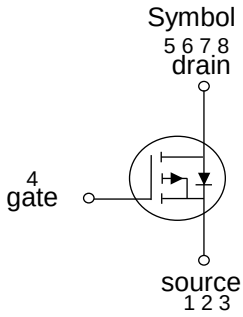
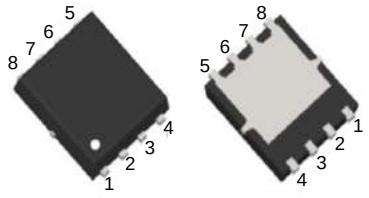
■ PRODUCT CHARACTERISTICS

V_{DSS}	-60V
R_{DS} (on)typ(@V_{GS} =-10 V)	25mΩ
R_{DS} (on)typ(@V_{GS} =-4.5 V)	30mΩ
D	-46A





■FEATURE

High power and current handing capability
Lead free product is acquirde
Surface nount package

■ APPLICATION

Power management
Load switch

■ORDER INFORMATION

Order codes		Package	Packing
Halogen-free	Halogen		
N/A	MOT6727G	PDFN5X6-8L	5000pieces/Reel

■ABSOLUTE MAXIMUMRATINGS (T_C = 25°C, unless otherwise specified)

Parameter	Symbol	Value	Units
Drain-Source Voltage	V_{DS}	-60	V
Gate-Source Voltage	V_{GS}	±20	V
Drain Current-Continuous	I_D	-46	A
Pulsed Drain Curren	I_{DM}	-110	A
Maximum Power Dissipation	P_D	60	W
Operating Junction and Storage Temperature Range	T_J,T_{STG}	-55 To 150	℃

■ Electrical Characteristics (T_C=25℃ unless otherwise specified)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=-250μA	-60	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-60V,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=-15A	-	25	30	mΩ
		V_{GS}=-4.5V, I_D=-15A	-	30	40	mΩ
Forward Transconductance	g_{FS}	V_{DS}=-10V,I_D=-15A	10	-	-	S
Dynamic characteristics						
Input Capacitance	C_{lss}	V_{DS}=-25V,V_{GS}=0V, F=1.0MHz	-	3700	-	PF
Output Capacitance	C_{oss}		-	190	-	PF
Reverse Transfer Capacitance	C_{rss}		-	160	-	PF
Switching characteristics						
Turn-on Delay Time	$t_{d(on)}$	V_{DS}=-20V, V_{GS}=-10V R_L=1.5Ω, R_G=3Ω	-	6.9	-	nS
Turn-on Rise Time	t_r		-	2.3	-	nS
Turn-Off Delay Time	$t_{d(off)}$		-	32	-	nS
Turn-Off Fall Time	t_f		-	5.5	-	nS
Total Gate Charge	Q_g	V_{DS}=-30 V,I_D=-20A, V_{GS}= 0 to -10V	-	12.1	-	nC
Gate-Source Charge	Q_{gs}		-	6.4	-	nC
Gate-Drain Charge	Q_{gd}		-	3.1	-	nC
Drain-source diode characteristics						
Diode Forward Voltage	V_{SD}	V_{GS}=0V,I_S=-1A	-	-	-1	V
Diode Forward Current	I_S		-	-	-46	A

