

■ PRODUCT CHARACTERISTICS

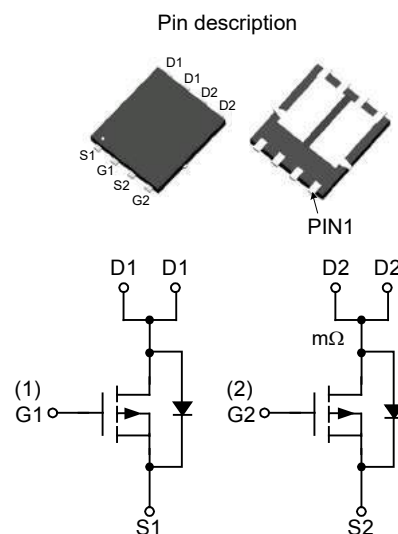
VDSS	-30V
$R_{DS(on)Typ}(V_{GS} = -10V)$	13.5mΩ
$R_{DS(on)Typ}(V_{GS} = -4.5V)$	22mΩ
ID	-11A

■ APPLICATIONS

PWM applications
Load switch
Power management

■ FEATURES

High Power and current handing capability
Lead free product is acquired
Surface mount package



■ ORDER INFORMATION

Order codes		Package	Packing
Halogen-free	Halogen		
N/A	MOT3818G	PDFN5X6-8L	5000pieces/Reel

■ ABSOLUTE MAXIMUM RATINGS($T_C=25^{\circ}C$, unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	-11	A
Continuous Drain Current(100°C)	I_D	-7	A
Pulsed Drain Current	I_{DM}	-44	A
Power Dissipation	P_D	5	W
Junction Temperature	T_J	+150	°C
Operation and Storage Temperature	T_{STG}	-55 ~ +150	°C

■ ELECTRICAL CHARACTERISTICS (T_C=25°C, unless otherwise specified)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V I _D =-250μA	-30	-	-	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-30V, V _{GS} =0V	-	-	-1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V	-	-	±100	nA
On characteristics						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-1.2	-	-2.5	V
Drain-Source On-State Resistance	R _{DS(ON)}	V _{GS} =-10V, I _D =-20A	-	13.5	18	mΩ
		V _{GS} =-4.5V, I _D =-10A	-	22	28	mΩ
Forward Transconductance	g _{FS}	V _{DS} =-5V, I _D =-10A	10	-	-	S
Dynamic characteristics						
Input Capacitance	C _{iss}	V _{DS} =-20V, V _{GS} =0V, F=1.0MHz	-	960	-	PF
Output Capacitance	C _{oss}		-	100	-	PF
Reverse Transfer Capacitance	C _{rss}		-	60	-	PF
Switching characteristics						
Turn-on Delay Time	t _{d(on)}	V _{DD} =-15V, I _D =-10A, V _{GS} =-10V, R _G =2.5Ω	-	9	-	nS
Turn-on Rise Time	t _r		-	13	-	nS
Turn-Off Delay Time	t _{d(off)}		-	48	-	nS
Turn-Off Fall Time	t _f	V _{DS} =-15V, I _D =-10A, V _{GS} =-10V	-	20	-	nS
Total Gate Charge	Q _g		-	22	-	nC
Gate-Source Charge	Q _{gs}		-	4	-	nC
Gate-Drain Charge	Q _{gd}		-	5.8	-	nC
Drain-sourcediode characteristics						
Diode Forward Voltage	V _{SD}	V _{GS} =0V, I _S =-11A	-	-	-1.2	V
Diode Forward Current	I _S		-	-	-11	A

