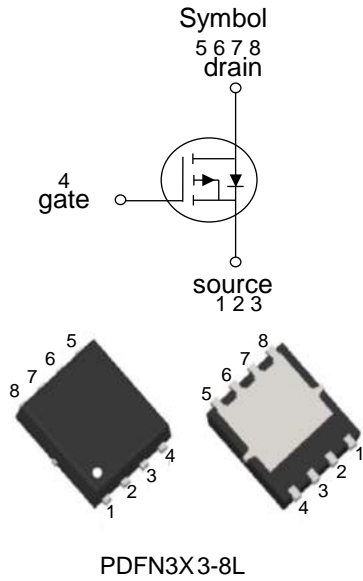


■ PRODUCT CHARACTERISTICS

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



■ FEATRES

- High power and current handing 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 ( $T_C = 25^{\circ}C$ , unless otherwise specified)

| Parameter  | Symbol         | Value      | units       |
|--|----------------|------------|-------------|
| Drain-Source Voltage                             | $V_{DS}$       | -30        | V           |
| Gate-Source Voltage                              | $V_{GS}$       | $\pm 20$   | 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 | $^{\circ}C$ |

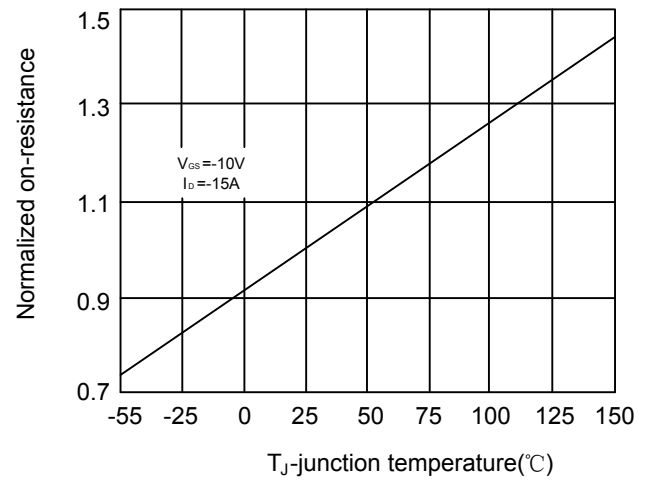
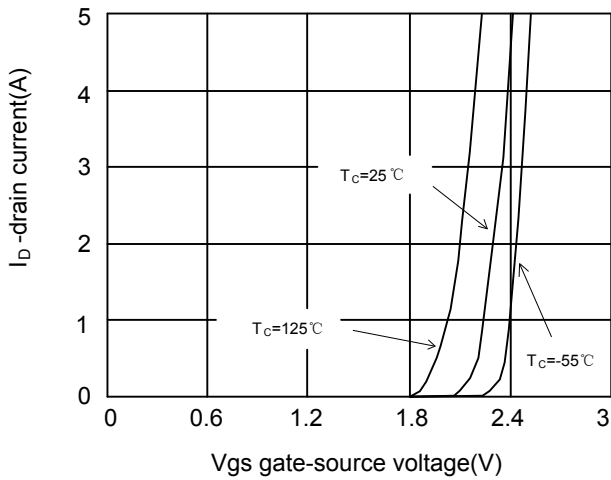
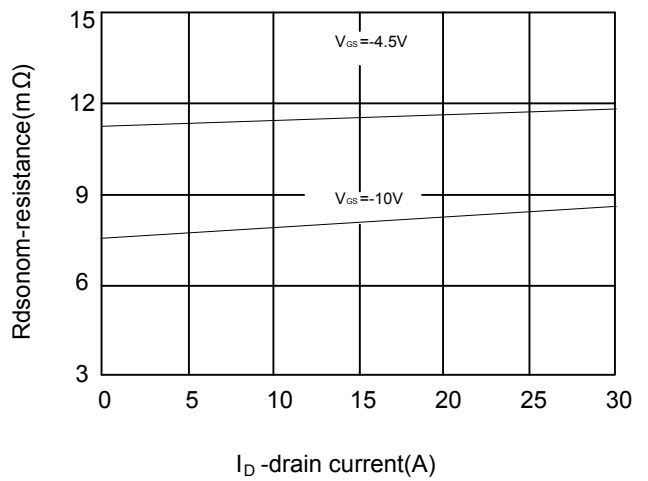
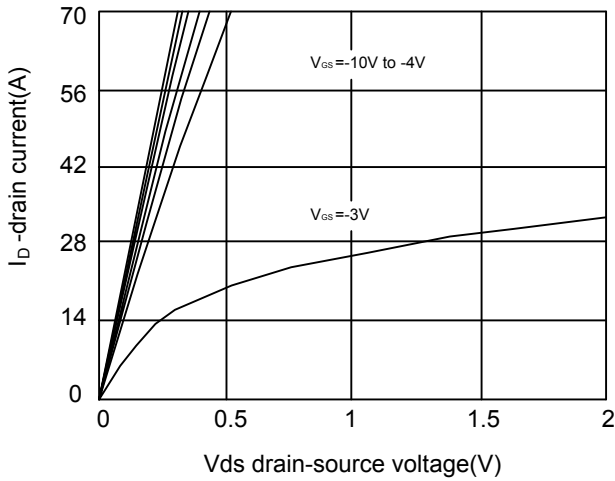
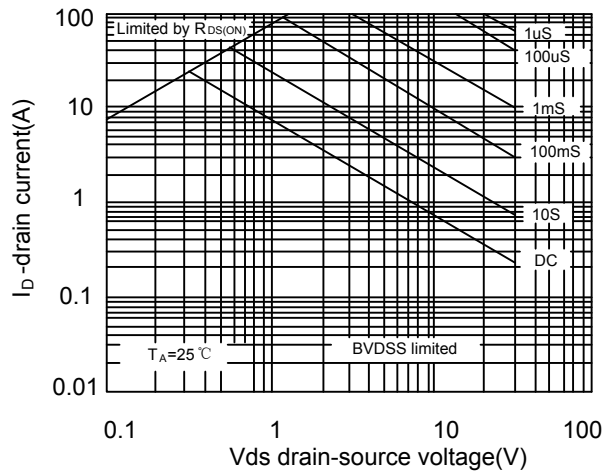
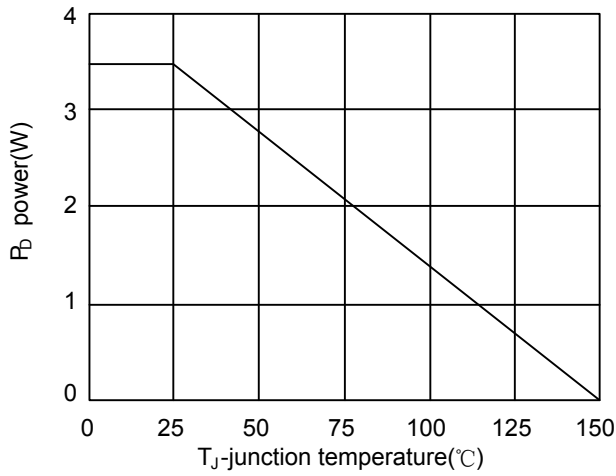
■ THERMAL CHARACTERISTICS

