



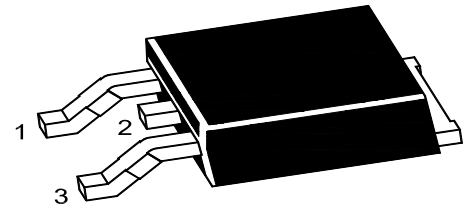
PJM80H02NTE

N-Channel Enhancement Mode Power MOSFET

Features

- Fast Switching
- Low Gate Charge and $R_{DS(on)}$
- Low Reverse transfer capacitances
- $V_{DS} = 800V, I_D = 2A$
 $R_{DS(on)} < 5.5\Omega @ V_{GS} = 10V$

TO-252

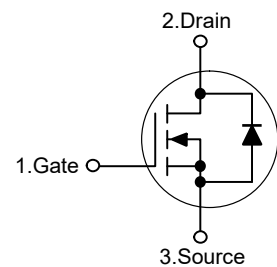


1. Gate 2.Drain 3.Source

Applications

- Power switch circuit of adaptor and charger

Schematic Diagram



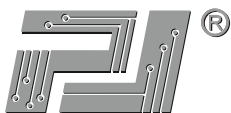
Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

| Parameter | Symbol | Value | Unit |
|--|-----------|-------------|------|
| Drain-Source Voltage | V_{DS} | 800 | V |
| Gate-Source Voltage | V_{GS} | ± 30 | V |
| Drain Current-Continuous | I_D | 2 | A |
| Drain Current-Pulsed ^{Note1} | I_{DM} | 8 | A |
| Single pulse avalanche energy ^{Note4} | E_{AS} | 70 | mJ |
| Avalanche energy, Repetitive ^{Note1} | E_{AR} | 5 | mJ |
| Avalanche Current ^{Note1} | I_{AR} | 1 | A |
| Maximum Power Dissipation | P_D | 40 | W |
| Junction Temperature | T_J | 150 | °C |
| Storage Temperature Range | T_{STG} | -55 to +150 | °C |

Thermal Characteristics

| | | | |
|--|-----------------|------|------|
| Thermal Resistance, Junction-to-Ambient ^{Note2} | $R_{\theta JA}$ | 100 | °C/W |
| Maximum Junction-to-Case ^{Note2} | $R_{\theta JC}$ | 3.12 | °C/W |



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Electrical Characteristics

(Ta=25°C unless otherwise specified)

| Parameter | Symbol | Test Condition | Min. | Typ. | Max. | Unit |
|---|---------------|--|------|------|-----------|----------|
| Static Characteristics | | | | | | |
| Drain-Source Breakdown Voltage | $V_{(BR)DSS}$ | $V_{GS}=0V, I_D=250\mu A$ | 800 | -- | -- | V |
| Zero Gate Voltage Drain Current | I_{DSS} | $V_{DS}=800V, V_{GS}=0V$ | -- | -- | 1 | μA |
| Gate-Body Leakage Current | I_{GSS} | $V_{GS}=\pm 30V, V_{DS}=0V$ | -- | -- | ± 100 | nA |
| Gate Threshold Voltage ^{Note3} | $V_{GS(th)}$ | $V_{DS}=V_{GS}, I_D=250\mu A$ | 2 | 3 | 4 | V |
| Drain-Source On-Resistance ^{Note3} | $R_{DS(on)}$ | $V_{GS}=10V, I_D=1.5A$ | -- | 4.6 | 5.5 | Ω |
| Forward Transconductance ^{Note3} | g_{FS} | $V_{DS}=15V, I_D=1A$ | -- | 5.5 | -- | S |
| Dynamic Characteristics | | | | | | |
| Input Capacitance | C_{iss} | $V_{DS}=25V, V_{GS}=0V, f=1MHz$ | -- | 350 | -- | pF |
| Output Capacitance | C_{oss} | | -- | 36 | -- | pF |
| Reverse Transfer Capacitance | C_{rss} | | -- | 3.8 | -- | pF |
| Switching Characteristics | | | | | | |
| Turn-on Delay Time | $t_{d(on)}$ | $V_{DD}=400V, I_D=3A,$ $V_{GS}=10V, R_G=12\Omega$ | -- | 7.5 | -- | nS |
| Turn-on Rise Time | t_r | | -- | 5.5 | -- | nS |
| Turn-off Delay Time | $t_{d(off)}$ | | -- | 28 | -- | nS |
| Turn-off Fall Time | t_f | | -- | 11 | -- | nS |
| Total Gate Charge | Q_g | $V_{DD}=400V, I_D=3A, V_{GS}=10V$ | -- | 11 | -- | nC |
| Gate-Source Charge | Q_{gs} | | -- | 1.8 | -- | nC |
| Gate-Drain Charge | Q_{gd} | | -- | 5 | -- | nC |
| Source-Drain Diode Characteristics | | | | | | |
| Diode Forward Voltage ^{Note3} | V_{SD} | $V_{GS}=0V, I_S=2A$ | -- | -- | 1.5 | V |
| Diode Forward Current ^{Note2} | I_S | | -- | -- | 2 | A |

