快捷芯
KUAIJIEXIN

# KJ08P02QD

## Dual P-Channel Enhancement Mode MOSFET

## 1. Product Information

### 1.1 Features

- ☑ Surface-mounted package
- ☑ Low gate charge

### 1.2 Applications

- ☑ PWM applications
- ☑ Load switch

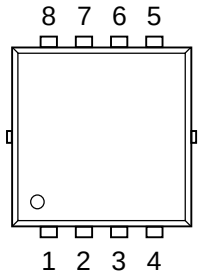
### 1.3 Quick reference

- ☑ BV ≥ -20 V
- ☑ $P_{tot}$ ≤ 40 W
- ☑ $I_D$ ≤ -8 A
- ☑ $R_{DS(ON)}$ ≤ 26 mΩ @ $V_{GS}$ = -4.5 V
- ☑ $R_{DS(ON)}$ ≤ 37 mΩ @ $V_{GS}$ = -2.5 V

## 2. Pin Description

| Pin | Description |
|---|---|
| 1 | Source(S2) |
| 2 | Gate(G2) |
| 3 | Source(S1) |
| 4 | Gate(G1) |
| 5,6 | Drain(D1) |
| 7,8 | Drain(D2) |

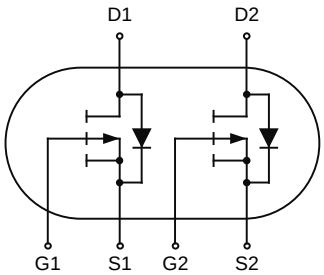
Simplified Outline




Top View

PDFN3.3x3.3-8L

Symbol



## 3. Limiting Values

| Symbol | Parameter | Conditions | Min | Max | Unit |
|---|---|---|---|---|---|
| $V_{DS}$ | Drain-Source Voltage | $T_A$=25℃ | - | -20 | V |
| $V_{GS}$ | Gate-Source Voltage | $T_A$=25℃ | - | ±12 | V |
| $I_D$* | Drain Current | $T_A$=25℃, $V_{GS}$=-10 V | - | -8 | A |
| | | $T_A$=70℃, $V_{GS}$=-10 V | - | -6.4 | A |
| $I_{DM}$*,** | Pulsed Drain Current | $T_A$=25℃, $V_{GS}$=-10 V | - | -32 | A |
| $P_{tot}$ | Total Power Dissipation | $T_A$=25℃ | - | 40 | W |
| $T_J$, $T_{stg}$ | Operating Junction and Storage Temperature Range | | -55 | 150 | ℃ |
| $R_{\theta JC}$* | Thermal Resistance-Junction to Case | | - | 3.15 | ℃/W |

Notes:

* Surface Mounted on 1 $in^2$ pad area, t ≤ 10 sec

** Pulse width ≤ 300 μs, duty cycle ≤ 2%

*** Limited by bonding wire

## 4. Marking Information

| Product Name | Marking |
|---|---|
| **KJ08P02QD** | **08P02D YWWXXX** **YWW: Date Code** |

## 5. Ordering Code

| Product Name | Package | Reel Size | Tape width | Quantity | Note |
|---|---|---|---|---|---|
| **KJ08P02QD** | **PDFN 3.3×3.3-8L** | **13 inches** | **12 mm** | **5000** | |

Note: KUAIJIEXIN defines “Green” as lead-free (RoHS compliant) and halogen free (Br or Cl does not exceed 900 ppm by weight in homogeneous material and total of Br and Cl does not exceed 1500 ppm by weight; Follow IEC 61249-2-21 and IPC/JEDEC J-STD-020C)

