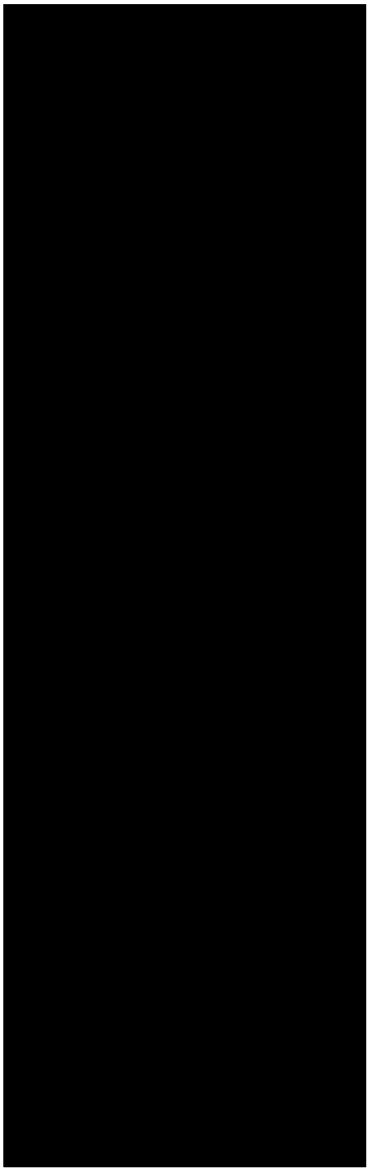
## JOCDA4AB-W8

Rev.A.1.0

## DESCRIPTION:

The products are gate driver opto-couplers in a plastic WSOP8 package. The device consists of an infrared LED optically coupled to an integrated high-gain, high-speed photodetector IC chip. It provides guaranteed performance and specifications at temperature up to 110 . It is physically smaller and compliant with international safety standards for reinforced insulation. It thus provides a smaller footprint solution for applications that require safety standard certification. An internal noise shield provides a guaranteed common-mode transient immunity of ±35 kV/μs. It is ideal for small class IGBT and power MOSFET gate drive. The products are widely used in industrial inverters, IGBT gate drivers, MOSFET gate drivers, induction cooktop and home appliances.



## MAIN FEATURES

4A maximum peak output current
High isolation 7500 VRMS
Buffer logic type
Operating temperature range -40°C to 110°C
REACH & RoHS compliance
HBM: H3A; MM: M4; CDM: C3
CQC approved
VDE approved
UL approved

## Truth Table

| LED | $V_{CC}$-$V_{EE}$ (Positive Going) | $V_{CC}$-$V_{EE}$ (Negative Going) | Output |
|---|---|---|---|
| OFF | 0-30V | 0-30V | Low |
| ON | 0-12.1V | 0-11.1V | Low |
| ON | 12.1V-13.5V | 11.1V-12.4V | TRANSITION |
| ON | 13.5V-30V | 12.4V-30V | HIGH |

## ABSOLUTE MAXIMUM RATINGS (Temperature=25°C)

| Parameter | | Symbol | Value | Unit |
|---|---|---|---|---|
| LED | Forward Current | $I_F$ | 50 | mA |
| | Peak Forward Current | $I_{FP}$ | 1 | A |
| | Reverse Voltage | $V_R$ | 6 | V |
| | Power Dissipation | $P_D$ | 100 | mW |
| Detector | Output Voltage | $V_O$ | 35 | V |
| | Supply Voltage | $V_{CC}$ | 35 | V |
| | Power Dissipation | $P_C$ | 400 | mW |
| Isolation Voltage | | $V_{iso}$ | 7500 | Vrms |
| Operating Temperature | | $T_{opr}$ | -40~110 | |
| Junction Temperature | | $T_j$ | 125 | |
| Storage Temperature | | $T_{stg}$ | -55~125 | |
| Total Power Dissipation | | $P_{tot}$ | 500 | mW |
| Soldering Temperature | | $T_{sol}$ | 260 | |

**NOTE1**: μ

**NOTE2**:

## ELECTRICAL CHARACTERISTICS (Temperature=25°C)

| Parameter | | Symbol | Condition | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|---|
| Input | Forward Voltage | $V_F$ | $I_F$=10mA | - | 1.35 | 1.6 | V |
| | Reverse Current | | | | =10m=/ | I D T taP | |

