

■ PRODUCT CHARACTERISTICS

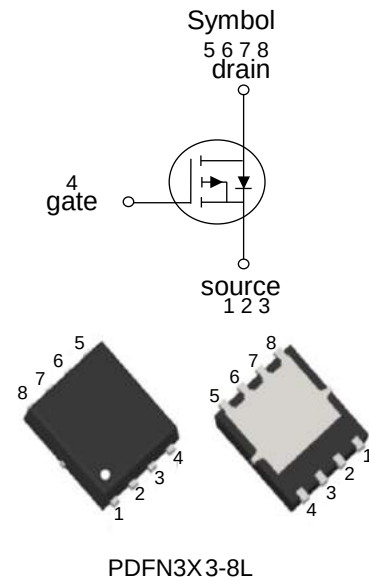
V_{DS}	-30V
$R_{DS(on)typ}@V_{GS}=-10V$	7m Ω
$R_{DS(on)typ}@V_{GS}=-4.5V$	11m Ω
I_D	-25A

■ FEATRES

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

■ APPLICATIONS

- Power management
- Load switch



■ ORDER INFORMATION

Order codes		Package	Packing
Halogen-free	Halogen		
N/A	MOT3710J	PDFN3X3-8L	5000pieces/Reel

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

Parameter	Symbol	Value	units
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current-Continuous	I_D	-25	A
Pulsed Drain Curren	I_{DM}	-100	A
Maximum Power Dissipation	P_D	3.5	W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 To 150	$^{\circ}\text{C}$

