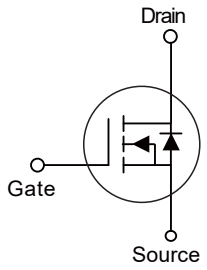
■PRODUCT CHARACTERISTICS

VDSS	60V
R_{DS}(on)typ(@V_{GS}=10 V)	4.3mΩ
R_{DS}(on)typ(@V_{GS}=4.5 V)	5.7mΩ
ID	69A

Symbol



■ FEATURES

Advanced Trench Technology

Excellent $R_{DS(ON)}$ and Low Gate Charge

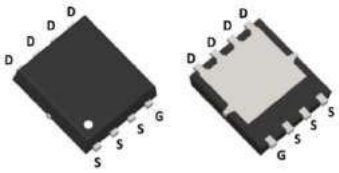
Lead free product is acquired

■ APPLICATION

PWM Applications

Load Switch

Power Management



■ ORDER INFORMATION

Order codes		Package	Packing
Halogen-Free	Halogen		
N/A	MOT6142G	PDFN5X6-8L	5000 pieces /Reel

■ ABSOLUTE MAXIMUM RATINGS (T_C=25℃ unless otherwise specified)

Parameter		Symbol	Value	Unit
Drain-to-Source Voltage		V_{DS}	60	V
Gate-to-Source Voltage		V_{GS}	±20	V
Continuous Drain Current	T_C = 25°C	I_D	69	A
	T_C = 100°C	I_D	43	A
Pulsed Drain Current		I_{DM}	276	A
Avalanche Energy		E_{AS}	182	mJ
Power Dissipation	T_C = 25°C	P_D	70	W
	T_C = 100°C	P_D	26	W
Thermal Resistance, Junction-to-Case		$R_{\theta JC}$	1.78	°C/W
Junction & Storage Temperature Range		T_J, T_{STG}	-55 to 150	°C

■ ELECTRICAL CHARACTERISTICS (T_J=25℃ unless otherwise specified)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Static parameters						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	I_D = 250μA, V_{GS} = 0V	60	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 60V, V_{GS} = 0V	-	-	1.0	μA
		T_J = 55°C	-	-	5.0	μA
Gate-Body Leakage Current	I_{GSS}	V_{DS} = 0V, V_{GS} = ±20V	-	-	±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250μA	1	-	2.5	V
Static Drain-Source ON-Resistance	$R_{DS(ON)}$	V_{GS} = 10V, I_D = 20A	-	4.3	5.3	mΩ
		V_{GS} = 4.5V, I_D = 15A	-	5.7	7	mΩ
Forward Transconductance	g_{FS}	V_{DS} = 5V, I_D = 20A	10	-	-	S
Diode Forward Voltage	V_{SD}	I_S = 1A, V_{GS} = 0V	-	0.70	1.0	V
Diode Continuous Current	I_S	T_C = 25°C	-	-	39	A
Dynamic parameters						
Input Capacitance	C_{iss}	V_{GS} = 0V, V_{DS} = 20V, f = 1MHz	-	1900	-	pF
Output Capacitance	C_{oss}		-	750	-	pF
Reverse Transfer Capacitance	C_{rss}		-	56	-	pF
Gate Resistance	R_g	V_{GS} = 0V, V_{DS}= 0V, f = 1MHz	-	5.0	-	Ω
Switching parameters						
Total Gate Charge (@ V_{GS} = 10V)	Q_g	V_{GS} = 0 to 10V V_{DS} = 30V, I_D = 20A	-	39	-	nC
Total Gate Charge (@ V_{GS} = 4.5V)	Q_g		-	18.4	-	nC
Gate Source Charge	Q_{gs}		-	8.4	-	nC
Gate Drain Charge	Q_{gd}		-	6.8	-	nC
Turn-On DelayTime	$t_{D(on)}$	V_{GS} = 10V, V_{DS} = 30V R_L = 1.5Ω, R_{GEN} = 3Ω	-	8.8	-	ns
Turn-On Rise Time	t_r		-	30	-	ns
Turn-Off DelayTime	$t_{D(off)}$		-	41	-	ns
Turn-Off Fall Time	t_f		-	18.9	-	ns
Body Diode Reverse Recovery Time	t_{rr}	I_F = 20A, dI_F/dt = 100A/μs	-	42	-	ns
Body Diode Reverse Recovery Charge	Q_{rr}	I_F = 20A, dI_F/dt = 100A/μs	-	38	-	nC