# JOCDA4AB

## Recommended Operating Conditions

| Characteristics | Symbol | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|
| Input On-state Current | $I_{F(ON)}$ | 7 | - | 10 | mA |
| Input Off-state Voltage | $V_{F(OFF)}$ | 0 | - | 0.8 | V |
| Supply Voltage | $V_{CC}$ | 15 | - | 30 | V |
| Operating Frequency | f | - | - | 50 | kHz |

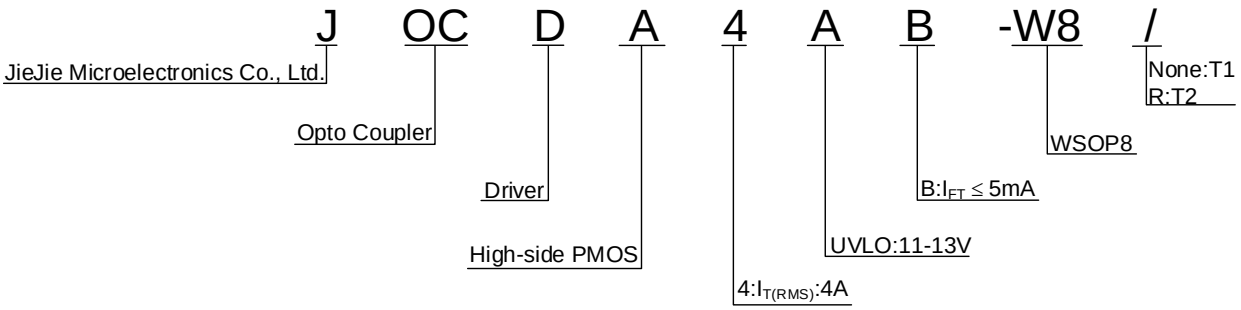
**Note1**

**Note2**

**Note3**

**Note4**

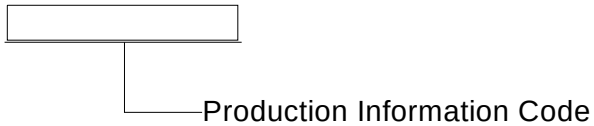
## ORDERING INFORMATION




| Packing Quantity | | | |
|---|---|---|---|
| **Option** | **Quantity** | **Quantity – Inner box** | **Quantity –Outer box** |
| | | | |

## MARKING



## Characteristics Curves

**FIG.1:** Forward Current vs. Forward Voltage



**FIG.2:** Max. Allowable LED Forward Current vs. Ambient Temperature

**FIG.7:** Low-level Output Voltage vs. Ambient Temperature

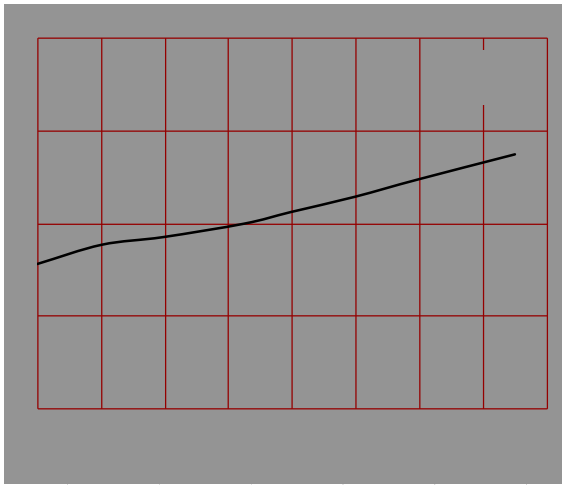


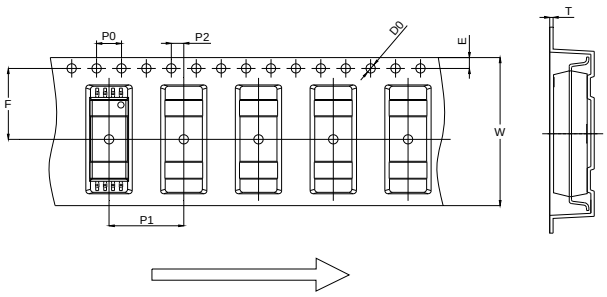
**FIG.8:** High-level Output Voltage vs. Ambient Temperature

**FIG.13:** Propagation Delay Time vs. Supply Voltage

# JOCDA4AB

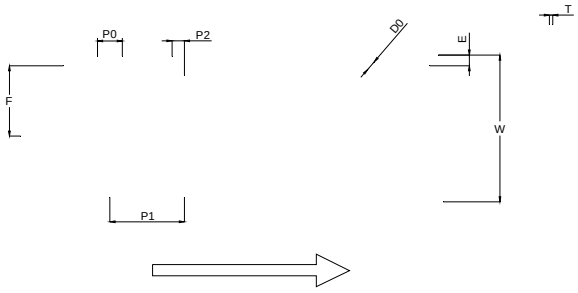
## CARRIER TAPE SPECIFICATIONS (Dimensions in mm unless otherwise stated)

