

■ PRODUCT CHARACTERISTICS

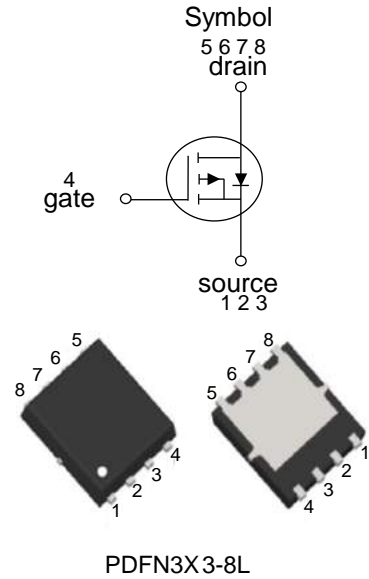
V _{DSS}	-20V
R _{DS(on)} Typ(@V _{GS} =-2.5V)	16.5mΩ
R _{DS(on)} Typ(@V _{GS} =-4.5V)	13mΩ
I _D	-10A

■ APPLICATIONS

- PWM applications
- Load switch
- Power management

■ FEATURES

- High power and current handling capability
- Led free product is acquired
- Surface mount package



■ ORDER INFORMATION

Order codes		Package	Packing
Halogen-free	Halogen		
N/A	MOT2718J	PDFN3X3-8L	5000pieces/Reel

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

Parameter	Symbol	Value	Unit
Drain-source voltage	V _{DSS}	-20	V
Gate-source voltage	V _{GSS}	±12	V
Continuous drain current	I _D	-10	A
Continuous drain current(T _C =100 °C)	I _D	-6.5	A
Pulsed drain current	I _{DM}	-40	A
Single pulsed avalanche energy	E _{AS}	25	mJ
Power dissipation	P _D	13	W
Thermal resistance ,junction to case	R _{θJC}	9.3	°C/W
Junction temperature	T _J	+150	°C
Storage temperature	T _{STG}	-55~ +150	°C

■ ELECTRICAL CHARACTERISTICS ($T_C=25^{\circ}\text{C}$, unless otherwise specified)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	BV_{DSS}	$V_{GS}=0V, I_{DS}=-250\mu A$	-20	-	-	V
Drain-source leakage current	I_{DSS}	$V_{DS}=-20V, V_{GS}=0V$	-	-	-1	μE
Gate-source leakage current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	-	-	100	n μE
On characteristics						
Gate threshold voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_{DS}=-250\mu A$	-0.4	-	-1	V
On-state characteristics	$R_{DS(ON)}$	$V_{GS}=-2.5V, I_D=-4A$	-	16.5	23	m Ω
		$V_{GS}=-4.5V, I_D=-7A$	-	13	18	m Ω
Forward transconductance	g_{FS}	$V_{DS}=-10V, I_D=-3A$	5	-	-	S
Dynamic characteristics						
Input capacitance	C_{iss}	$V_{GS}=0V, V_{DS}=-10V$ $f=1\text{MHz}$	-	1200	-	pF
Out capacitance	C_{oss}		-	191	-	pF
Reverse transfer capacitance	C_{rss}		-	168	-	pF
Switching characteristics						
Total gate charge	Q_g	$V_{GS}=-4.5V, V_{DS}=-10V$ $I_D=-5A$	-	14	-	nC
Gate-source charge	Q_{gs}		-	2.5	-	nC
Gate-drain charge	Q_{gd}		-	3	-	nC
Turn-on delay time	$t_{d(on)}$	$V_{DD}=-10V, I_D=-5A$ $R_G=10 \quad V_{GS}=-4.5V$	-	13	-	nS
Turn-on rise time	t_r		-	52	-	nS
Turn-off delay time	$t_{d(off)}$		-	103	-	nS
Turn-off fall time	t_f		-	81	-	nS
Source-drain diode ratings and characteristics						
Continuous diode forward current	I_{SD}		-	-	-10	A
Diode forward current	V_{SD}	$V_{GS}=0V, I_{SD}=-10A$	-	-	-1.2	V

