

Product Summary

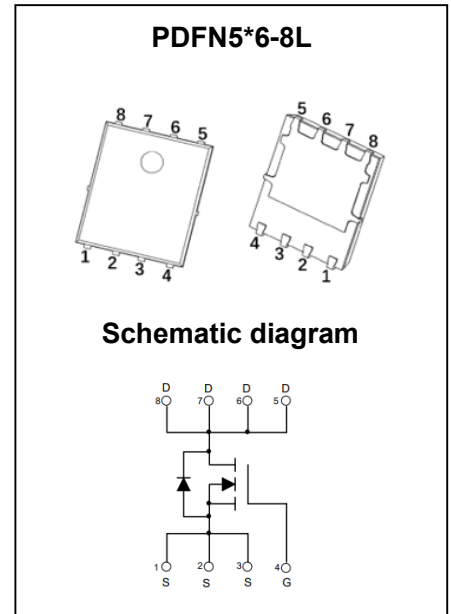
| $V_{(BR)DSS}$ | $R_{DS(on)TYP}$ | I_D |
|---------------|--------------------|-------|
| 40V | 1.4m Ω @10V | 160A |
| | 2m Ω @4.5V | |

Feature

- Split Gate Trench Technology
- Low $R_{DS(ON)}$
- Low Gate Charge
- Low Gate Resistance
- 100% UIS Tested

Application

- Industrial Power Supply
- Load Switch



MARKING:



T019N04L = Device Code
 XX = Date Code
 Solid Dot = Green Indicator

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|--|-----------------|-----------|---------------------------|
| Drain - Source Voltage | V_{DS} | 40 | V |
| Gate - Source Voltage | V_{GS} | ± 20 | V |
| Continuous Drain Current ¹ | I_D | 160 | A |
| Pulsed Drain Current ² | I_{DM} | 640 | A |
| Single Pulsed Avalanche Current ³ | I_{AS} | 38 | A |
| Single Pulsed Avalanche Energy ³ | E_{AS} | 361 | mJ |
| Power Dissipation ⁵ | P_D | 113 | W |
| Thermal Resistance from Junction to Ambient ⁶ | $R_{\theta JA}$ | 51 | $^\circ\text{C}/\text{W}$ |
| Thermal Resistance from Junction to Case | $R_{\theta JC}$ | 1.1 | $^\circ\text{C}/\text{W}$ |
| Junction Temperature | T_J | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{STG} | -55~ +150 | $^\circ\text{C}$ |