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

■ 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        | $\mu A$    |
| Gate-Body Leakage Current          | $I_{GSS}$    | $V_{GS}=\pm 20V, V_{DS}=0V$                           | -    | -    | $\pm 100$ | 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 $\Omega$ |
|                                    |              | $V_{GS}=-4.5V, I_D=-15A$                              | -    | 11   | 14        | m $\Omega$ |
| Forward Transconductance           | $g_{FS}$     | $V_{DS}=-10V, I_D=-15A$                               | 20   | -    | -         | S          |
| Dynamic characteristics            |              |   |      |      |           |            |
| Input Capacitance                  | $C_{iss}$    | $V_{DS}=-15V, V_{GS}=0V,$<br>$F=1.0\text{MHz}$        | -    | 3000 | -         | PF         |
| Output Capacitance                 | $C_{oss}$    |   | -    | 287  | -         | PF         |
| Reverse Transfer Capacitance       | $C_{rss}$    |   | -    | 256  | -         | PF         |
| Switching characteristics          |              |   |      |      |           |            |
| Turn-on Delay Time                 | $t_{d(on)}$  | $V_{DD}=-15V, I_D=-15A$<br>$V_{GS}=-10V, R_G=3\Omega$ | -    | 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                  | $Q_g$        | $V_{DS}=-15V, I_D=-15A,$<br>$V_{GS}=-10V$             | -    | 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.)

