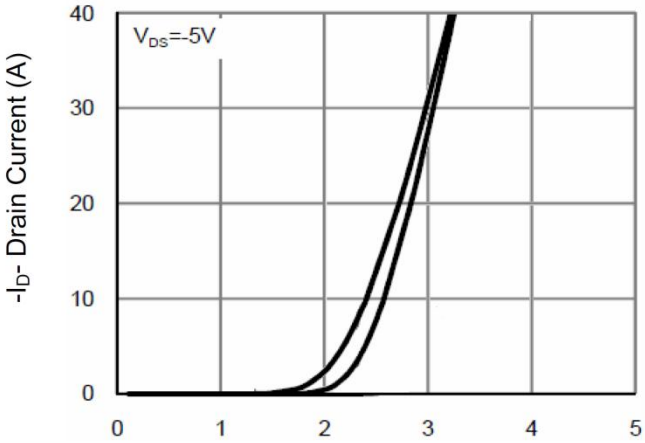
P-Channel Typical Characteristics



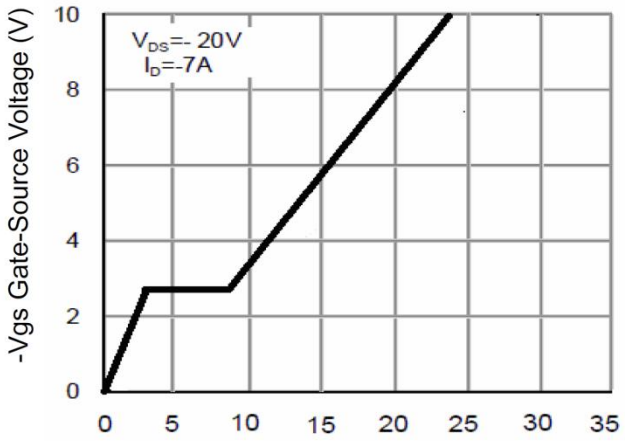
Output Characteristics



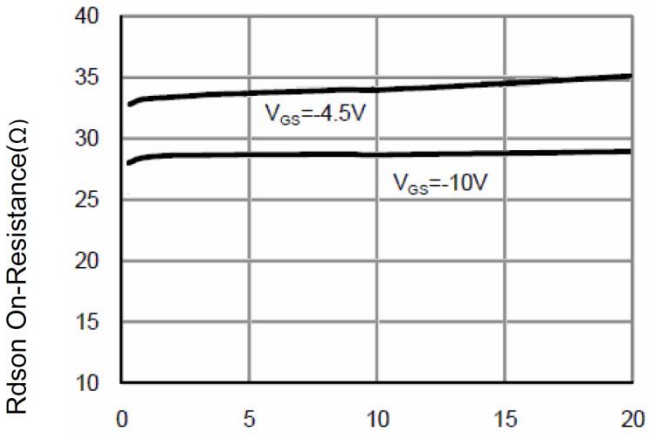
Rdson-Junction Temperature



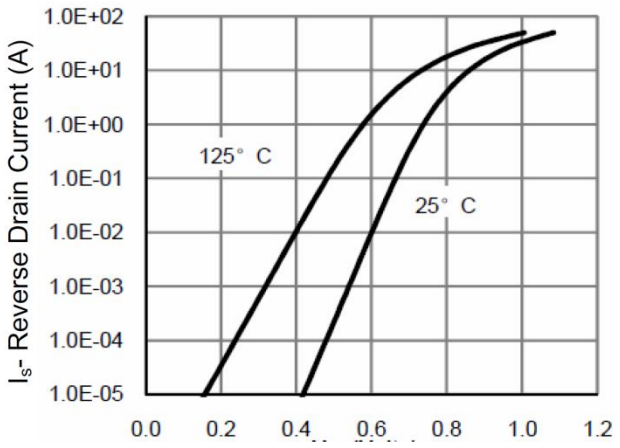
Transfer Characteristics



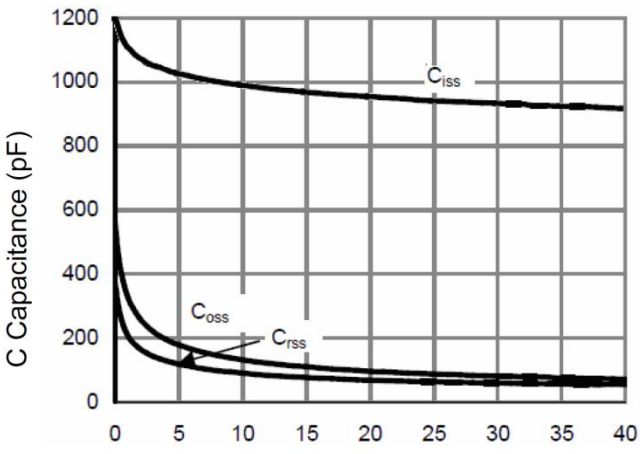
Gate Charge



