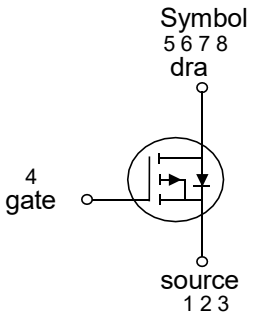
■ PRODUCT CHARACTERISTICS

V_{DSS}	-40V
$R_{DS(on)}$ Typ(@V_{GS}=-10V)	20mΩ
$R_{DS(on)}$ Typ(@V_{GS}=-4.5V)	29mΩ
I_D	-15A

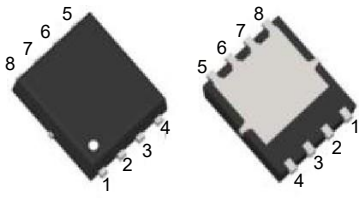


■ APPLICATIONS

PWM applications
Load switch
Power management

■ FEATURES

High power and current handing capability
Lead free product is required
Surface mount package



PDFN3X3

■ ORDER INFORMATION

Order codes		Package	Packing
Halogen-free	Halogen		
N/A	MOT4733J	PDFN3X3	5000pieces/Reel

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

Parameter	Symbol	Value	Unit
Drain-source voltage	V_{DSS}	-40	V
Gate-source voltage	V_{GSS}	±20	V
Drain current(@V_{GS}=-10V, T_A=25℃)	I_D	-15	A
Pulsed drain currentcurrent	I_{DM}	-60	A
Power dissipation	P_D	25	W
Junction temperature	T_J	+150	°C
Storage temperature	T_{STG}	-55~+150	°C

■ THERMAL CHARACTERISTICS

Parameter	Symbol	Typ	Unit
Junction to Case	R_{thJC}	5	°C/W

Note: * EAS condition: T_J=25°C ,V_{DD}=20V,V_G=10V ,L=0.5mH,R_g =25Ω

■ 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_{DS}=-250uA	-40	-	-	V
Drain-source leakage current	I_{DSS}	V_{DS}=-40V,V_{GS}=0V	-	-	-1	μA
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	-1.6	-2.5	V
On-state characteristics	$R_{DS(ON)}$	V_{GS}=-4.5V,I_D=-10A	-	29	35	mΩ
		V_{GS}=-10V,I_D=-10A	-	20	25	mΩ
Forward transconductance	g_{FS}	V_{DS}=10V,I_D=-3A	-	8	-	S
Dynamic characteristics						
Input capacitance	C_{iss}	V_{GS}=0V,V_{DS}=-20V f=1MHz	-	928	-	pF
Out capacitance	C_{oss}		-	133	-	pF
Reverse transfer capacitance	C_{rss}		-	89	-	pF
Switching characteristics						
Total gate charge	Q_g	V_{GS}=-10V,V_{DS}=-20V I_D=-15A	-	23	-	nC
Gate-source charge	Q_{gs}		-	2.2	-	nC
Gate-drain charge	Q_{gd}		-	6.5	-	nC
Turn-on delay time	$t_{d(on)}$	V_{DS}=-20V,ID=-15A R_G=3Ω,V_{GS}=-10V	-	11	-	nS
Turn-on rise time	t_r		-	11	-	nS
Turn-off delay time	$t_{d(off)}$		-	35	-	nS
Turn-off fall time	t_f		-	15	-	nS
Source-drain diode ratings and characteristics						
Continuous diode forward current	I_{SD}		-	-	-15	A
Diode forward current	V_{SD}	V_{GS}=0V,I_{SD}=-1A	-	-0.79	-1.2	V