■ TY PICAL CHARACTERISTICS

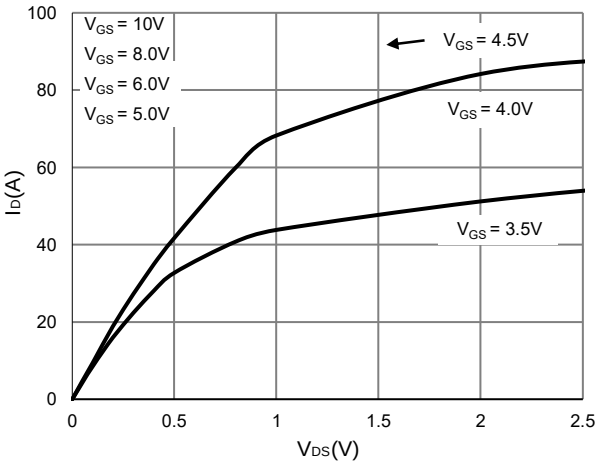


Figure 1:Saturation characteristics

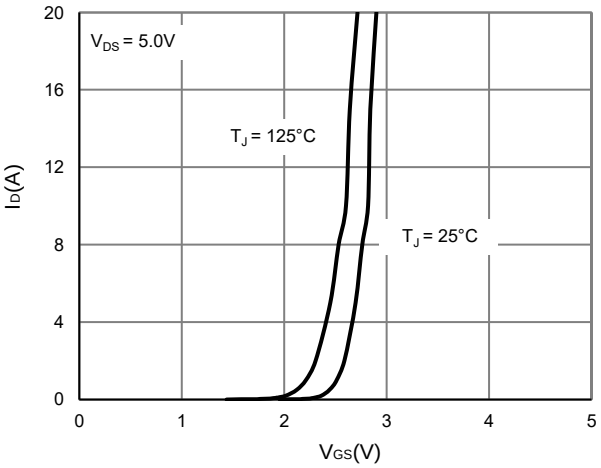


Figure 2:Transfer characteristics

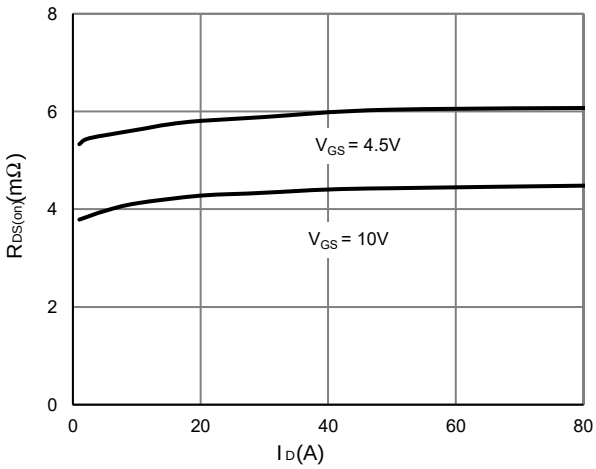


Figure 3:$R_{DS(ON)}$ vs.drain current