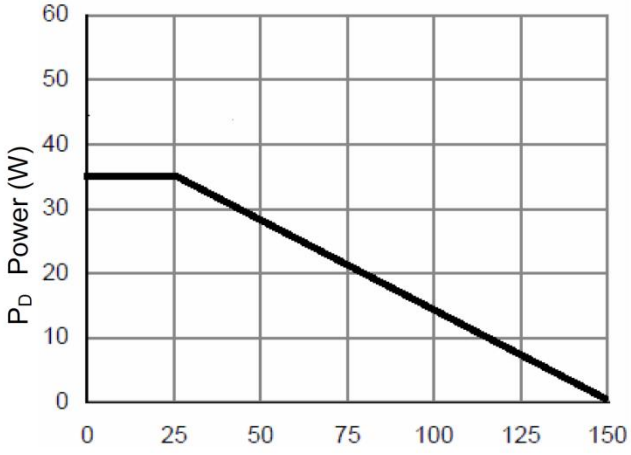
Rdson- Drain Current



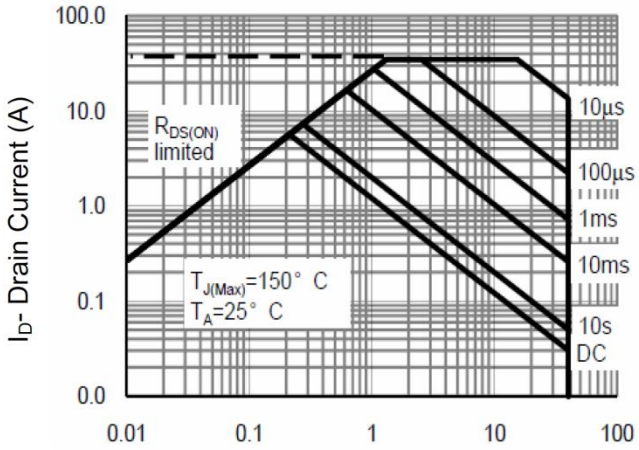
Source- Drain Diode Forward



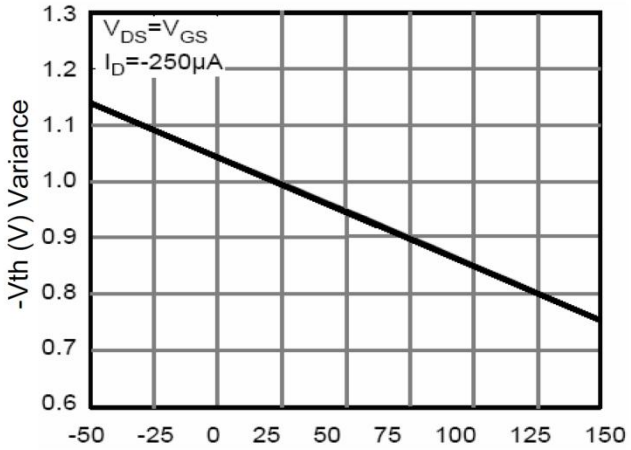
Capacitance vs Vds



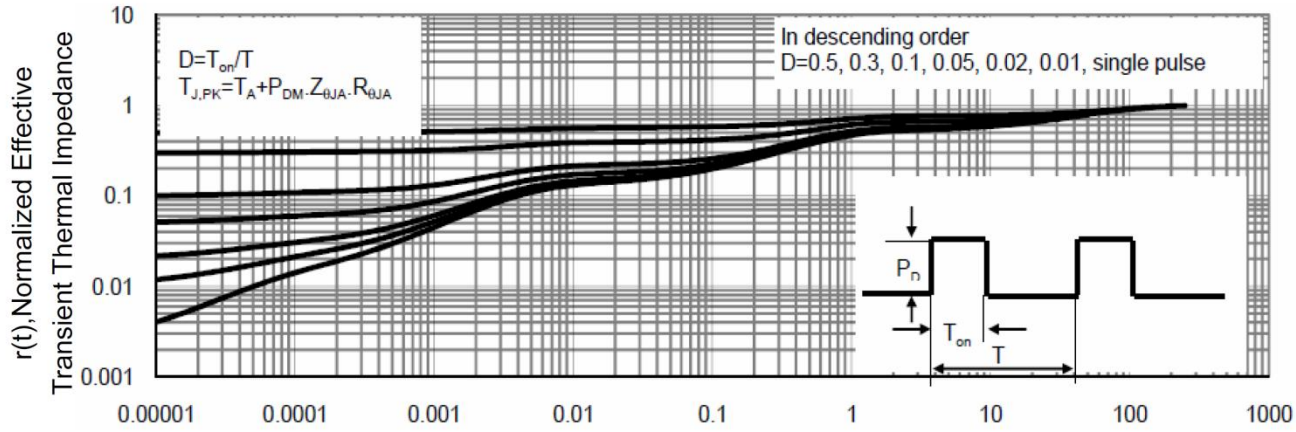
Power Dissipation



Safe Operation Area

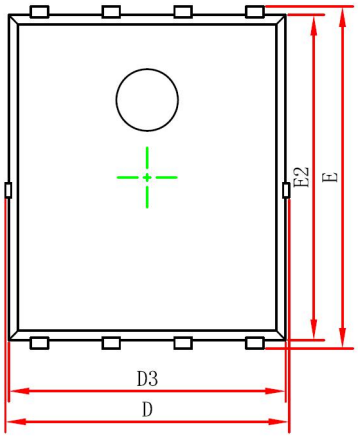


VGS(th) vs Junction Temperature

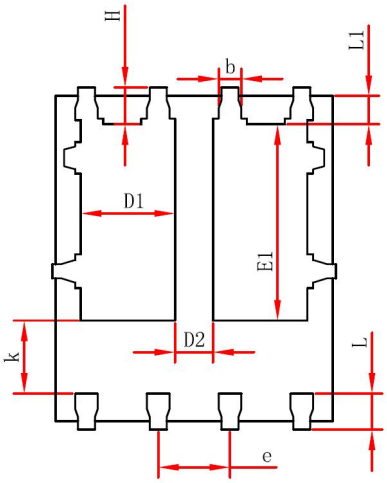


Normalized Maximum Transient Thermal Impedance

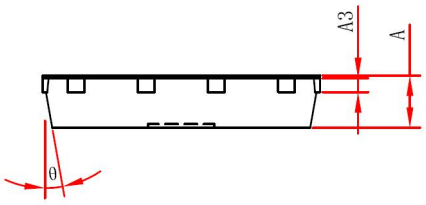
PDFN5X6-8L Package Information



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	0.254 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°

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