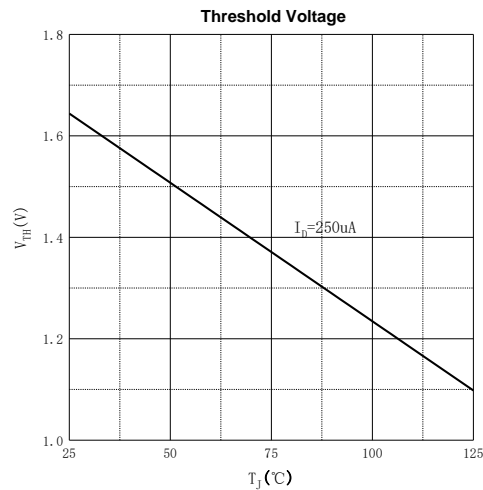
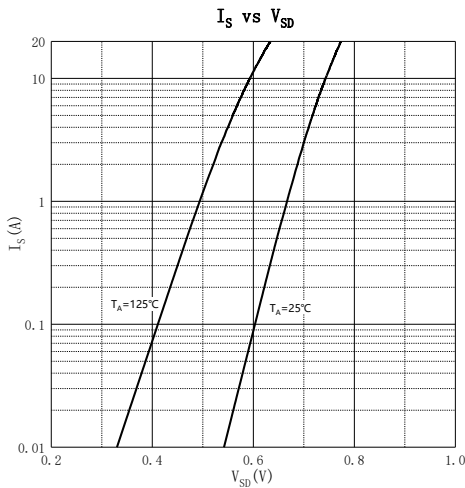
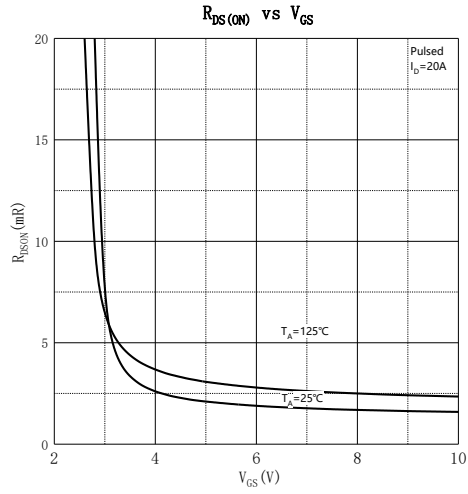
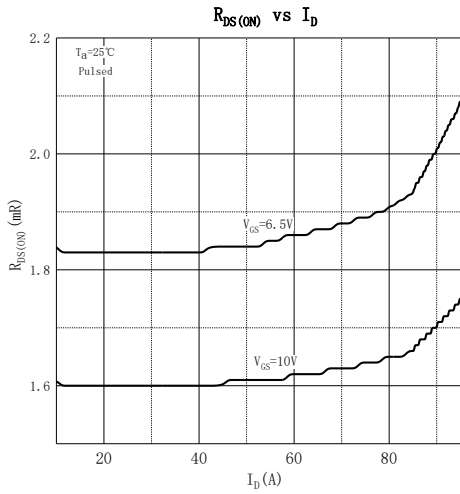
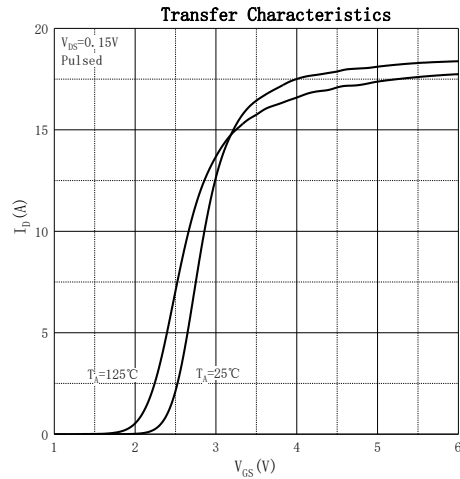
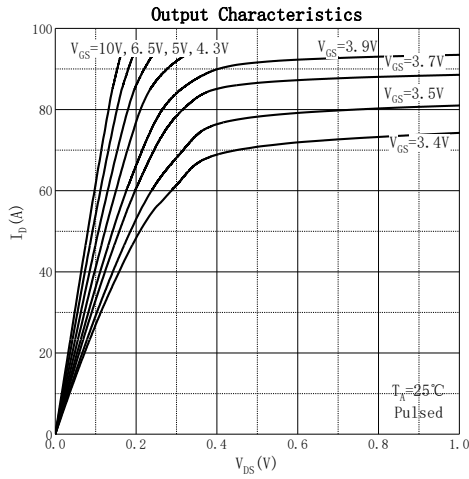
MOSFET ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ\text{C}$ unless otherwise noted)