Note: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.

2. Surface Mounted on FR4 Board, $t \leq 10$ sec.

3. Pulse Test: Pulse width $< 380\mu s$, duty cycle $< 2\%$.

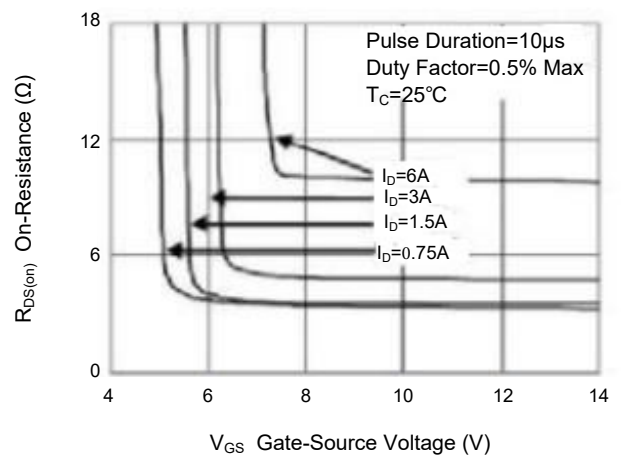
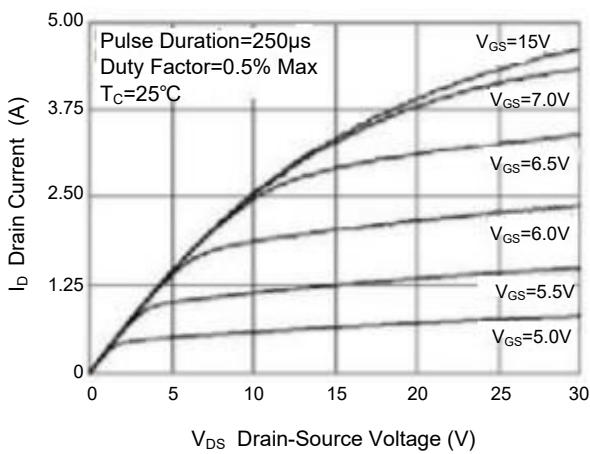
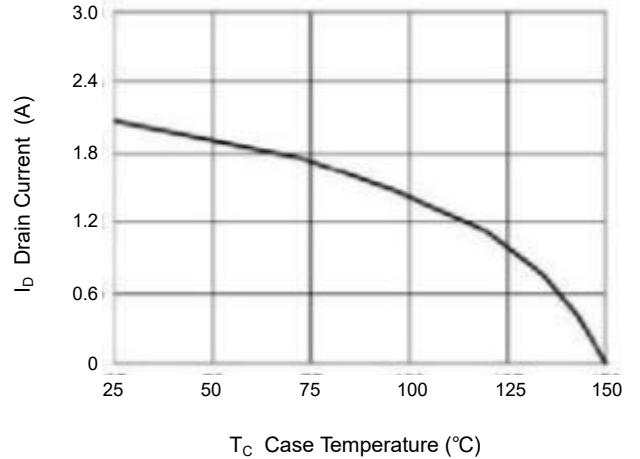
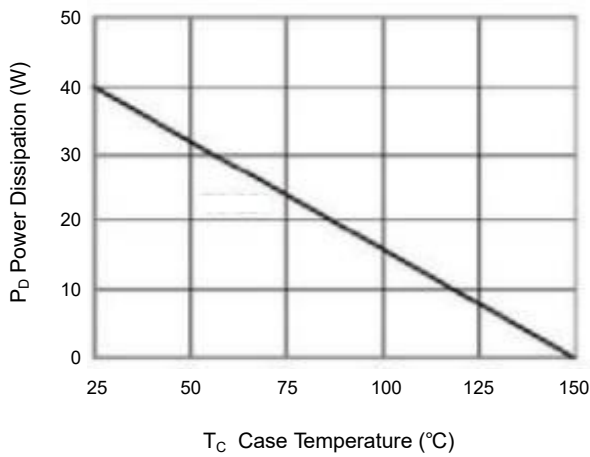
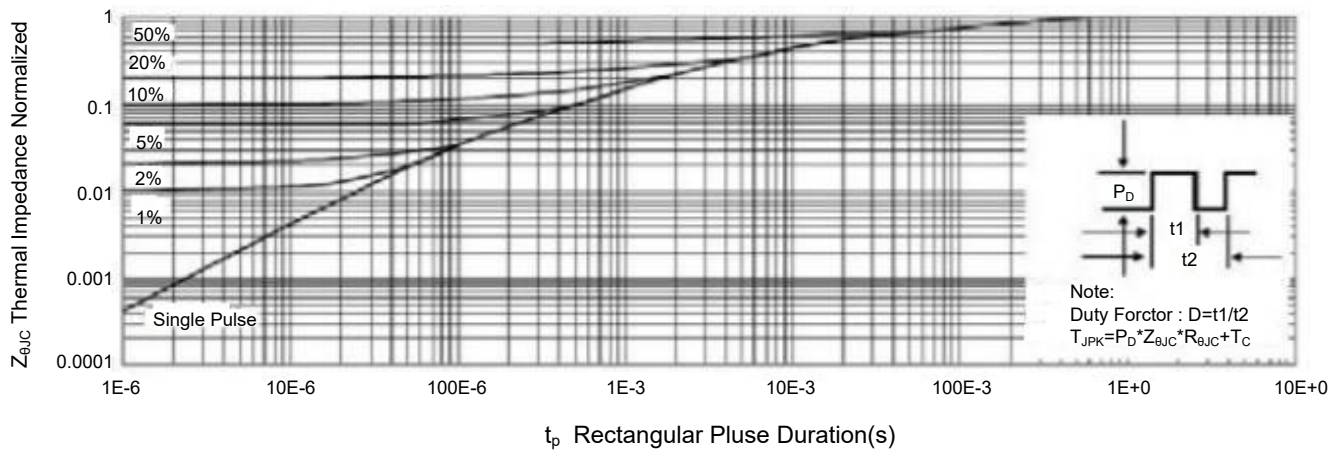
4. E_{AS} condition : $L=10mH, I_D=4A$, start $T_J=25^\circ C$.