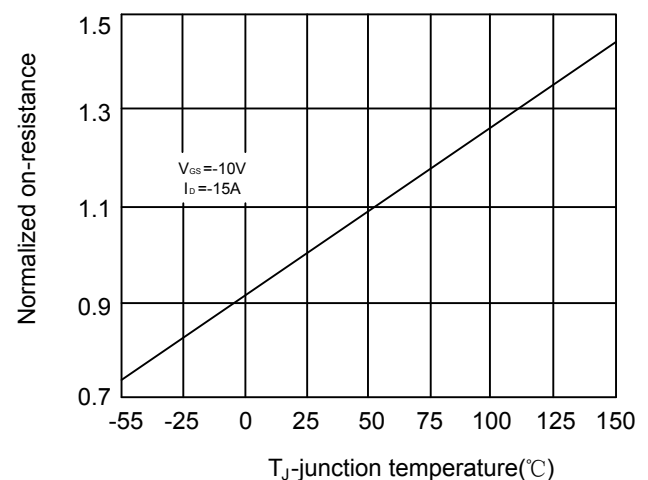
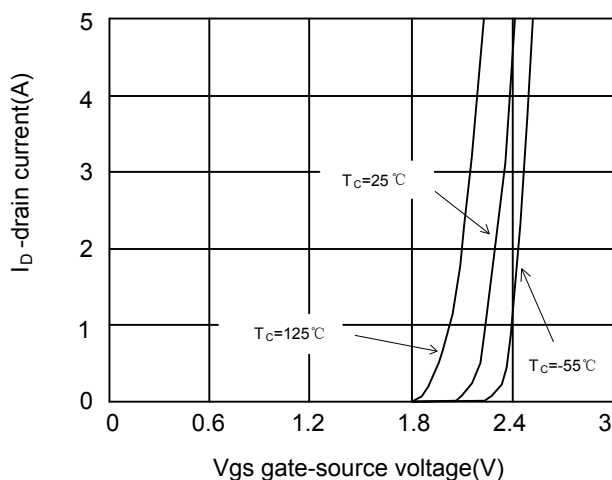
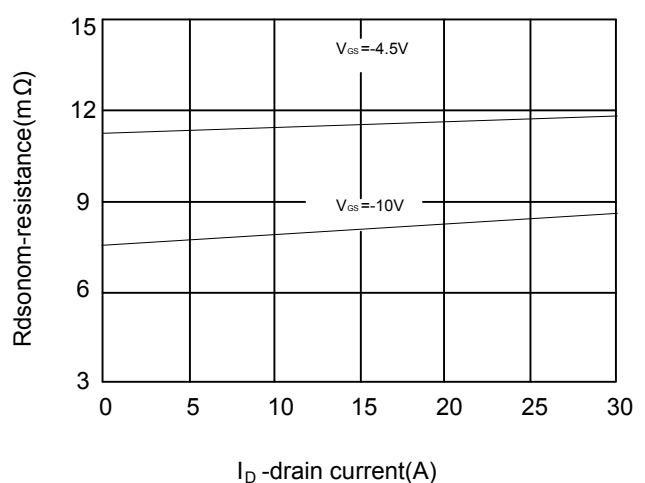
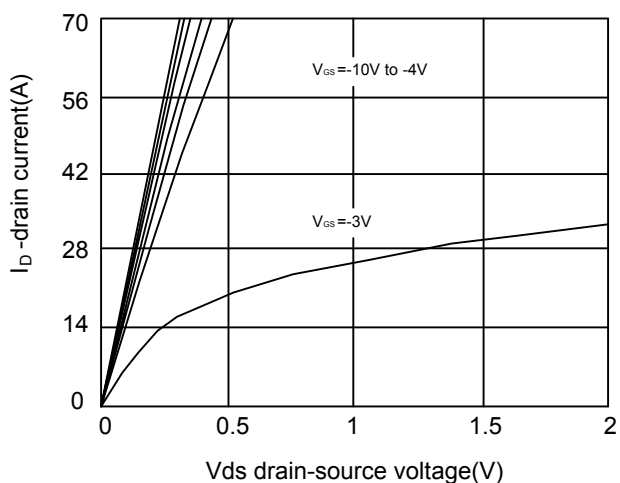
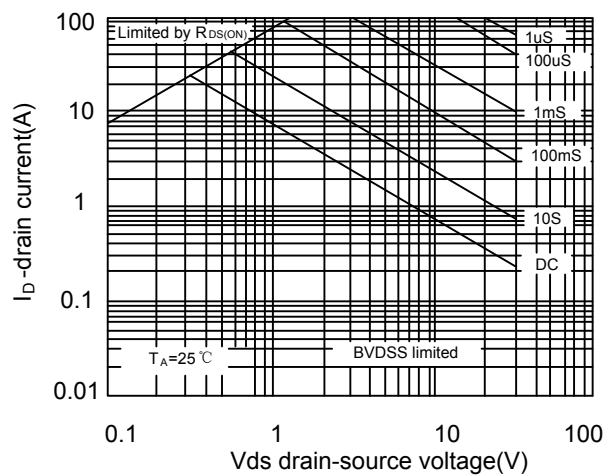
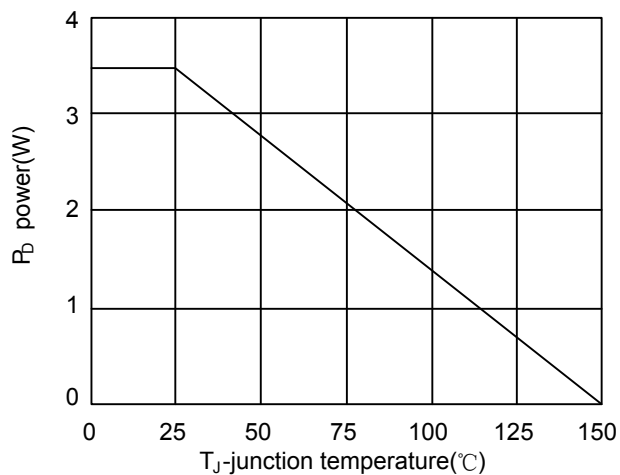
■ THERMAL CHARACTERISTICS

Parameter	Symbol	Value	units
Thermal Resistance,Junction-to-Ambient	$R_{\theta JA}$	36	$^{\circ}\text{C/W}$

■ 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}	$V_{GS}=0V, I_D=-250\mu A$	-30	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-30V, V_{GS}=0V$	-	-	-1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	-	-	± 100	nA
On characteristics						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1.2	-	-2.5	V
Drain-Source On-State Resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-15A$	-	7.5	10	m Ω
		$V_{GS}=-4.5V, I_D=-15A$	-	11	14	m Ω
Forward Transconductance	g_{FS}	$V_{DS}=-10V, I_D=-15A$	20	-	-	S
Dynamic characteristics						
Input Capacitance	C_{iss}	$V_{DS}=-15V, V_{GS}=0V,$ $F=1.0MHz$	-	3000	-	PF
Output Capacitance	C_{oss}		-	287	-	PF
Reverse Transfer Capacitance	C_{rss}		-	256	-	PF
Switching characteristics						
Turn-on Delay Time	$t_{d(on)}$	$V_{DD}=-15V, I_D=-15A$ $V_{GS}=-10V, R_G=3\Omega$	-	50	-	nS
Turn-on Rise Time	t_r		-	60	-	nS
Turn-Off Delay Time	$t_{d(off)}$		-	60	-	nS
Turn-Off Fall Time	t_f		-	21	-	nS
Total Gate Charge	Q_g	$V_{DS}=-15V, I_D=-15A,$ $V_{GS}=-10V$	-	45.6	-	nC
Gate-Source Charge	Q_{gs}		-	4.6	-	nC
Gate-Drain Charge	Q_{gd}		-	11	-	nC
Drain-source diode characteristics						
Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_S=-20A$	-	-	-1.2	V
Diode Forward Current	I_S		-	-	-25	A

■ TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS(Cont.)