■ TYPICAL CHARACTERISTICS

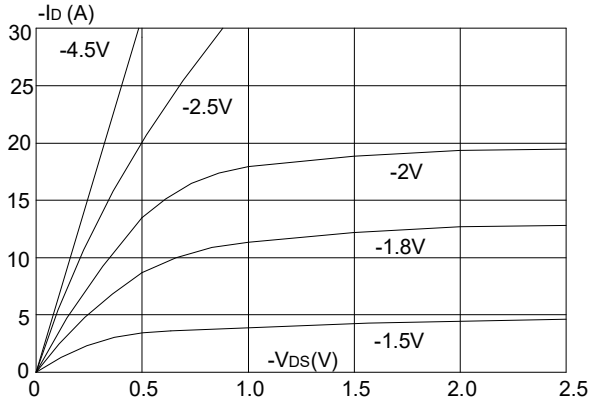


Figure 1: Output Characteristics

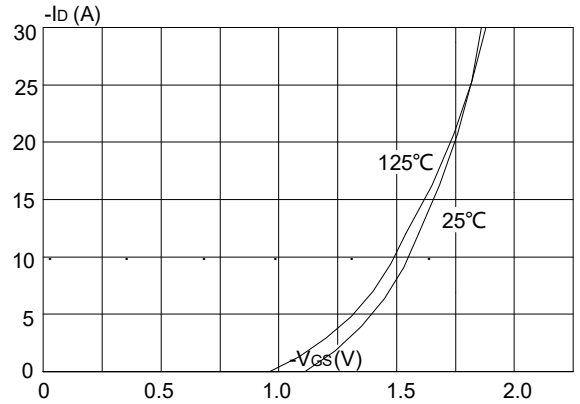


Figure 2: Typical Transfer Characteristics

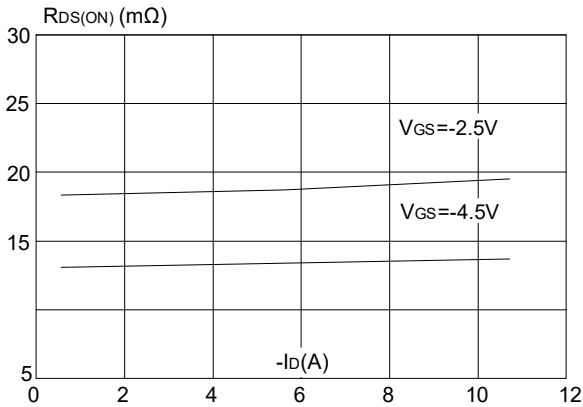


Figure 3: On-resistance vs. Drain Current

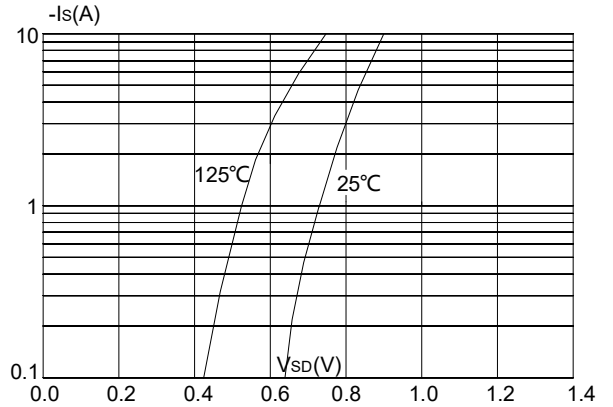


Figure 4: Body Diode Characteristics

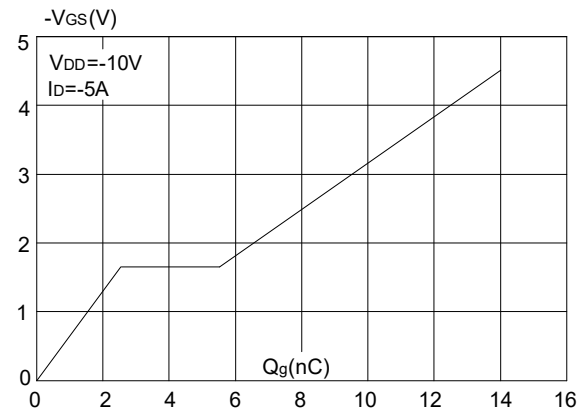


Figure 5: Gate Charge Characteristics

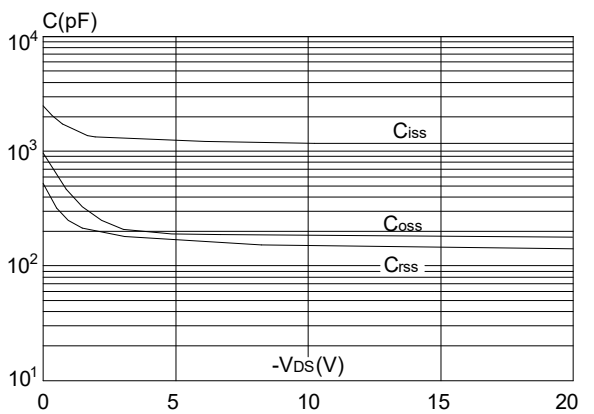


Figure 6: Capacitance Characteristics

■ TYPICAL CHARACTERISTICS(Cont.)