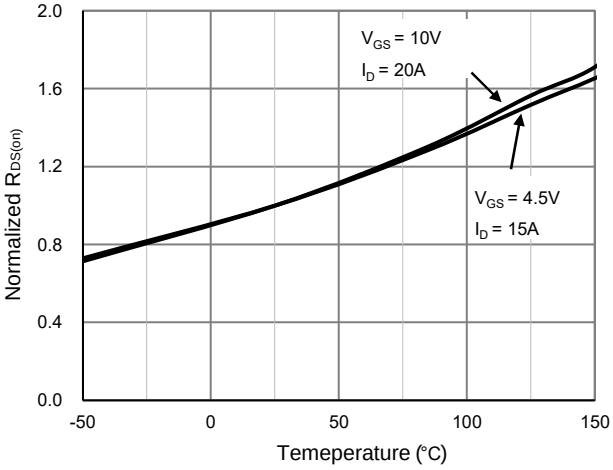


Figure 4:$R_{DS(ON)}$ vs.junction temperature

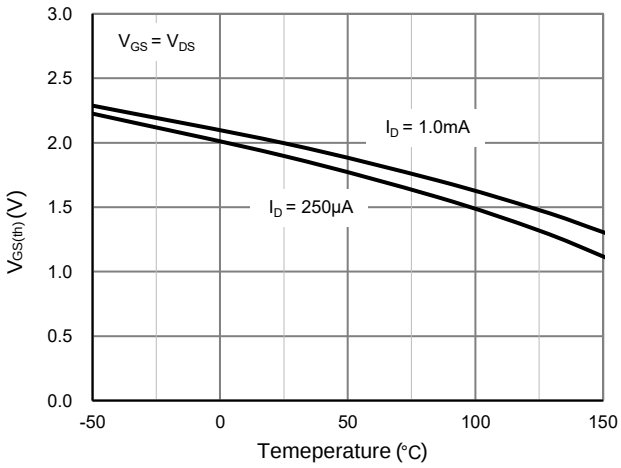


Figure 5:$V_{GS(th)}$ vs.junction temperature

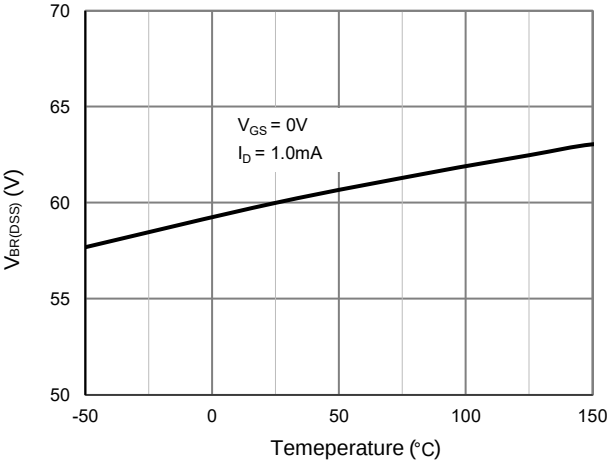


Figure 6:$V_{BR(DSS)}$ vs.junction temperature

■ TY PICAL CHARACTERISTICS(Cont.)