■ TYPICAL CHARACTERISTICS

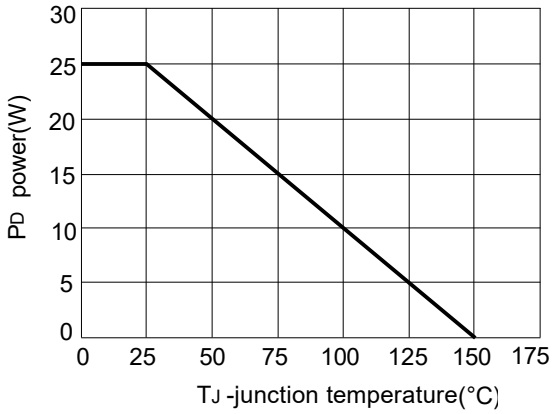


Fig.1 power dissipation

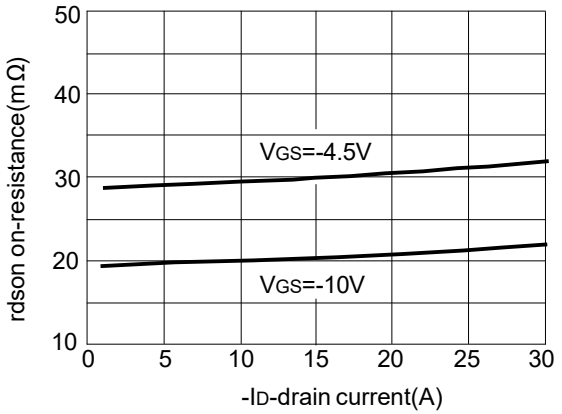


Fig.2 drain-source on-resistance

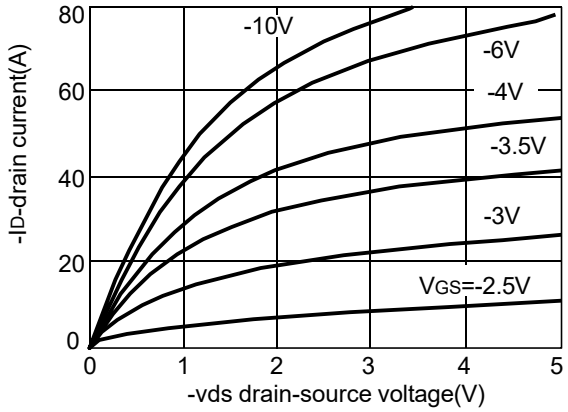


Fig.3 output characteristics

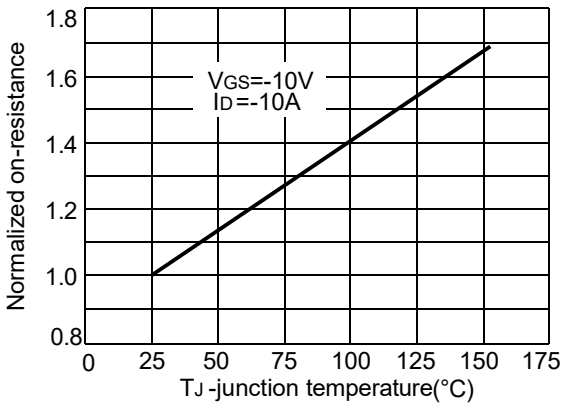


Fig.4 drain-source on-resistance

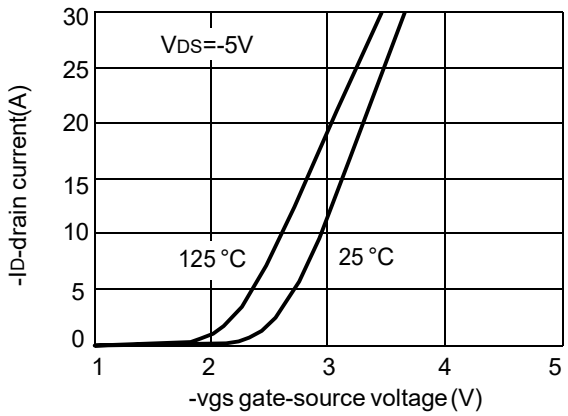


Fig.5 tra- nsfer characteristics

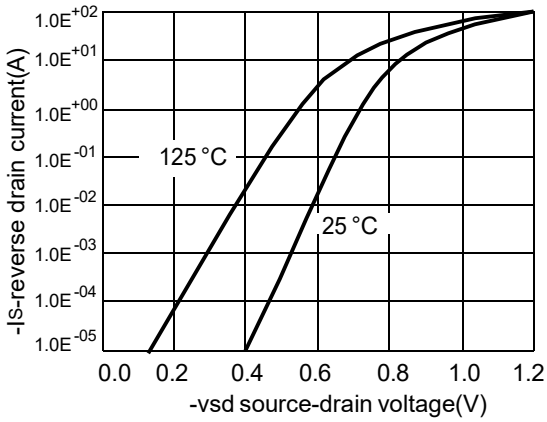


Fig.6 source-drain diode forward

■ TYPICAL CHARACTERISTICS(Cont.)