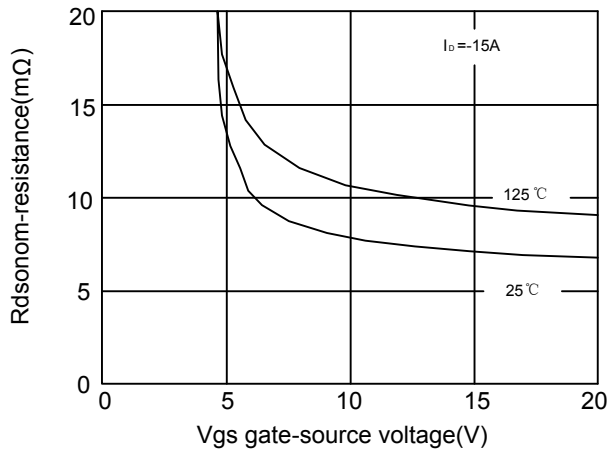


Figure 7 Rdson vs vgs

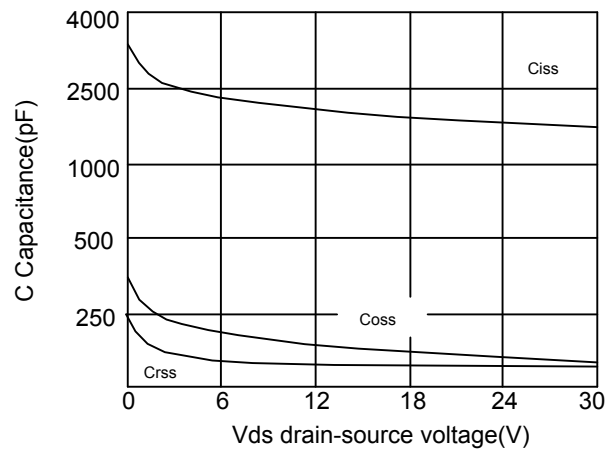


Figure 8 Capacitance vs vds

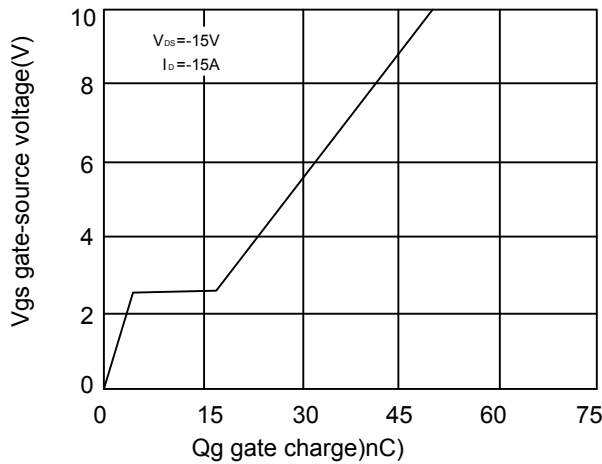


Figure 9 Gate charge

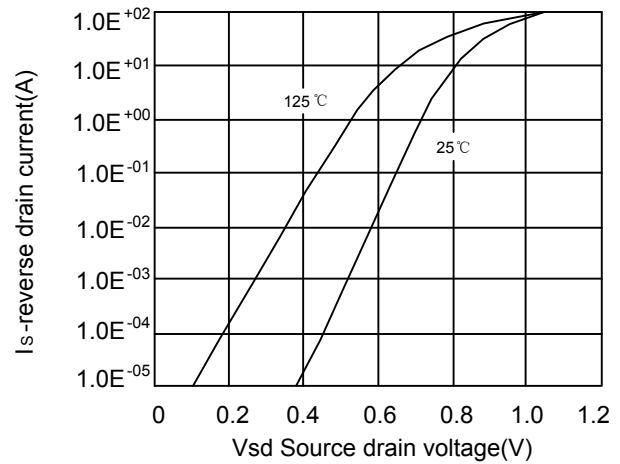


Figure 10 Source-drain diode forward

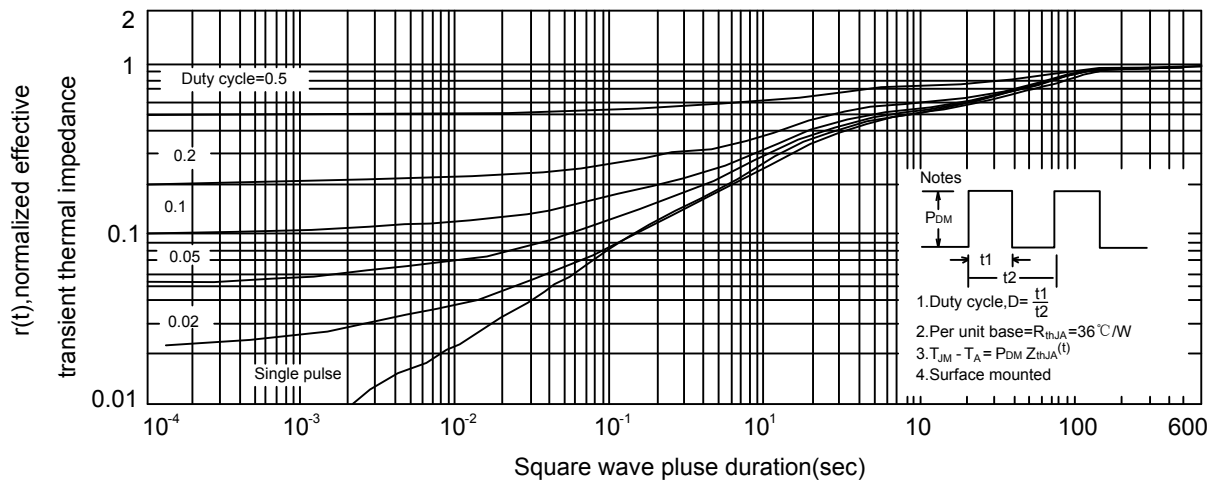