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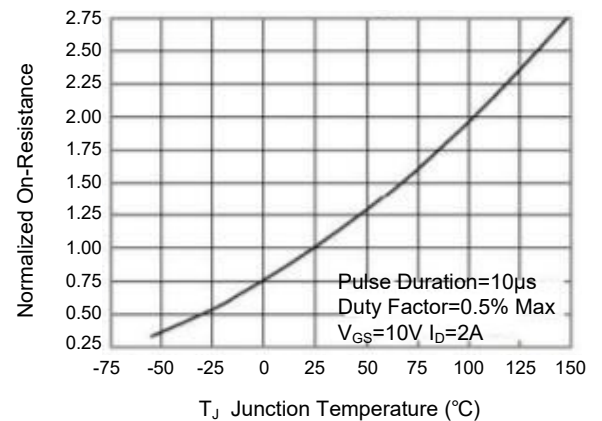
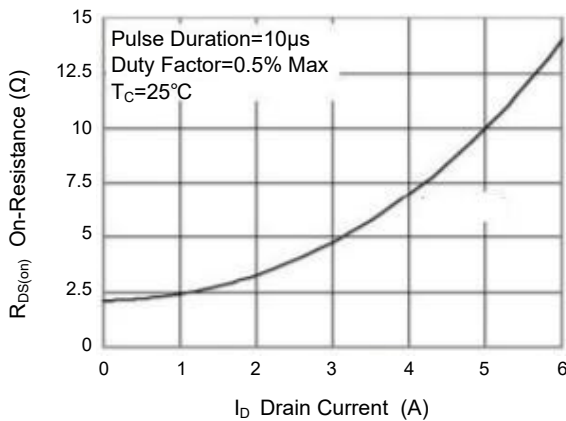
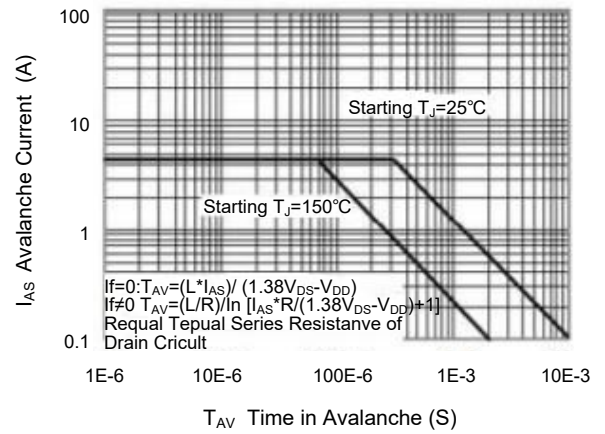
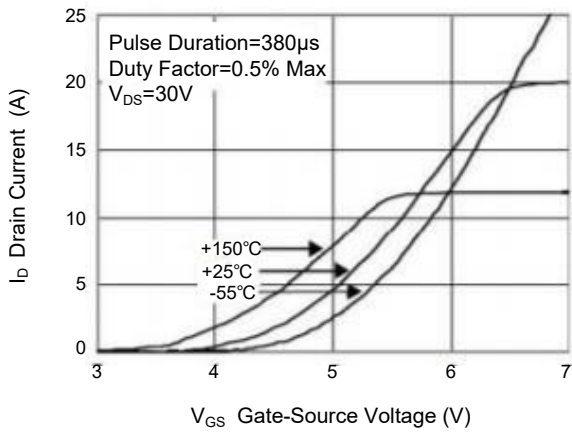
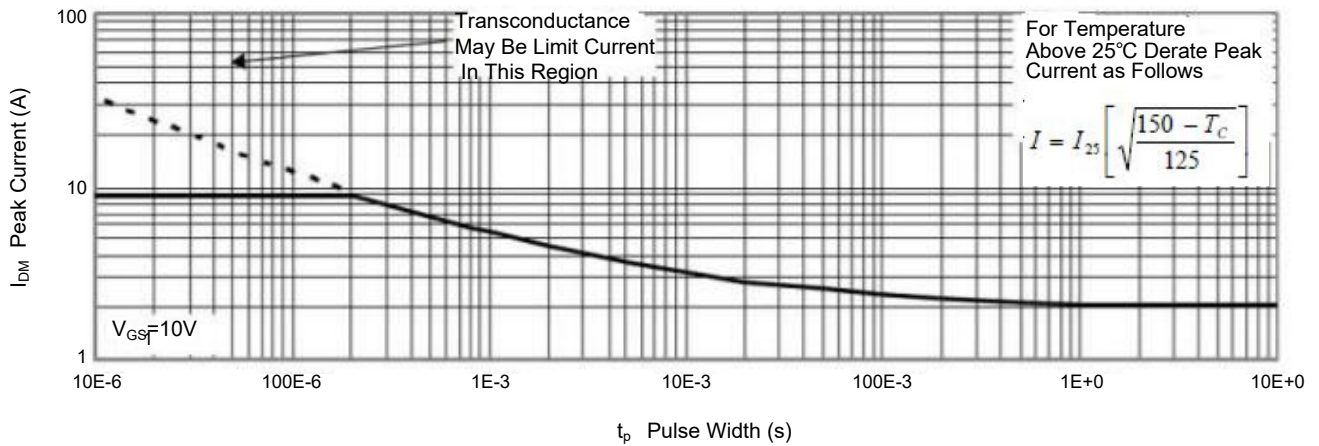
Typical Characteristic Curves