## 6. Electrical Characteristics ($T_A$=25℃ Unless Otherwise Noted)

| Symbol | Parameter | Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| **Static Characteristics** | | | | | | |
| $BV_{DSS}$ | Drain-Source Breakdown Voltage | $V_{GS}$=0 V, $I_{DS}$=-250 μA | -20 | - | - | V |
| $V_{GS(th)}$ | Gate Threshold Voltage | $V_{DS}$=$V_{GS}$, $I_{DS}$=-250 μA | -0.45 | -0.7 | -1.0 | V |
| $I_{DSS}$ | Drain Leakage Current | $V_{DS}$=-20 V, $V_{GS}$=0 V | - | - | 1 | μA |
| $I_{GSS}$ | Gate Leakage Current | $V_{GS}$=±12 V, $V_{DS}$=0 V | - | - | ±100 | nA |
| $R_{DS(ON)}$ [a] | On-State Resistance | $V_{GS}$=-4.5 V, $I_D$=-8 A | - | 17 | 26 | mΩ |
| | | $V_{GS}$=-2.5 V, $I_D$=-5 A | - | 22 | 37 | |
| $g_{fs}$ [a] | Forward transconductance | $V_{GS}$=-5 V, $I_D$=-8 A | - | 5 | - | S |
| **Dynamic Characteristics** [b] | | | | | | |
| $C_{iss}$ | Input Capacitance | $V_{DS}$=-10 V, $V_{GS}$=-5 V, $I_D$=-5 A, F=1 MHz | - | 1205 | - | pF |
| $C_{oss}$ | Output Capacitance | | - | 194 | - | |
| $C_{rss}$ | Reverse Transfer Capacitance | | - | 167 | - | |
| $t_{d(on)}$ | Turn-on Delay Time | $V_{DS}$=-10 V, $V_{GS}$=-4.5 V, $R_L$=10 Ω, $I_D$=-5 A | - | 12 | - | ns |
| $t_r$ | Turn-on Rise Time | | - | 36 | - | |
| $t_{d(off)}$ | Turn-off Delay Time | | - | 30 | - | |
| $t_f$ | Turn-off Fall Time | | - | 10 | - | |
| **Gate Charge Characteristics** [b] | | | | | | |
| $Q_g$ | Total Gate Charge | $V_{DS}$=-10 V, $V_{GS}$=-4.5 V, $I_{DS}$=-5 A | - | 34 | - | nC |
| $Q_{gs}$ | Gate-Source Charge | | - | 3.5 | - | |
| $Q_{gd}$ | Gate-Drain Charge | | - | 11 | - | |
| **Diode Characteristics** | | | | | | |
| $V_{SD}$ [a] | Diode Forward Voltage | $I_{SD}$=-1.25 A, $V_{GS}$=0 V | - | - | -1.2 | V |

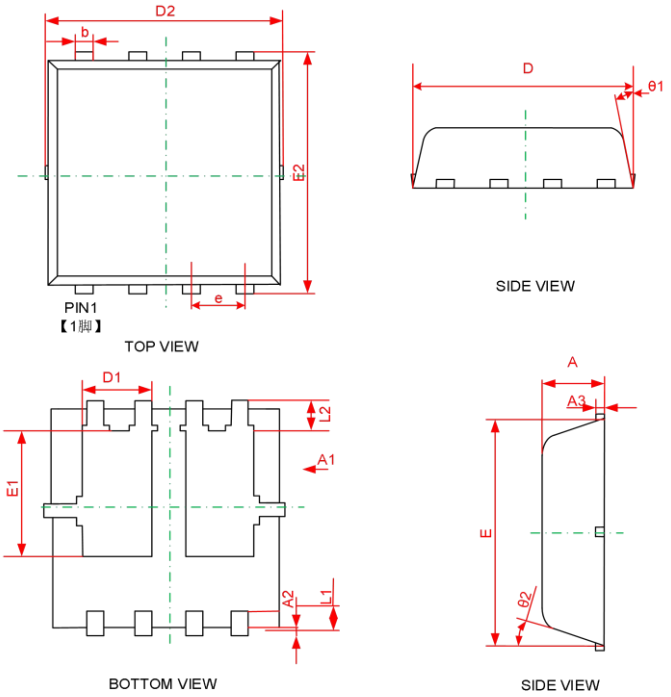
Notes:

a. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%

b. Guaranteed by design, not subject to production testing

# 8. Package Dimensions

## PDFN 3.3×3.3-8L Package




| Symbol | Dimensions in Millimeters | |
|---|---|---|
| | Min | Max |
| A | 0.750 | 0.850 |
| A1 | 0.000 | 0.050 |
| A2 | 0.100 | 0.200 |
| A3 | 0.152 REF. | |
| b | 0.200 | 0.400 |
| D | 3.050 | 3.250 |
| D1 | 0.935 | 1.135 |
| D2 | 3.200 | 3.400 |
| E | 2.900 | 3.100 |
| E1 | 1.635 | 1.835 |
| E2 | 3.150 | 3.350 |
| e | 0.625 | 0.675 |
| L1 | 0.350 | 0.450 |
| L2 | 0.365 | 0.465 |
| θ1 | 10° | 12° |
| θ2 | 10° | 12° |