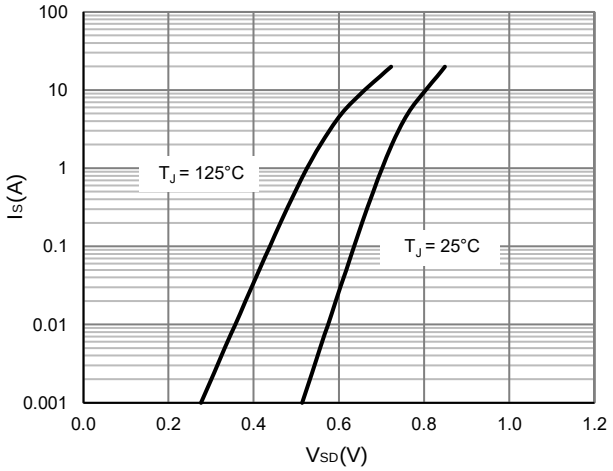


Figure 7:Body-diode characteristics

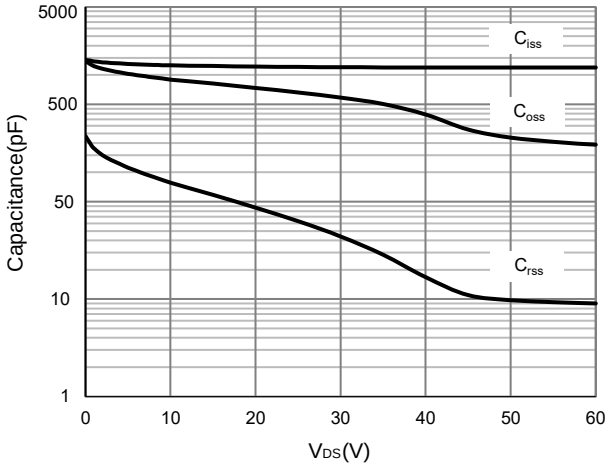


Figure 8:Capacitance characteristics

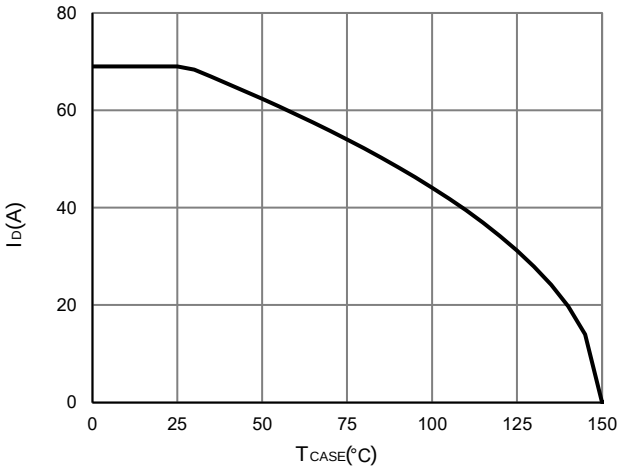


Figure 9:Current de-rating

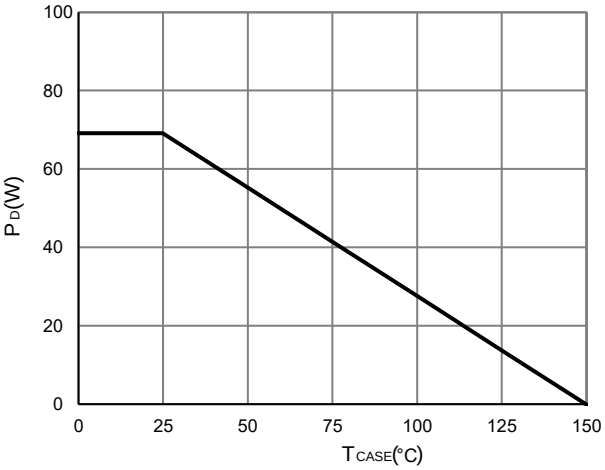


Figure 10:Power de-rating

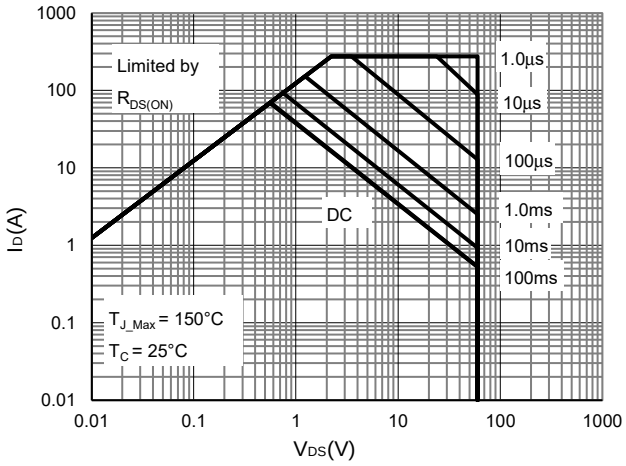
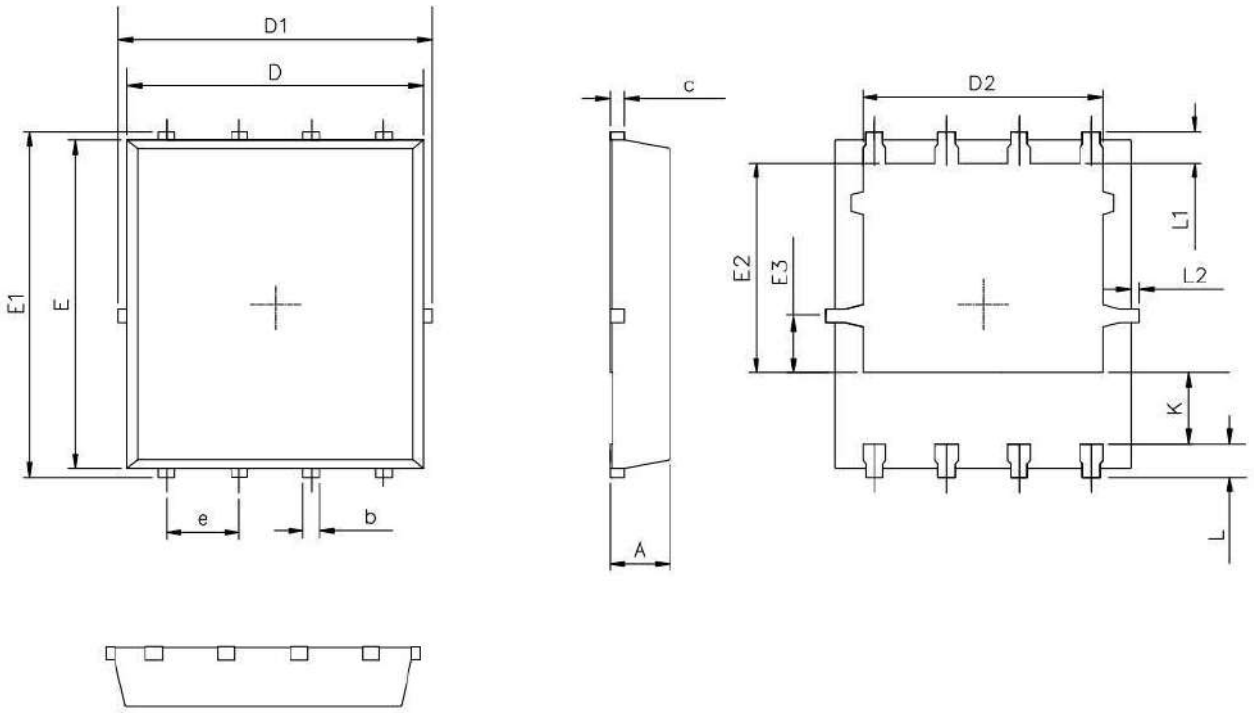


Figure 11:Maximum safe operating area

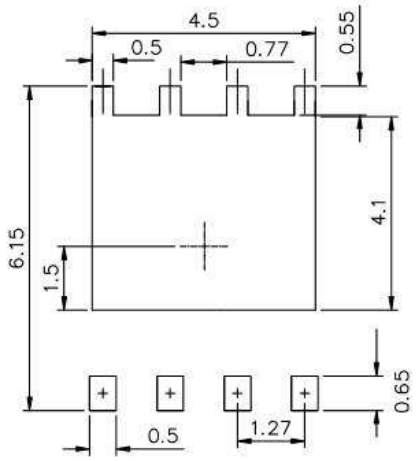
■ PDFN5X6-8L Package Mechanical Data



UNIT:mm

	MIN	NOM	MAX
A	0.90	1.00	1.10
b	0.25	0.35	0.50
c	0.10	0.20	0.30
D	4.80	5.00	5.30
D1	4.90	5.10	5.50
D2	3.92	4.02	4.20
E	5.65	5.75	5.85
E1	5.90	6.05	6.20
E2	3.325	3.525	3.775
E3	0.80	0.90	1.00
e		1.27	
L	0.40	0.55	0.70
L1		0.65	
L2	0.00		0.15
K	1.00	1.30	1.50

RECOMMENDED LAND PATTERN



X-ON Electronics

Largest Supplier of Electrical and Electronic Components

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

Click to view products by MOT ***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