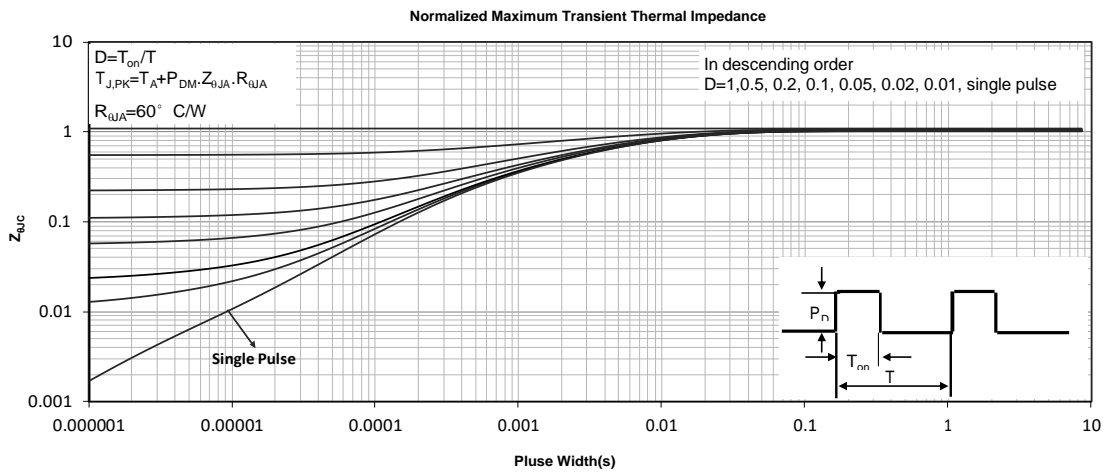
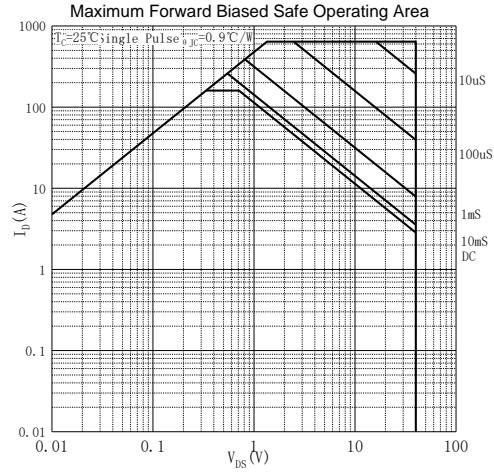
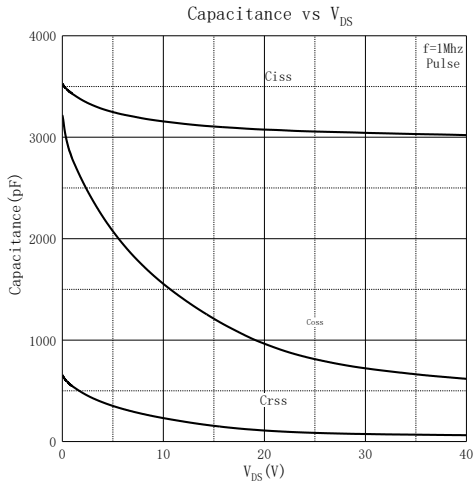
| Parameter | Symbol | Test Condition | Min | Type | Max | Unit |
|---|---------------|--|-----|------|-----------|-----------|
| Off Characteristics | | | | | | |
| Drain - Source Breakdown Voltage | $V_{(BR)DSS}$ | $V_{GS} = 0V, I_D = 250\mu A$ | 40 | | | V |
| Zero Gate Voltage Drain Current | I_{DSS} | $V_{DS} = 40V, V_{GS} = 0V$ | | | 1 | μA |
| Gate - Body Leakage Current | I_{GSS} | $V_{GS} = \pm 20V, V_{DS} = 0V$ | | | ± 100 | nA |
| On Characteristics⁴ | | | | | | |
| Gate Threshold Voltage | $V_{GS(th)}$ | $V_{DS} = V_{GS}, I_D = 250\mu A$ | 1 | 1.7 | 3 | V |
| Drain-source On-resistance | $R_{DS(on)}$ | $V_{GS} = 10V, I_D = 20A$ | | 1.4 | 1.9 | $m\Omega$ |
| | | $V_{GS} = 4.5V, I_D = 10A$ | | 2 | 3 | |
| Forward Transconductance | g_{FS} | $V_{DS} = 5V, I_D = 20A$ | | 52 | | S |
| Dynamic Characteristics | | | | | | |
| Input Capacitance | C_{iss} | $V_{DS} = 20V, V_{GS} = 0V, f = 1MHz$ | | 3106 | | pF |
| Output Capacitance | C_{oss} | | | 987 | | |
| Reverse Transfer Capacitance | C_{rss} | | | 87 | | |
| Gate Resistance | R_g | $V_{DS} = 0V, V_{GS} = 0V, f = 1MHz$ | | 3.8 | | Ω |
| Switching Characteristics | | | | | | |
| Total Gate Charge | Q_g | $V_{DS} = 15V, V_{GS} = 10V, I_D = 20A$ | | 48 | | nC |
| Gate-source Charge | Q_{gs} | | | 7 | | |
| Gate-drain Charge | Q_{gd} | | | 7 | | |
| Turn-on Delay Time | $t_{d(on)}$ | $V_{DD} = 15V, V_{GS} = 10V, R_L = 2\Omega$ $R_G = 3.3\Omega$ | | 18.2 | | ns |
| Turn-on Rise Time | t_r | | | 8.8 | | |
| Turn-off Delay Time | $t_{d(off)}$ | | | 58 | | |
| Turn-off Fall Time | t_f | | | 31.5 | | |
| Source - Drain Diode Characteristics | | | | | | |
| Diode Forward Voltage ⁴ | V_{SD} | $V_{GS} = 0V, I_S = 10A$ | 0.5 | | 1.2 | V |

