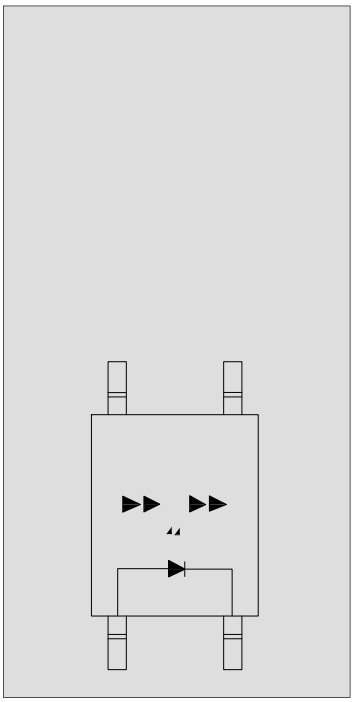
## JOCV1A23-M4

Rev.A.1.0

## DESCRIPTION:

The products are voltage opto-couplers in a plastic SOP4 package. The device consists of a high-voltage output detector circuit.It is capable of directly driving gates of power MOSFETs or IGBTs. The products are widely used in supply for electronic circuit and drive solid state relay.



## MAIN FEATURES

High isolation 3750 VRMS
Operating temperature range -40°C to 110°C
RoHS & REACH Compliance
HBM: H3A ; MM: M4; CDM: C3
CQC approved
VDE approved
UL approved

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

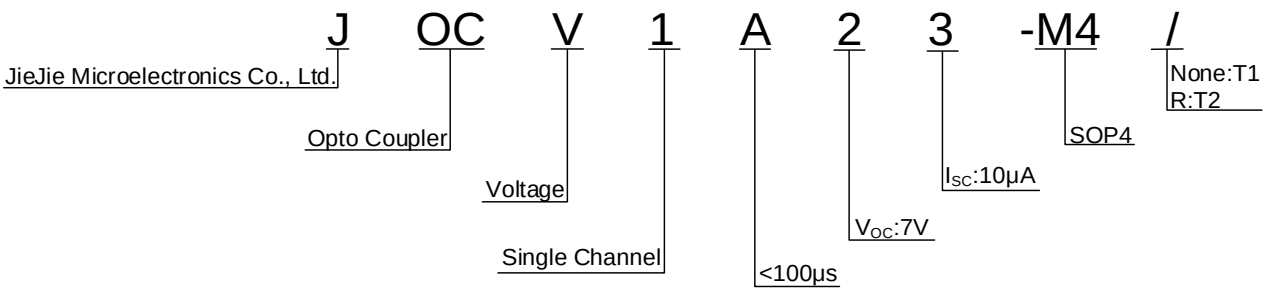
| Parameter | | Symbol | Value | Unit |
|---|---|---|---|---|
| Input | Forward Current | $I_F$ | 50 | mA |
| | Peak Forward Current | $I_{FP}$ | 1 | A |
| | Reverse Voltage | $V_R$ | 6 | V |
| | Power Dissipation | $P_D$ | 75 | mW |
| Isolation Voltage | | $V_{iso}$ | 3750 | Vrms |
| Operating Temperature | | $T_{opr}$ | -40~+110 | |
| Junction Temperature | | $T_j$ | 125 | |
| Storage Temperature | | $T_{stg}$ | -55~+125 | |
| Soldering Temperature | | $T_{sol}$ | 260 | |

**NOTE1**: 100μs pulse, 100Hz frequency
**NOTE2**: AC for 1minute, R.H.=40~60%

## ELECTRICAL CHARACTERISTICS (Temperature=25°C)

| Parameter | | Symbol | Condition | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|---|
| Input | Forward Voltage | $V_F$ | $I_F$=10mA | - | 1.2 | 1.5 | V |
| | Reverse Current | $I_R$ | $V_R$=6V | - | - | 1 | μA |
| Output | Open Circuit Voltage | $V_{OC}$ | $I_F$=10mA<br>$I_O$=0mA | 7 | - | - | V |
| | Short Circuit Cur | M | - | IOC | | | |