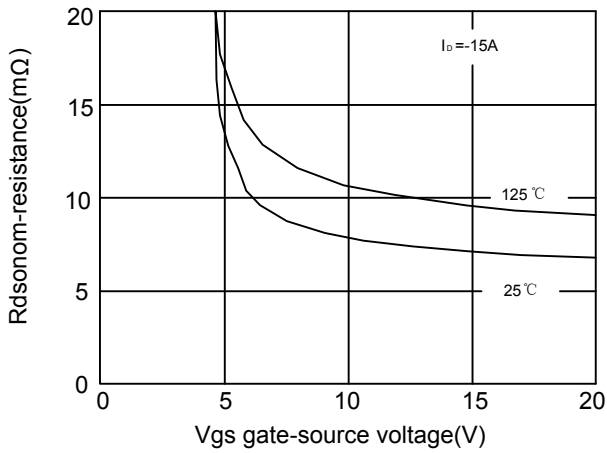


Figure 7 Rdson vs vgs

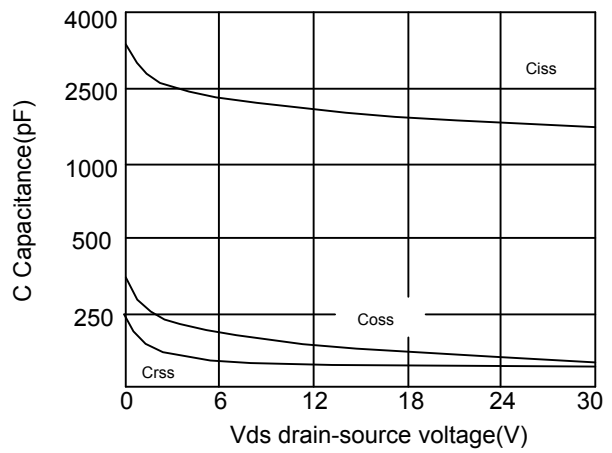


Figure 8 Capacitance vs vds

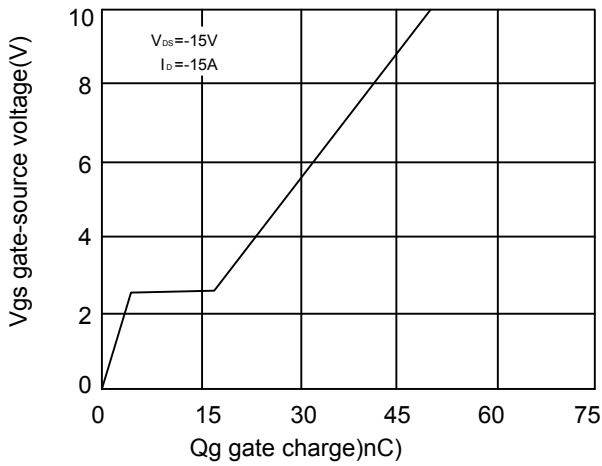


Figure 9 Gate charge

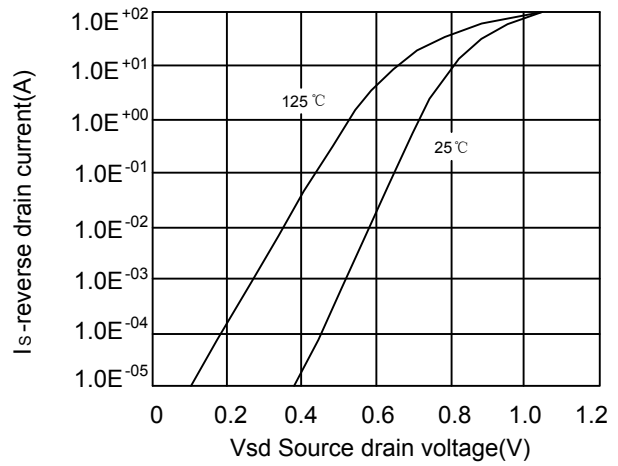