Notes :

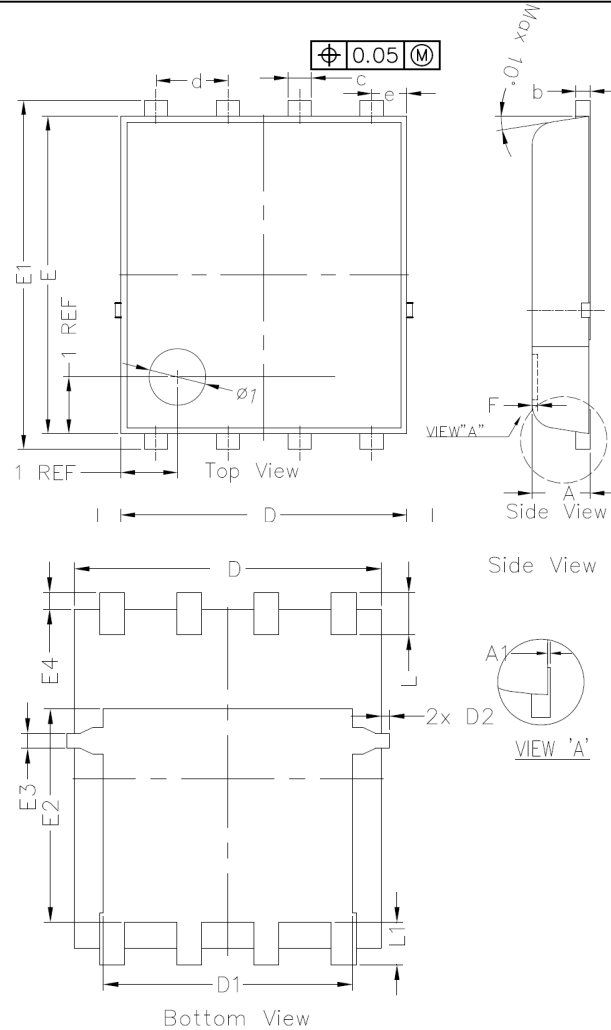
- 1.The maximum current rating is limited by package.And device mounted on a large heatsink
- 2.Pulse Test : Pulse Width $\leq 10\mu s$, duty cycle $\leq 1\%$.
- 3.EAS condition: $V_{DD} = 25V, V_{GS} = 10V, L = 0.5mH, R_G = 25\Omega$ Starting $T_J = 25^\circ\text{C}$.
- 4.Pulse Test : Pulse Width $\leq 300\mu s$, duty cycle $\leq 2\%$.
- 5.The power dissipation P_D is limited by $T_{J(MAX)} = 150^\circ\text{C}$.And device mounted on a large heatsink
- 6.Device mounted on $1in^2$ FR-4 board with 2oz. Copper, in a still air environment with $T_A = 25^\circ\text{C}$.

Typical Characteristics





PDFN5*6-8L Package Information



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 0.900 | 1.100 | 0.035 | 0.043 |
| A1 | 0.000 | 0.050 | 0.000 | 0.002 |
| b | 0.246 | 0.312 | 0.010 | 0.012 |
| c | 0.310 | 0.510 | 0.012 | 0.020 |
| d | 1.270BSC | | 0.050BSC | |
| D | 4.950 | 5.150 | 0.195 | 0.203 |
| D1 | 4.000 | 4.200 | 0.157 | 0.165 |
| D2 | - | 0.125 | - | 0.005 |
| e | 0.620BSC | | 0.024BSC | |
| E | 5.500 | 5.700 | 0.217 | 0.224 |
| E1 | 6.050 | 6.250 | 0.238 | 0.246 |
| E2 | 3.425 | 3.625 | 0.135 | 0.143 |
| E3 | 0.150 | 0.350 | 0.006 | 0.014 |
| E4 | 0.175 | 0.375 | 0.007 | 0.015 |
| F | - | 0.100 | - | 0.004 |
| L | 0.500 | 0.700 | 0.020 | 0.028 |
| L1 | 0.600 | 0.800 | 0.024 | 0.031 |

单击下面可查看定价，库存，交付和生命周期等信息

[>>GP\(格瑞宝\)](#)