## ORDERING INFORMATION

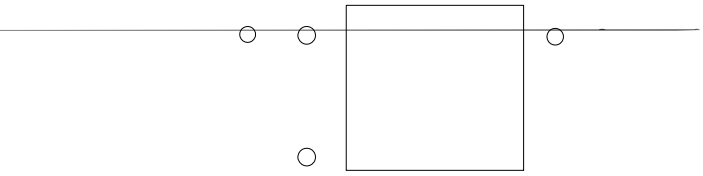



| Packing Quantity | | | |
|---|---|---|---|
| **Option** | **Quantity** | **Quantity – Inner box** | **Quantity –Outer box** |
| SOP4 | 3000 Units/Reel | 2 Reels/Inner box | 5 Inner box/Outer box =30k Units |

## MARKING

## Test Circuits

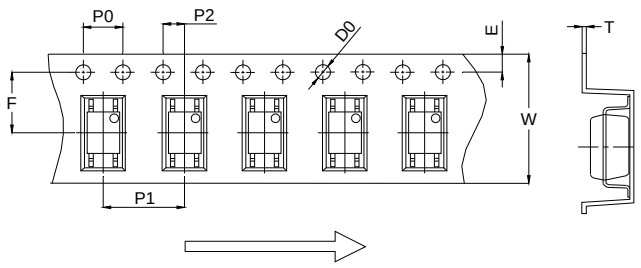
**FIG.7: Response Time Test Circuit, Waveform**



# JOCV1A23

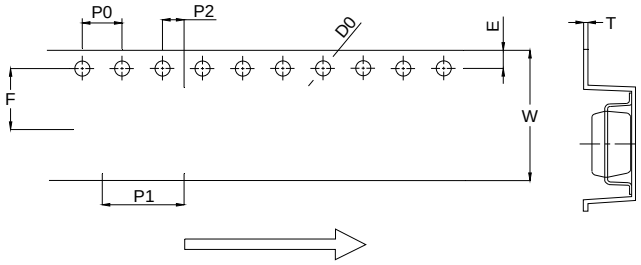
# CARRIER TAPE SPECIFICATIONS (Dimensions in mm unless otherwise stated)