■ TYPICAL CHARACTERISTICS

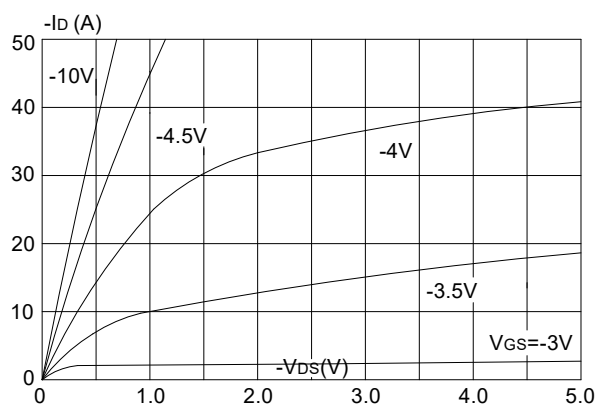


Figure 1: OutPut Characteristics

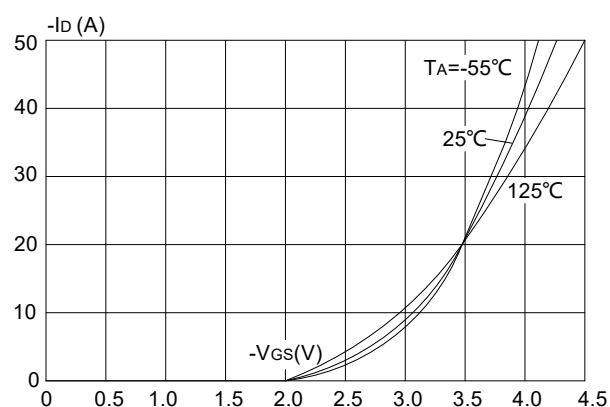


Figure 2: Typical Transfer Characteristics

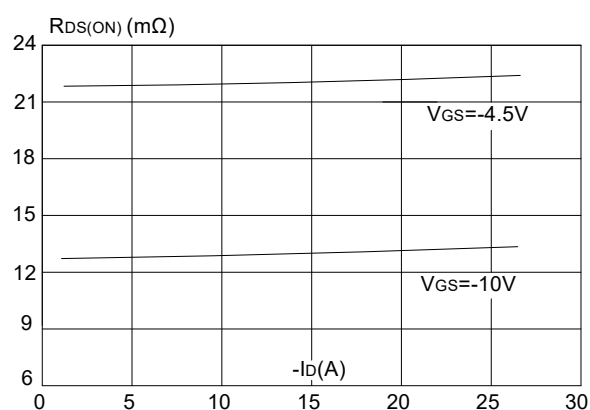


Figure 3: On-resistance vs. Drain Current

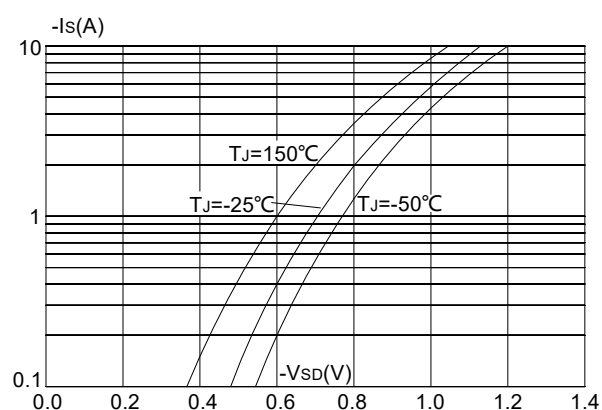


Figure 4: Body Diode Characteristics

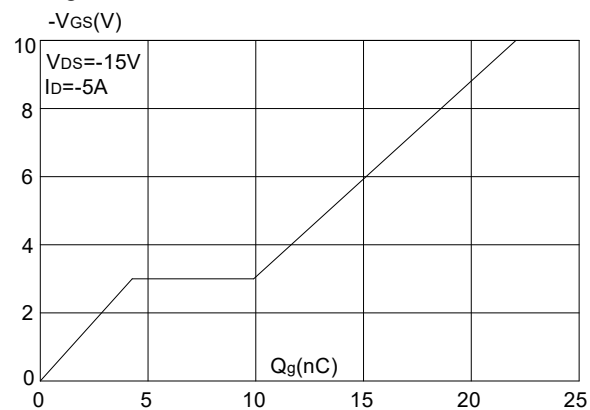


Figure 5: Gate Charge Characteristics

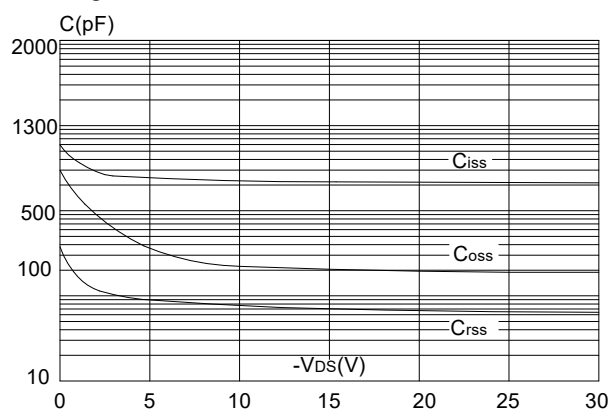


Figure 6: Capacitance Characteristics

■ TYPICAL CHARACTERISTICS(Cont.)

