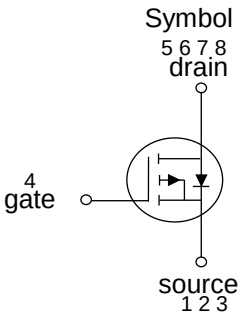
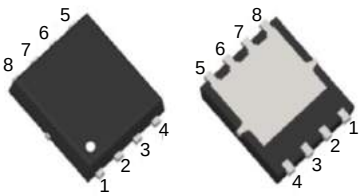
PRODUCT CHARACTERISTICS

V_{DSS}	-30V
$R_{DS(on)}$Typ(@V_{GS}=-4.5V)	14mΩ
$R_{DS(on)}$Typ(@V_{GS}=-10V)	9.5mΩ
I_D	-20A





PDFN5X6-8L

APPLICATIONS

PWM applications
Load switch
Power management

FEATURES

High power and current handing capability
Led free product is acqired
Surface mount package

ORDER INFORMATION

Order codes		Package	Packing
Halogen-free	Halogen		
N/A	MOT3712G	PDFN5X6-8L	5000pieces/Reel

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

Parameter	Symbol	Value	Unit
Drain-source voltage	V_{DSS}	-30	V
Gate-source voltage	V_{GSS}	±20	V
Drain current	I_D	-20	A
Pulsed drain currentcurrent	I_{DM}	-80	A
Power dissipation	P_D	35	W
Junction temperature	T_J	+150	℃
Storage temperature	T_{STG}	-55~+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_{DS}=-250uA	-30	-	-	V
Drain-source leakage current	I_{DSS}	V_{DS}=-20V,V_{GS}=0V	-	-	-1	εA
Gate-source 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_{DS}=-250uA	-1.2	-	-2.5	V
On-state characteristics	$R_{DS(ON)}$	V_{GS}=-4.5V,I_D=-15A	-	14	18	mΩ
		V_{GS}=-10V,I_D=-15A	-	9.5	12	mΩ
Forward transconductance	g_{FS}	V_{DS}=-5V,I_D=-15A	10	-	-	S
Dynamic characteristics						
Input capacitance	C_{iss}	V_{GS}=0V,V_{DS}=-25V f=1MHz	-	2130	-	pF
Out capacitance	C_{oss}		-	302	-	pF
Reverse transfer capacitance	C_{rss}		-	227	-	pF
Switching characteristics						
Total gate charge	Q_g	V_{GS}=-10V,V_{DS}=-15V I_D=-20A	-	10	-	nC
Gate-source charge	Q_{gs}		-	2	-	nC
Gate-drain charge	Q_{gd}		-	2.7	-	nC
Turn-on delay time	$t_{d(on)}$	V_{DD}=-15V,I_D=-15A R_G=1q ŕV_{GS}=-10V	-	12	-	nS
Turn-on rise time	t_r		-	10	-	nS
Turn-off delay time	$t_{d(off)}$		-	25	-	nS
Turn-off fall time	t_f		-	13	-	nS
Source-drain diode ratings and characteristics						
Continuous diode forward current	I_{SD}		-	-	-20	A
Diode forward current	V_{SD}	V_{GS}=0V,I_{SD}=-20A	-	-	-1.2	V