## Option None

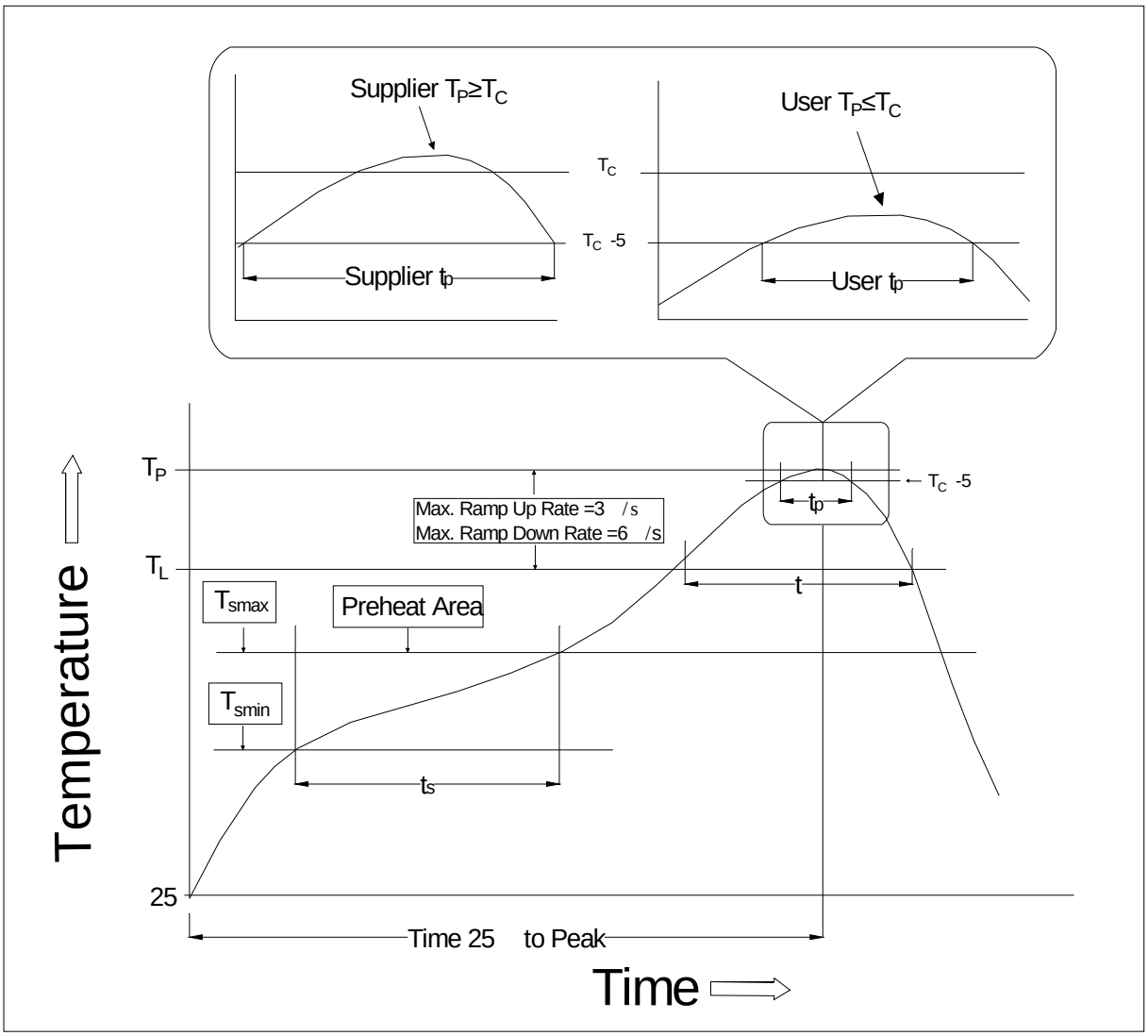



| Ref. | Dimensions | | | | | |
|---|---|---|---|---|---|---|
| | Millimeters | | | Inches | | |
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| D0 | | 1.50 | 1.60 | | 0.059 | 0.063 |
| P0 | 3.90 | 4.00 | 4.10 | 0.154 | 0.157 | 0.161 |
| P1 | 7.90 | 8.00 | 8.10 | 0.311 | 0.315 | 0.319 |
| P2 | 1.90 | 2.00 | 2.10 | 0.075 | 0.079 | 0.083 |
| E | 1.65 | 1.75 | 1.85 | 0.065 | 0.069 | 0.073 |
| F | 4.40 | 4.50 | 4.60 | 0.173 | 0.177 | 0.181 |
| T | 0.25 | 0.30 | 0.35 | 0.010 | 0.012 | 0.014 |
| W | 11.90 | 12.00 | 12.30 | 0.469 | 0.472 | 0.484 |

## Option R



## REFLOW INFORMATION




| Profile Feature | Sn-Pb Assembly Profile | Pb-Free Assembly Profile |
|---|---|---|
| Temperature Min. (Tsmin) | 100 | 150 |
| Temperature Max. (Tsmax) | 150 | 200 |
| Time (ts) from (Tsmin to Tsmax) | 60-120 seconds | 60-120 seconds |
| Ramp-up Rate (tL to tP) | 3 /second max. | 3 /second max. |
| Liquidus Temperature (TL) | 183 | 217 |
| Time (tL) Maintained Above (TL) | 60-150 seconds | 60-150 seconds |
| Peak Body Package Temperature | 235 +0 /-5 | 260 +0 /-5 |
| Time (tP) within 5 of 260 | 10 seconds | 10 seconds |
| Ramp-down Rate (TP to TL) | 3-6 /second | 3-6 /second |
| Time 25 to Peak Temperature | 6 minutes max. | 8 minutes max. |

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 storage temperature.

3. Application of pressure on the epoxy body is prohibited at elevated temperatures. In specific scenarios, any applied force must not exceed 2.5N.

4. Ensure the component has cooled to ambient temperature before proceeding with any subsequent manufacturing steps.

5. The component has a shelf life of one year when stored under standard conditions.

6. Recommend storage Temp.: 0~40°C;

Recommend storage humidity: <60%;

MSL level: MSL 1

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