Figure 10 Source-drain diode forward

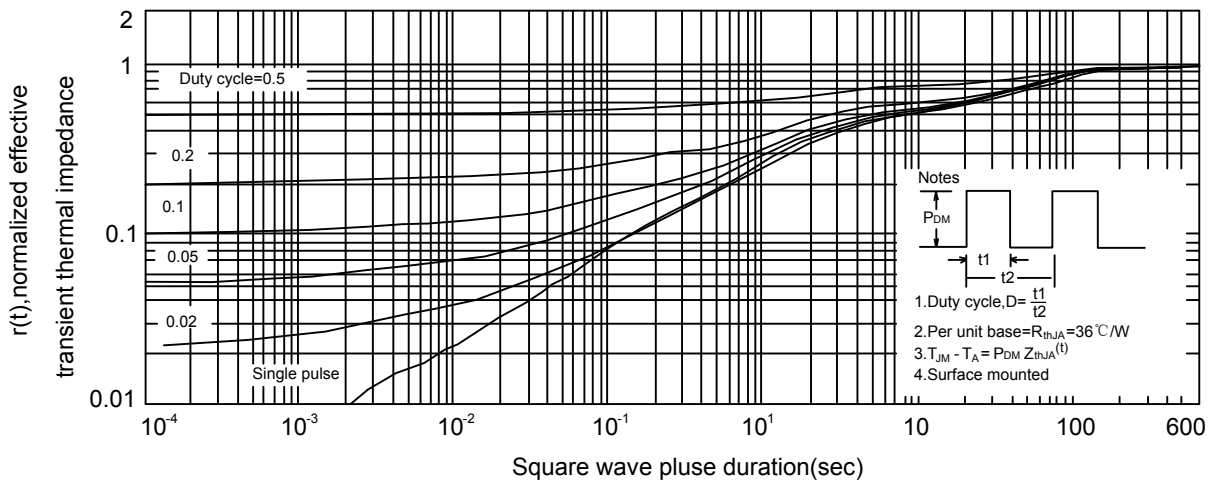
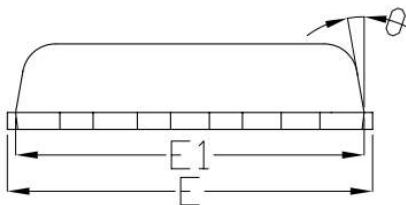
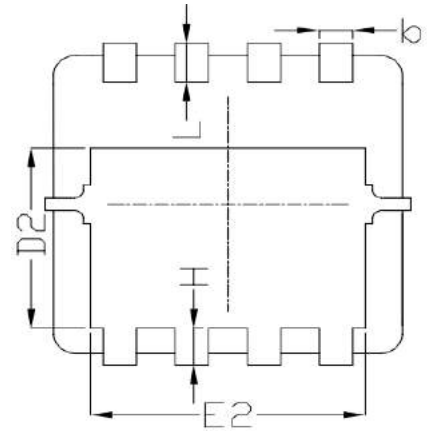
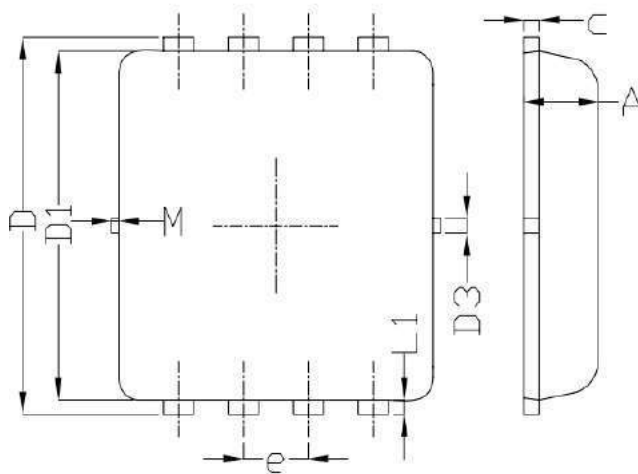
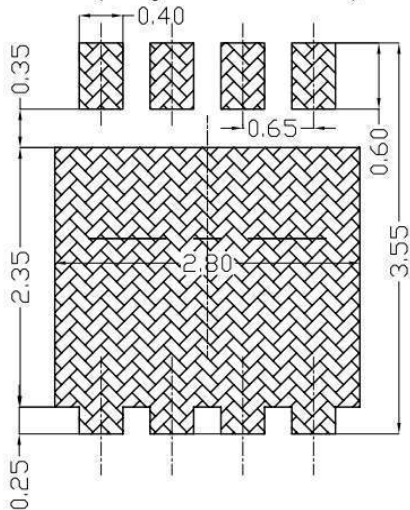