■ TYPICAL CHARACTERISTICS

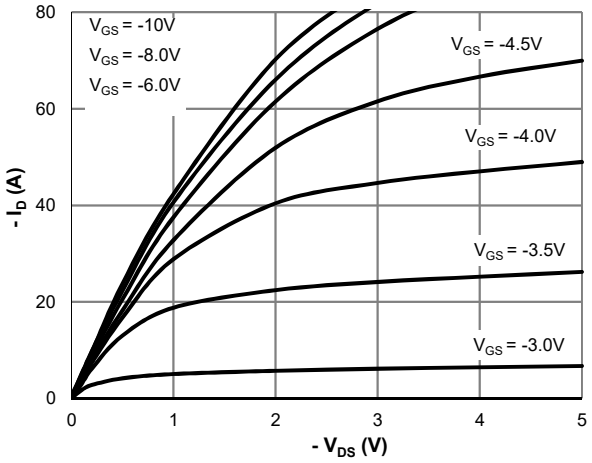


Figure 1: Saturation Characteristics

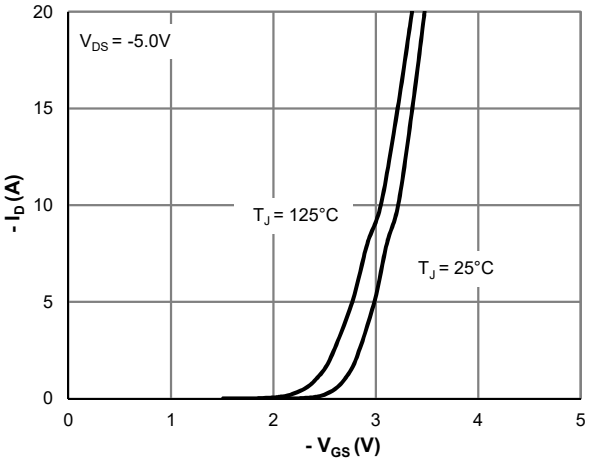


Figure 2: Transfer Characteristics

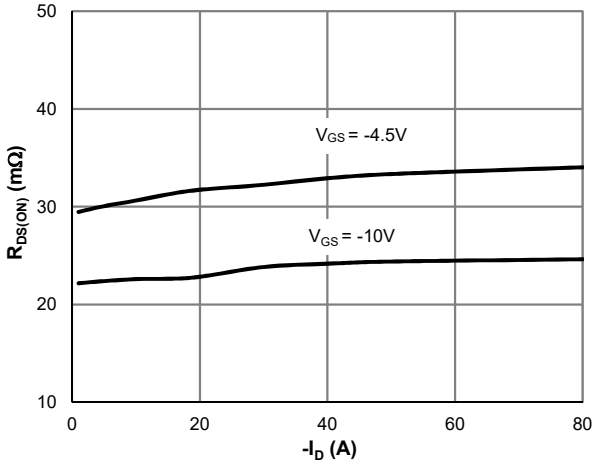


Figure 3: $R_{DS(ON)}$ vs. Drain Current

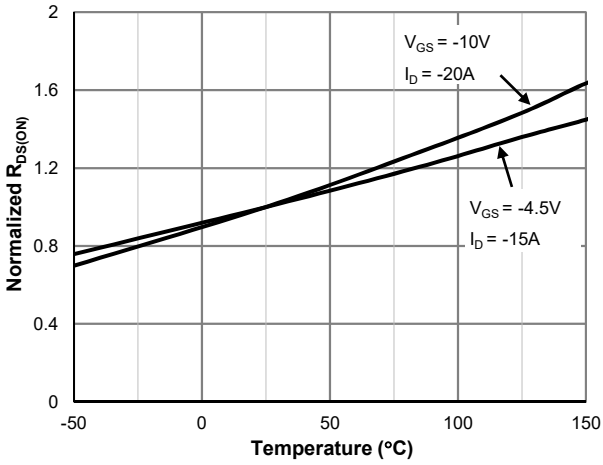


Figure 4: $R_{DS(ON)}$ vs. Junction Temperature

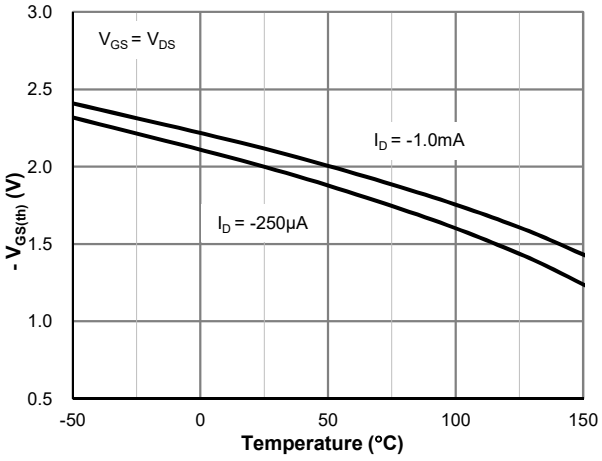


Figure 5: $V_{GS(th)}$ vs. Junction Temperature

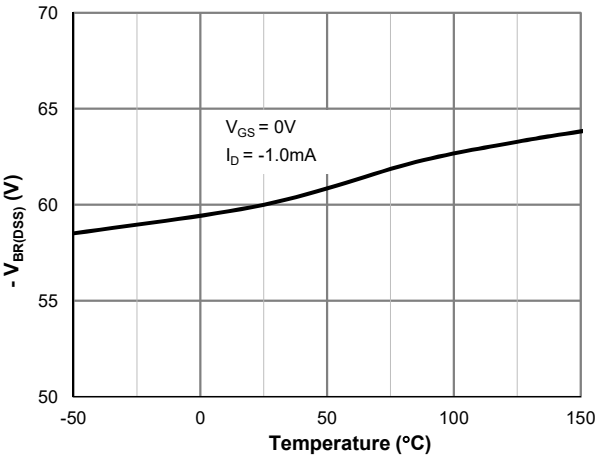


Figure 6: $V_{BR(DSS)}$ vs. Junction Temperature

■ TYPICAL CHARACTERISTICS(Cont.)