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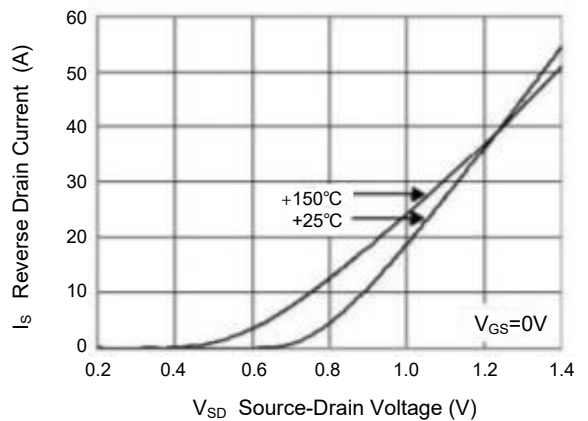
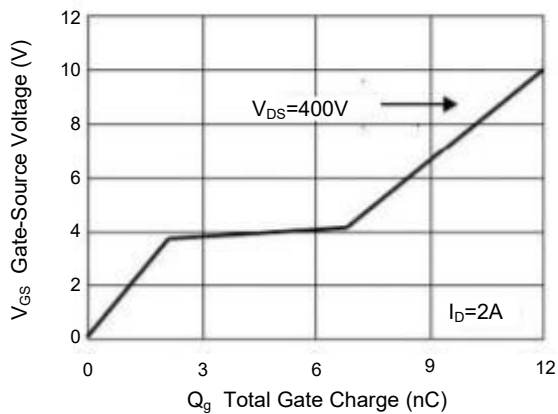
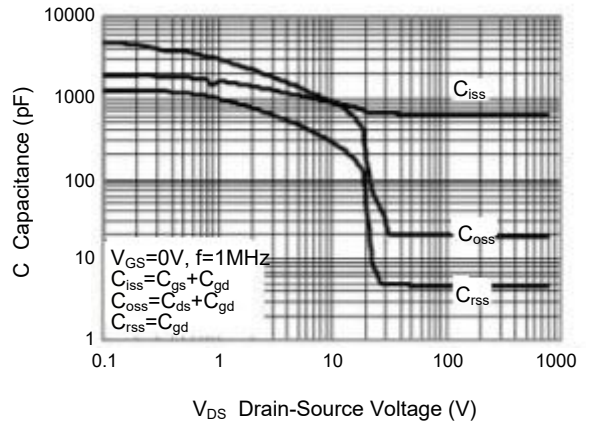
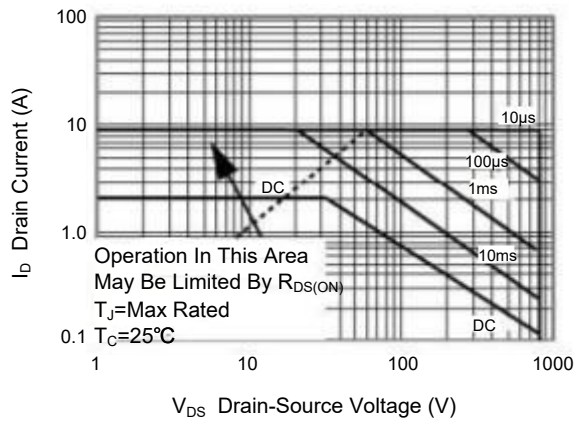
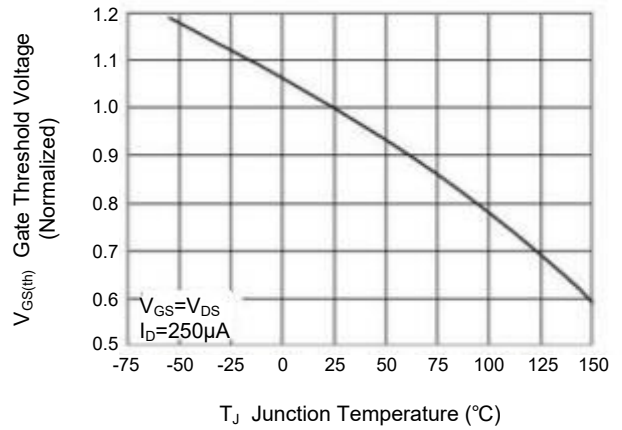
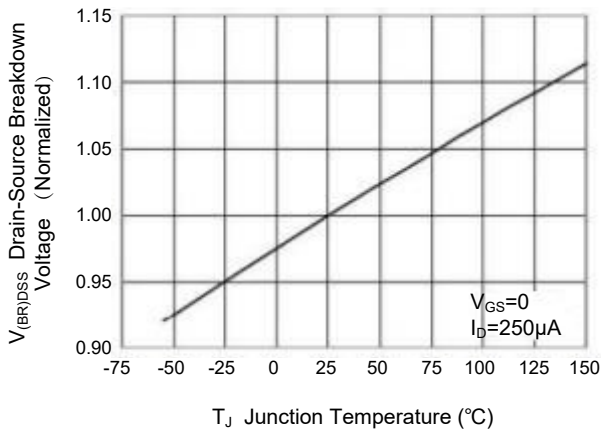
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Package Outline

TO-252

Dimensions in mm