■ TYPICAL CHARACTERISTICS

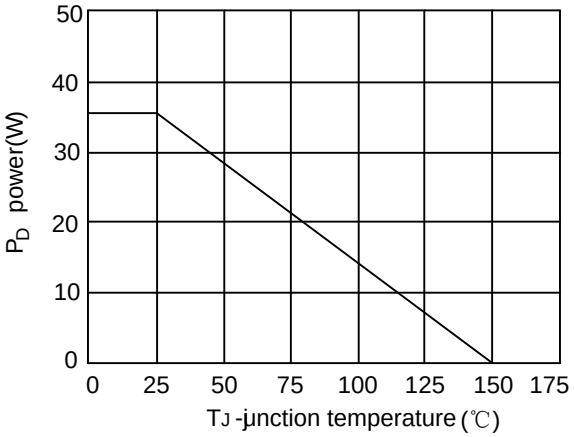


Fig.1 power dissipation

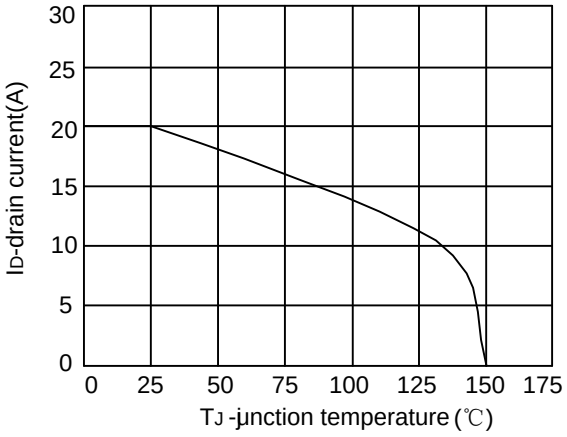


Fig.2 current vs junction temperature

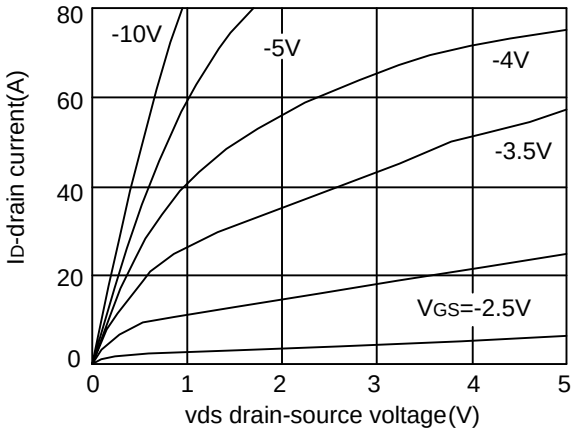


Fig.3 output characteristics

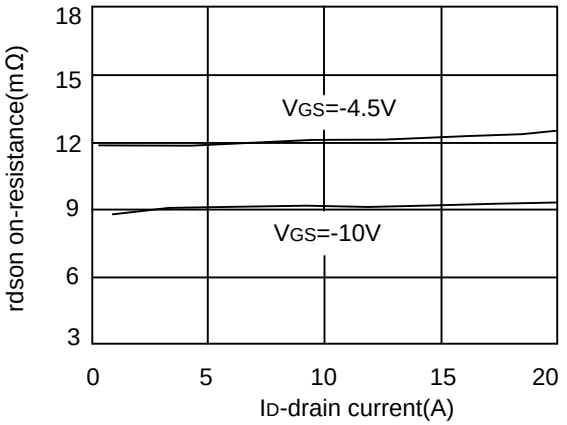


Fig.4 drain-source on-resistance

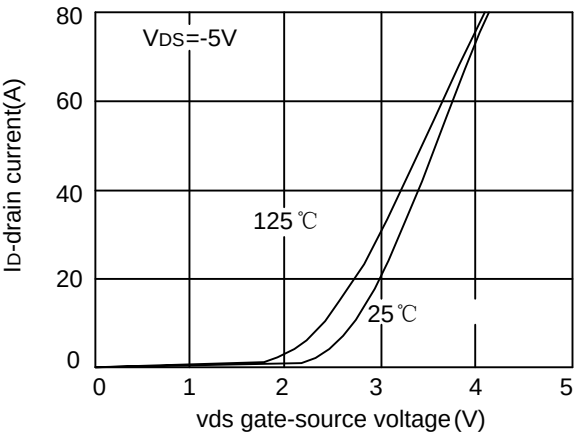


Fig.5 transfer characteristics

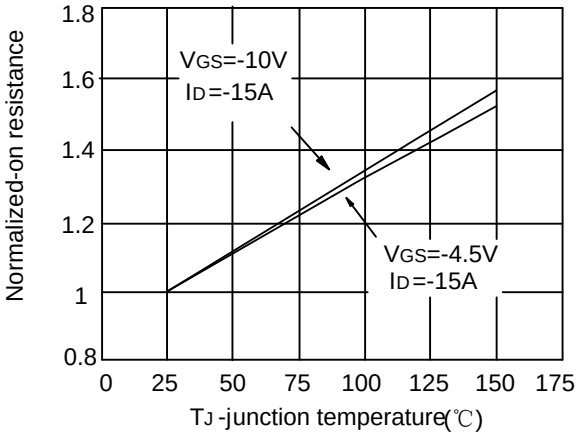


Fig.6 drain-source on-resistance

■TYPICAL CHARACTERISTICS(Cont.)