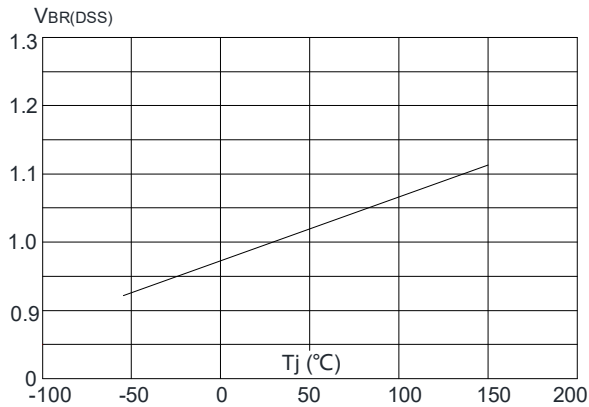


Figure 7: Normalized Breakdown Voltage vs. Junction Temperature

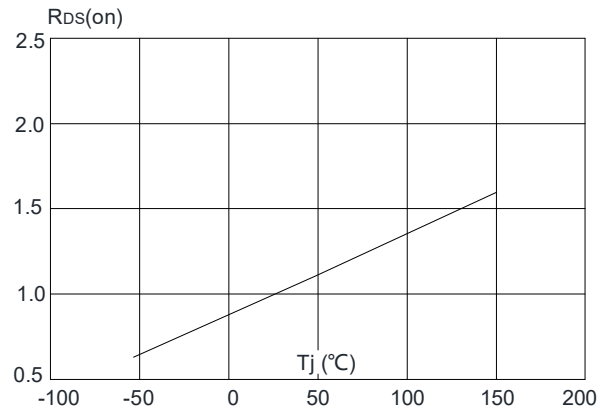


Figure 8: Normalized on Resistance vs. Junction Temperature

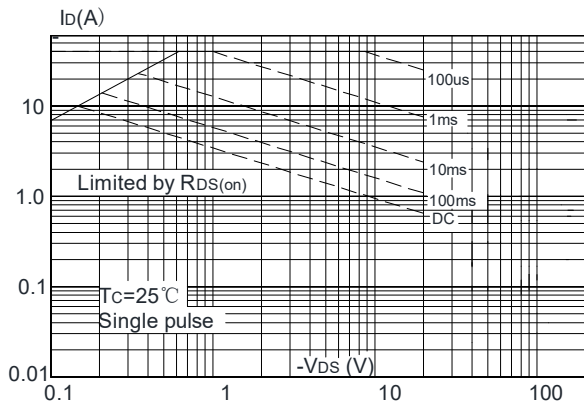


Figure 9: Maximum Safe Operating Area

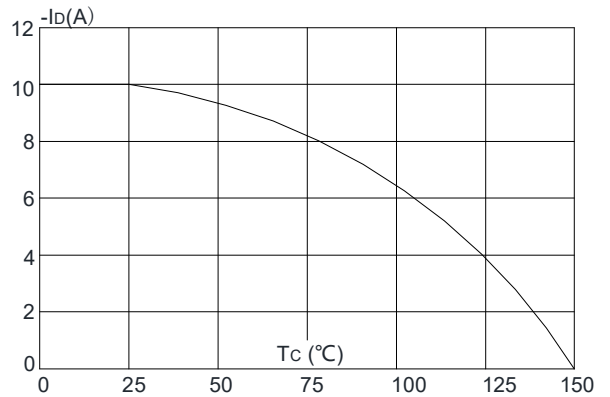


Figure 10: Maximum Continuous Drain Current vs. Case Temperature

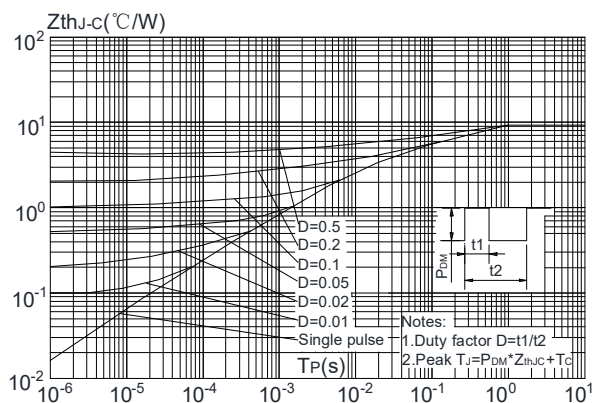