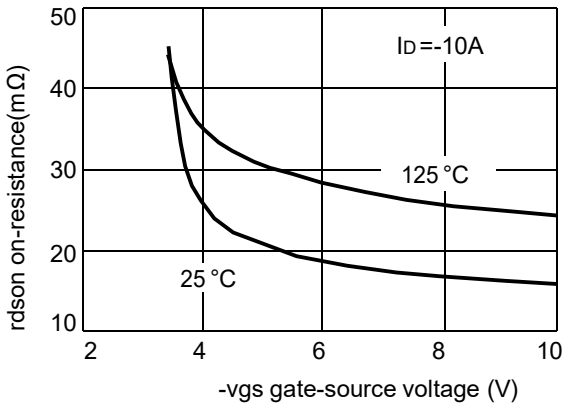


Fig.7 rdson vs vgs

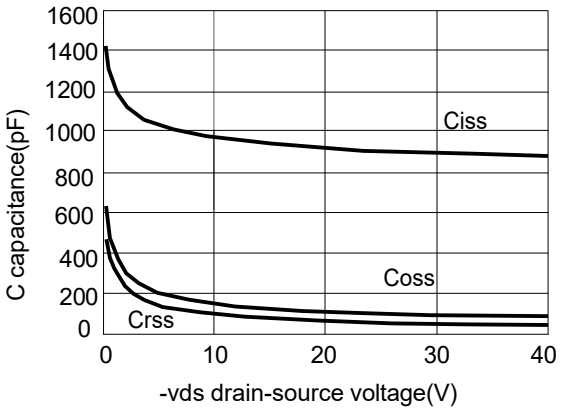


Fig.8 capacitance vs vds

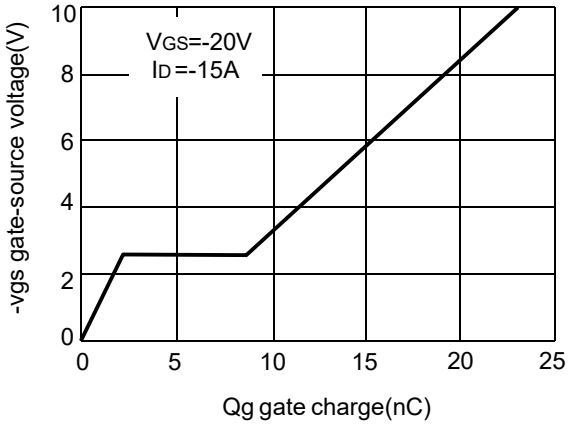


Fig.9 gate chaerge

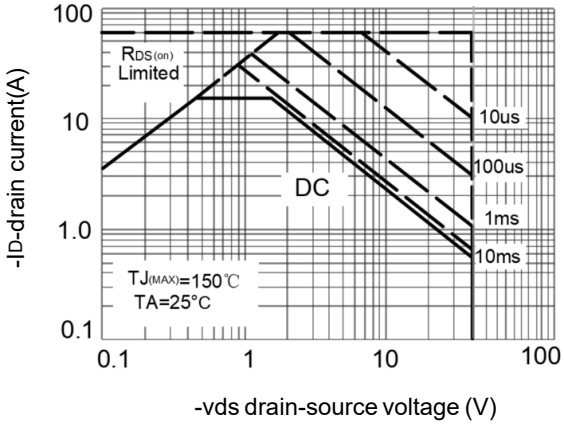
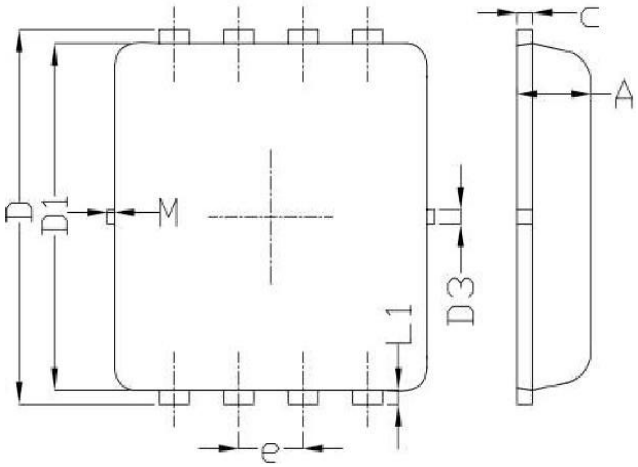
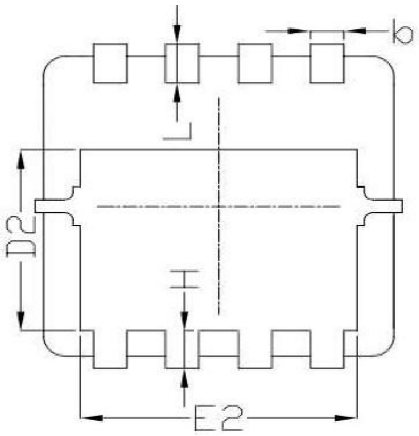
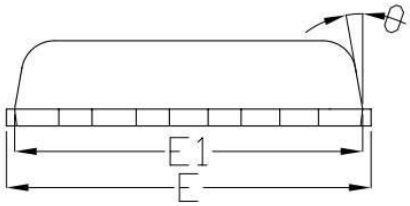


Fig.10 safe operation area

■ PDFN3X3 PACKAGE MECHANICAL DATA







SYMBOL	DIMENSIONAL REQMTS		
	MIN	NOM	MAX
A	0.70	0.75	0.80
b	0.25	0.30	0.35
c	0.10	0.15	0.25
D	3.25	3.35	3.45
D1	3.00	3.10	3.20
D2	1.78	1.88	1.98
D3	---	0.13	---
E	3.20	3.30	3.40
E1	3.00	3.15	3.20
E2	2.39	2.49	2.59
e	0.65BSC		
H	0.30	0.39	0.50
L	0.30	0.40	0.50
L1	---	0.13	---
θ	---	10°	12°
M	*	*	0.15
* Not specified			

Land Pattern
(Only for Reference)