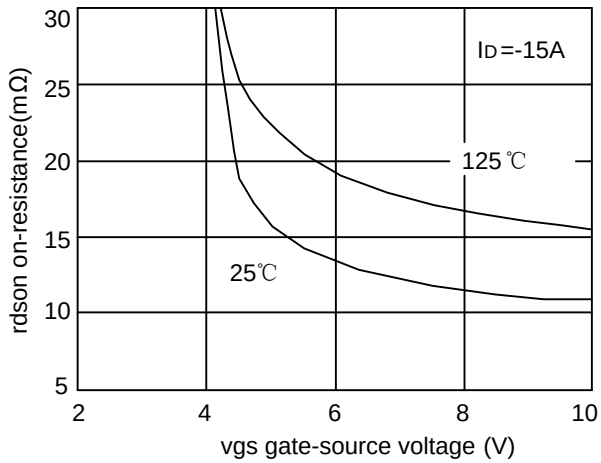


Fig.7 rdson vs vgs

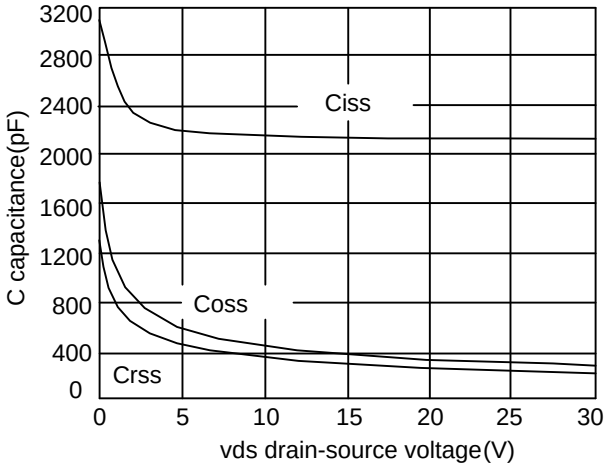


Fig.8 capacitance vs vds

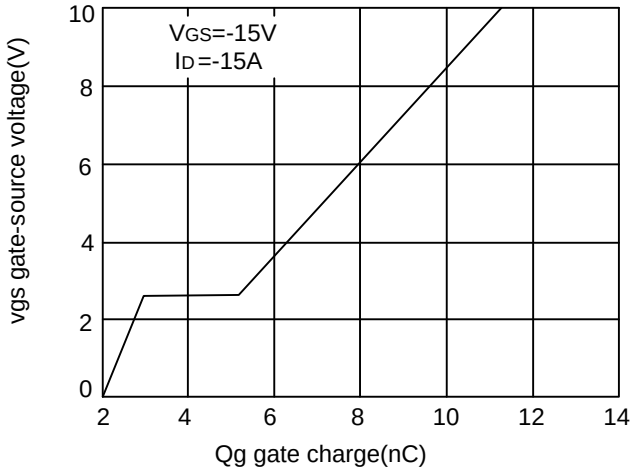


Fig.9 gate chaerge

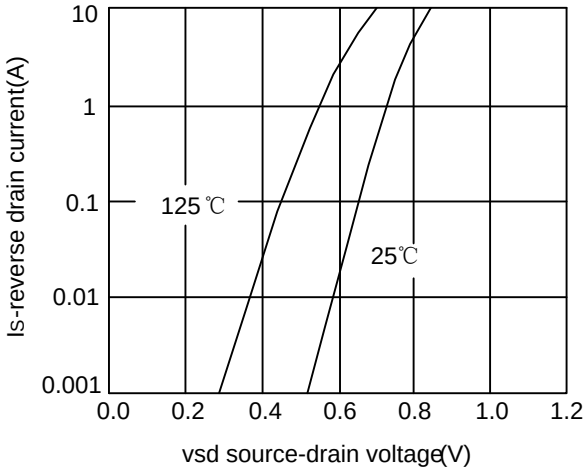


Fig.10 source-drain diode forward