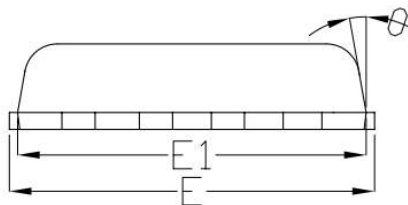
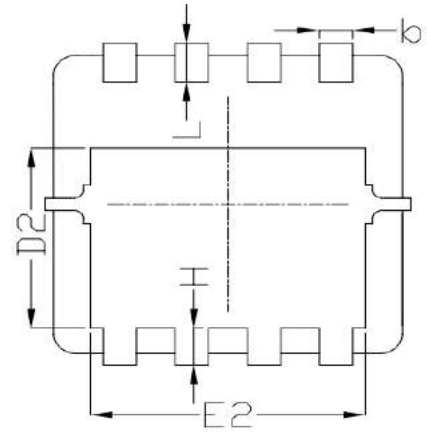
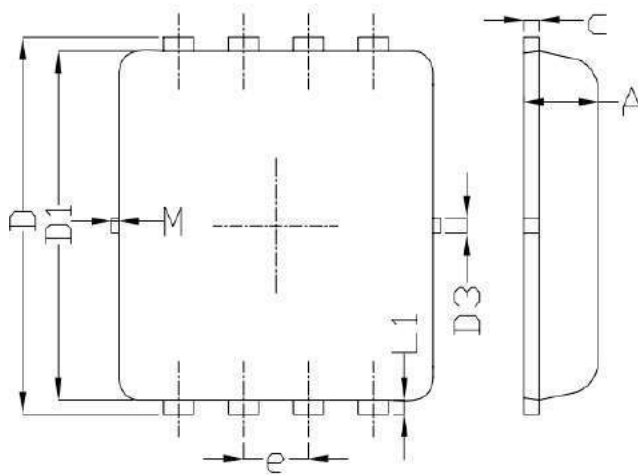
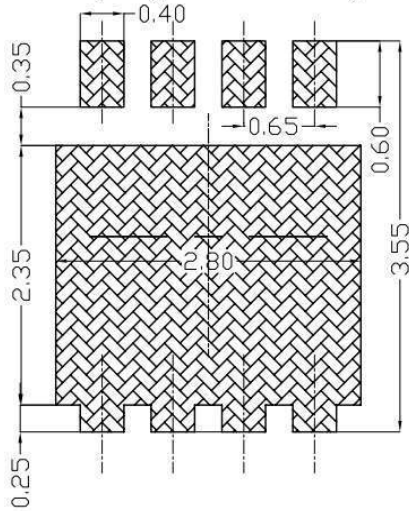


Figure 11 Normalized maximum transient thermal impedance

■ PDFN3X3-8L PACKAGE MECHANICAL DATA



Land Pattern
(Only for Reference)



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			