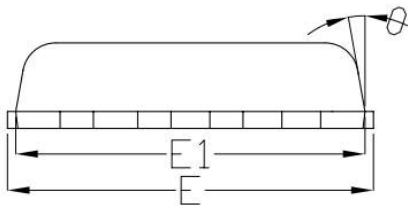
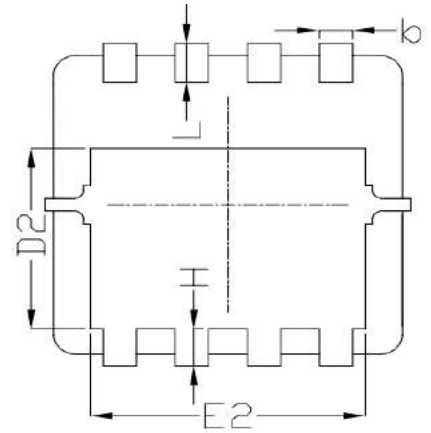
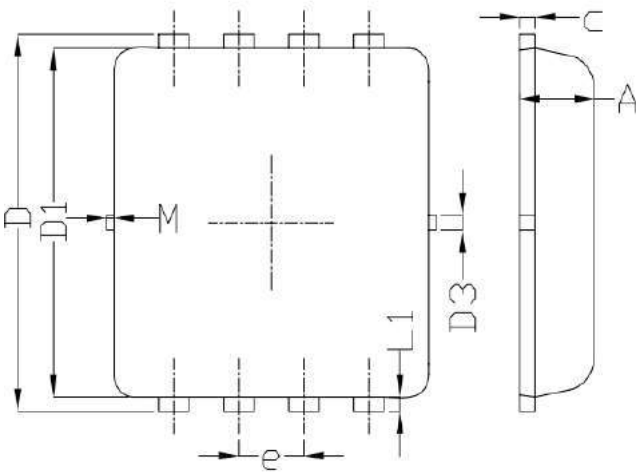
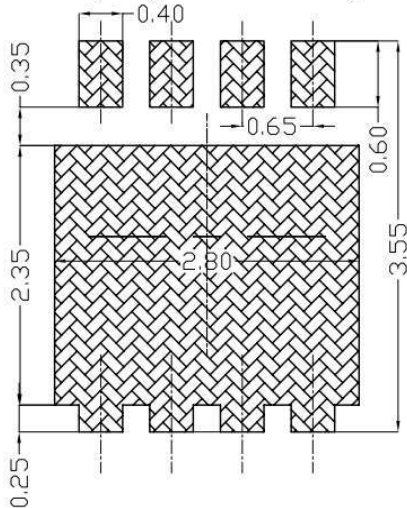


Figure 11: Maximum Effective Transient Thermal Impedance, Junction-to-Case

■ PDFN3X3-8L PACKAGE MECHANICAL DATA



Land Pattern
(Only for Reference)



SYMBOL	DIMENSIONAL REQOMTS		
	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			