Figure 11 Normalized maximum transient thermal impedance

■ 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 | ---  |
| $\theta$        | ---                | 10°  | 12°  |
| M               | *                  | *    | 0.15 |
| * Not specified |                    |      |      |

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [MOSFET](#) category:*

*Click to view products by [MOT](#) manufacturer:*

Other Similar products are found below :

[IRFD120](#) [JANTX2N5237](#) [BUK455-60A/B](#) [MIC4420CM-TR](#) [VN1206L](#) [NDP4060](#) [SI4482DY](#) [IPS70R2K0CEAKMA1](#) [SQD23N06-31L-GE3](#)  
[TK16J60W,S1VQ\(O](#) [2SK2614\(TE16L1,Q\)](#) [DMN1017UCP3-7](#) [DMN1053UCP4-7](#) [SQJ469EP-T1-GE3](#) [NTE2384](#) [DMC2700UDMQ-7](#)  
[DMN2080UCB4-7](#) [DMN61D9UWQ-13](#) [US6M2GTR](#) [DMN31D5UDJ-7](#) [DMP22D4UFO-7B](#) [DMN1006UCA6-7](#) [DMN16M9UCA6-7](#)  
[STF5N65M6](#) [IRF40H233XTMA1](#) [STU5N65M6](#) [DMN6022SSD-13](#) [DMN13M9UCA6-7](#) [DMTH10H4M6SPS-13](#) [DMN2990UFB-7B](#)  
[IPB80P04P405ATMA2](#) [2N7002W-G](#) [MCAC30N06Y-TP](#) [MCQ7328-TP](#) [BXP7N65D](#) [BXP4N65F](#) [AOL1454G](#) [WMJ80N60C4](#) [BXP2N20L](#)  
[BXP2N65D](#) [BXT1150N10J](#) [BXT1700P06M](#) [TSM60NB380CP](#) [ROG](#) [RQ7L055BGTCR](#) [DMNH15H110SK3-13](#) [SLF10N65ABV2](#)  
[BSO203SP](#) [BSO211P](#) [IPA60R230P6](#) [IPA60R460CE](#)