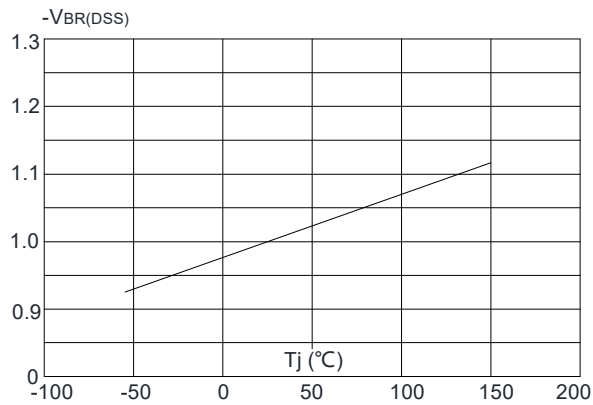


Figure 7: Normalized Breakdown Voltage vs. Junction Temperature

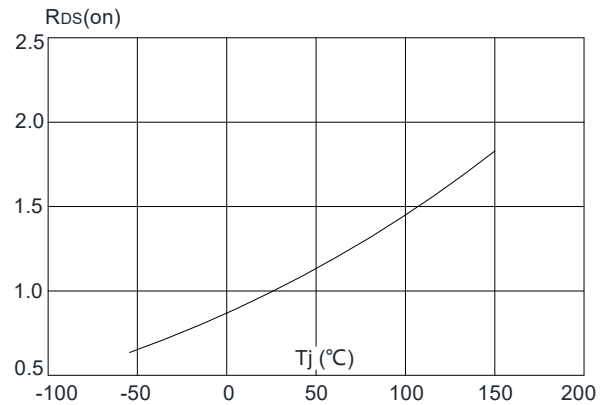


Figure 8: Normalized on Resistance vs. Junction Temperature

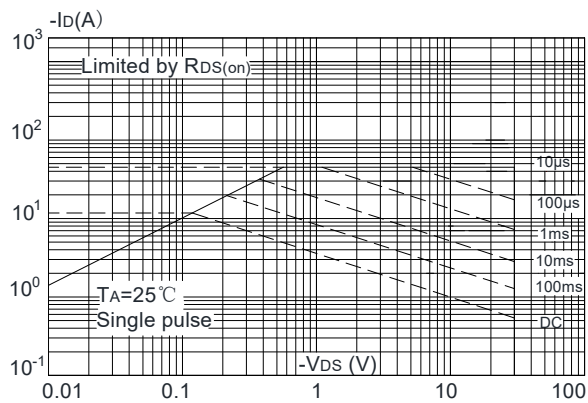


Figure 9: Maximum Safe Operating Area

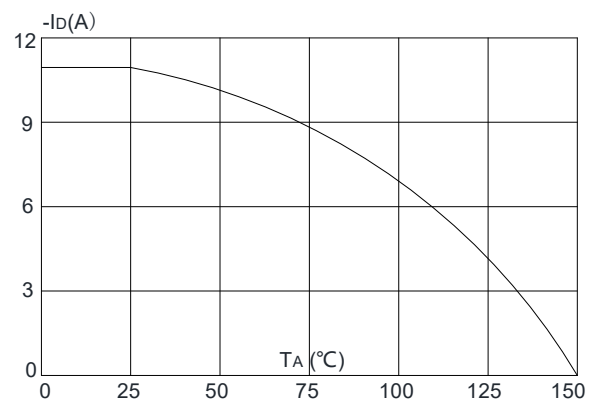
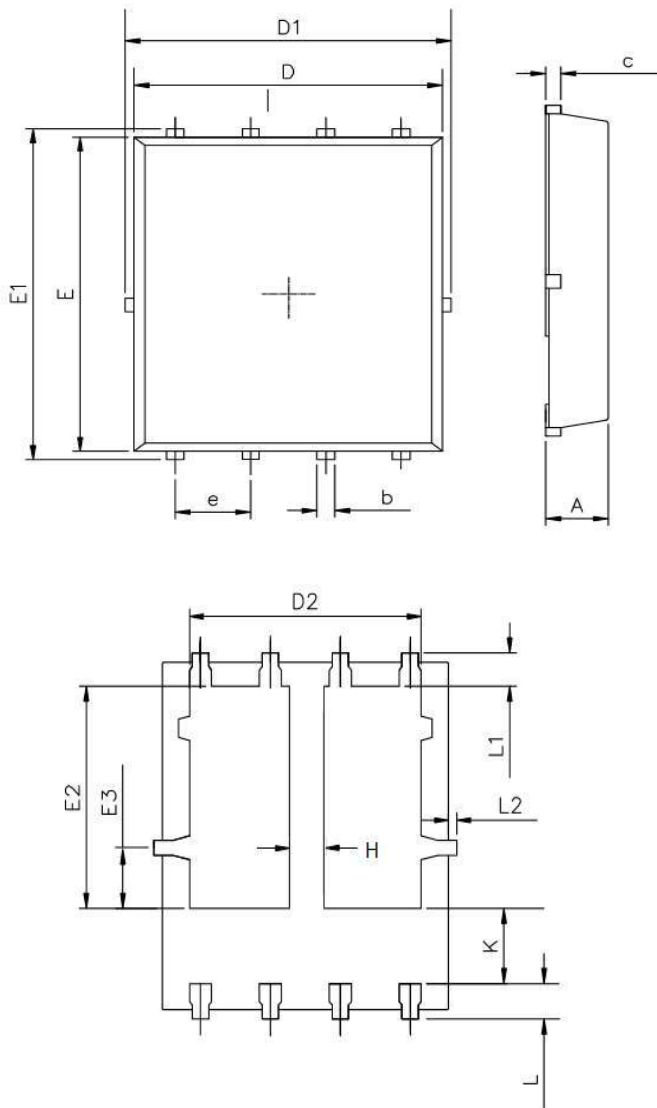


Figure 10: Maximum Continuous Drain Current vs. Ambient Temperature

■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
H	0.5	0.6	0.7