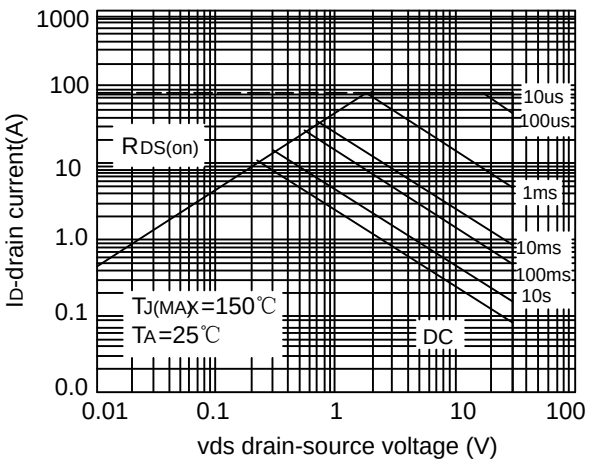


Fig.11 safe operation area

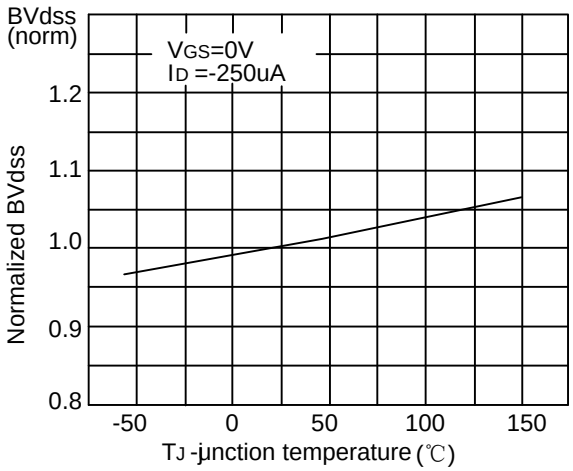
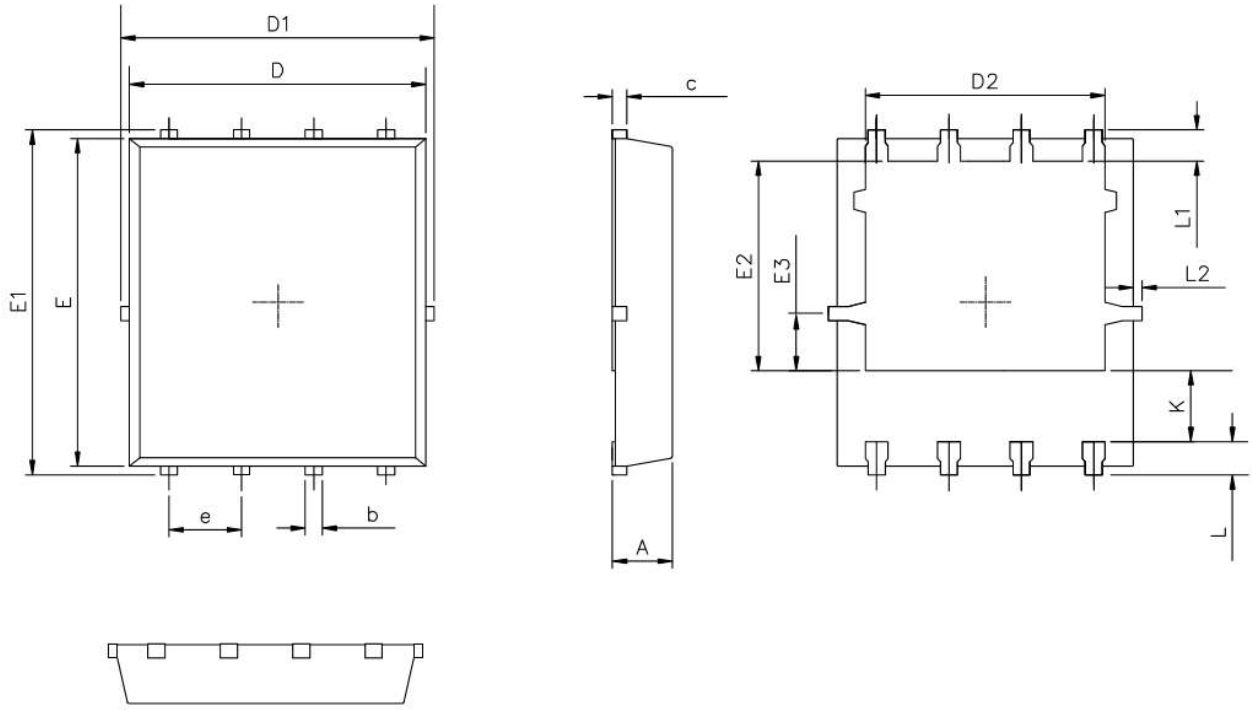


Fig.12 BVdss vs junction temperature

■ 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

RECOMMENDED LAND PATTERN