### Option None



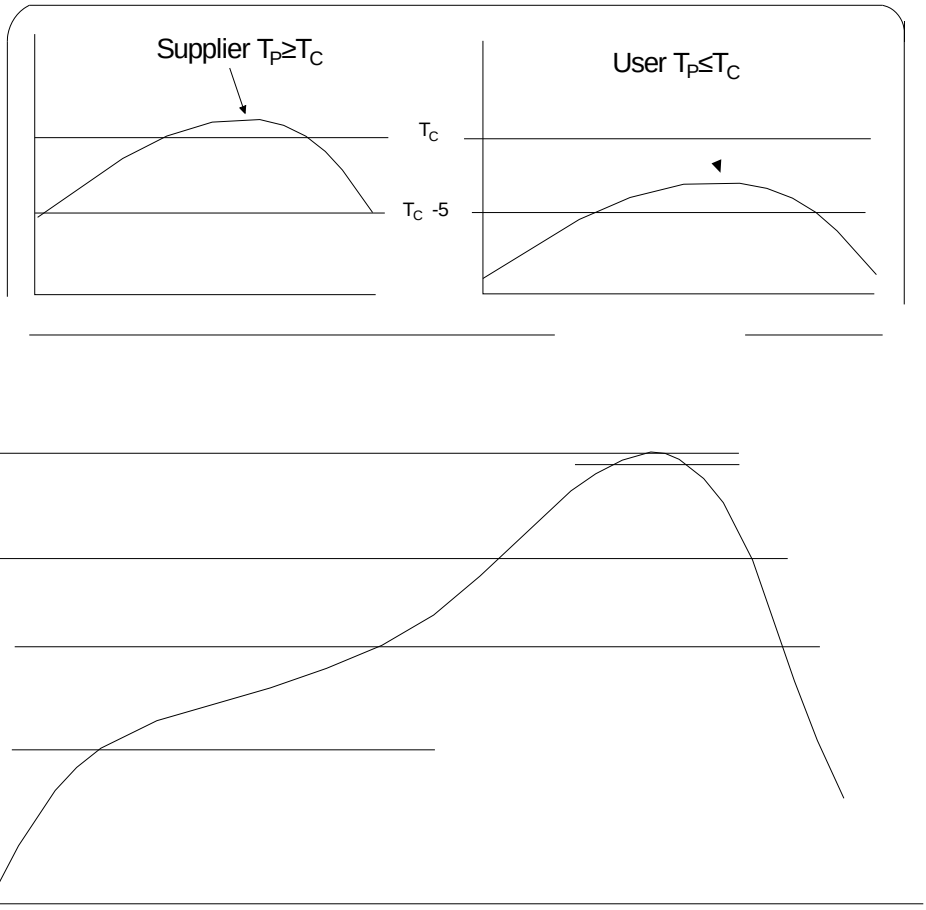

| Ref. | Dimensions | | | | | |
|---|---|---|---|---|---|---|
| | Millimeters | | | Inches | | |
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| D0 | 1.40 | 1.50 | 1.60 | 0.055 | 0.059 | 0.063 |
| P0 | 3.90 | 4.00 | 4.10 | 0.154 | 0.157 | 0.161 |
| P1 | 11.90 | 12.00 | 12.10 | 0.469 | 0.472 | 0.476 |
| P2 | 1.90 | 2.00 | 2.10 | 0.075 | 0.079 | 0.083 |
| E | 1.65 | 1.75 | 1.85 | 0.065 | 0.069 | 0.073 |
| F | 11.40 | 11.50 | 11.60 | 0.449 | 0.453 | 0.457 |
| T | 0.35 | 0.40 | 0.45 | 0.014 | 0.016 | 0.018 |
| W | 23.70 | 24.00 | 24.30 | 0.933 | 0.945 | 0.957 |

### Option R




| Ref. | Dimensions | | | | | |
|---|---|---|---|---|---|---|
| | Millimeters | | | Inches | | |
| | Min. | Typ. | Mc | nMin | Typ. | |

## REFLOW INFORMATION



Note:

1. Reflow soldering is recommended at the temperatures and times shown, no more than three times.

2. Avoid direct contact between the epoxy body and any tools or surfaces exceeding its maximum