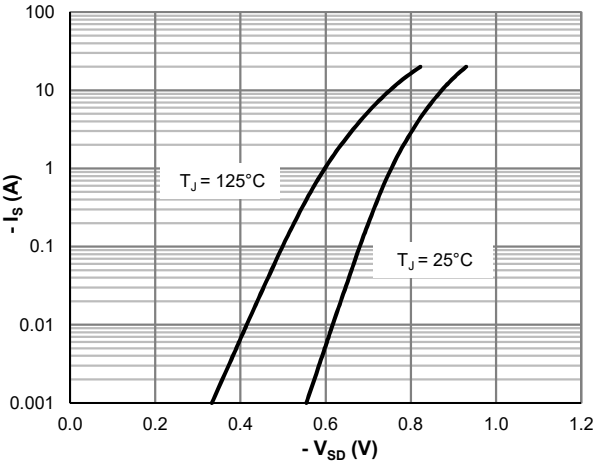


Figure 7: Body-Diode Characteristics

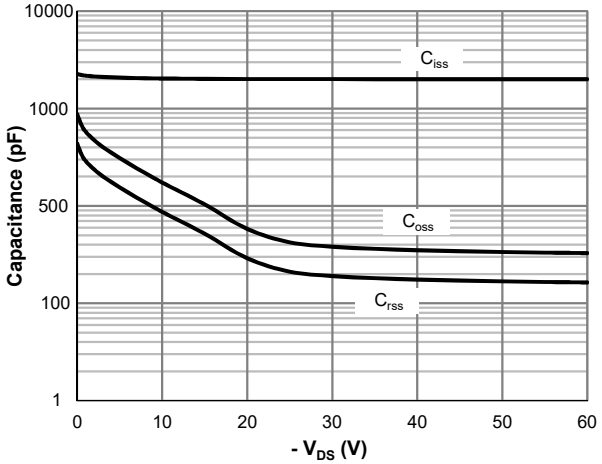


Figure 8: Capacitance Characteristics

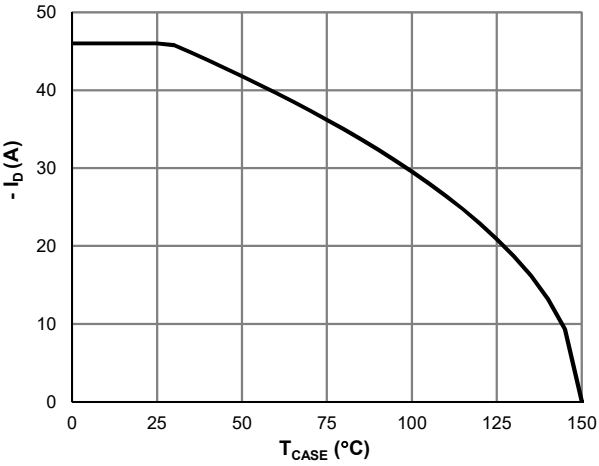


Figure 9: Current De-rating

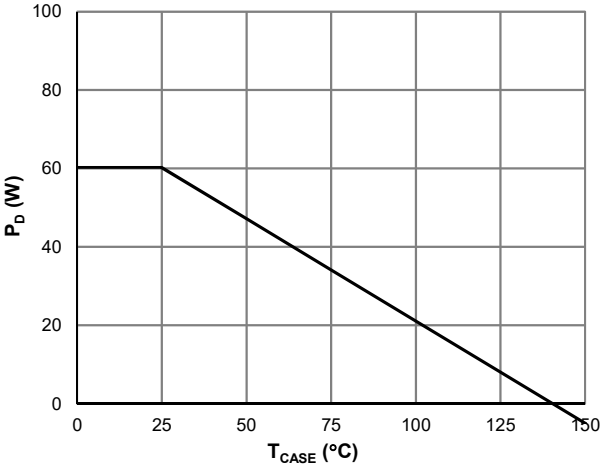


Figure 10: Power De-rating

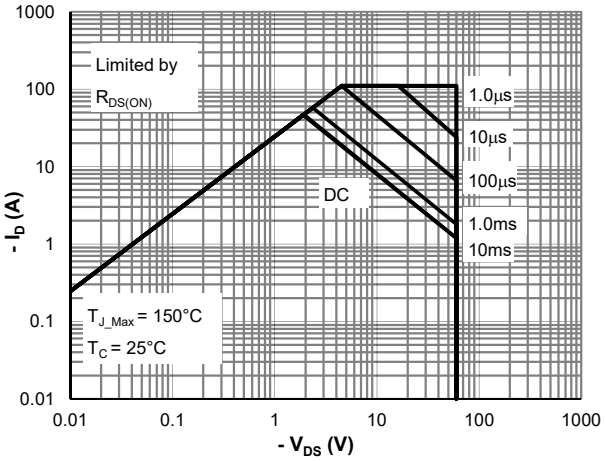
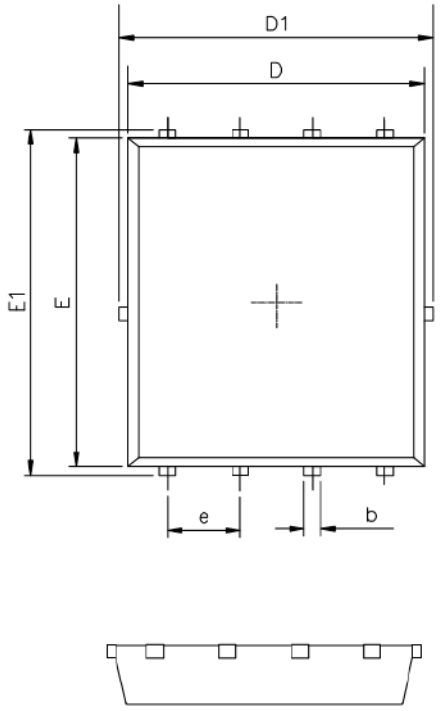
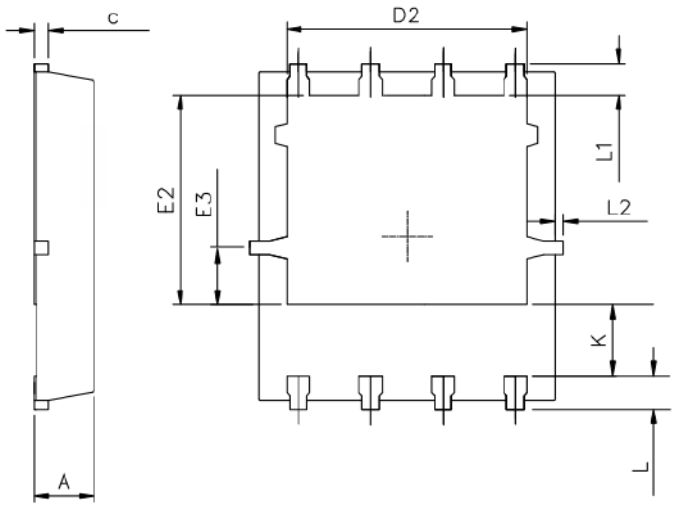


Figure 11: Maximum Safe Operating Area

■ 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