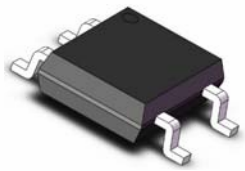
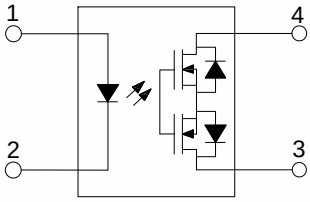
## JOCMC35C-M4

Rev.A.1.0

The products are 4-pin optical relays. The device consists of an AlGaAs infrared emitting diode input stage optically coupled to a high-voltage output detector circuit in a plastic SOP4 package. The detector consists of a high-speed photovoltaic diode array and driver circuitry. The products are widely used in measuring and testing equipment, security and disaster prevention market, industrial machinery and equipment.





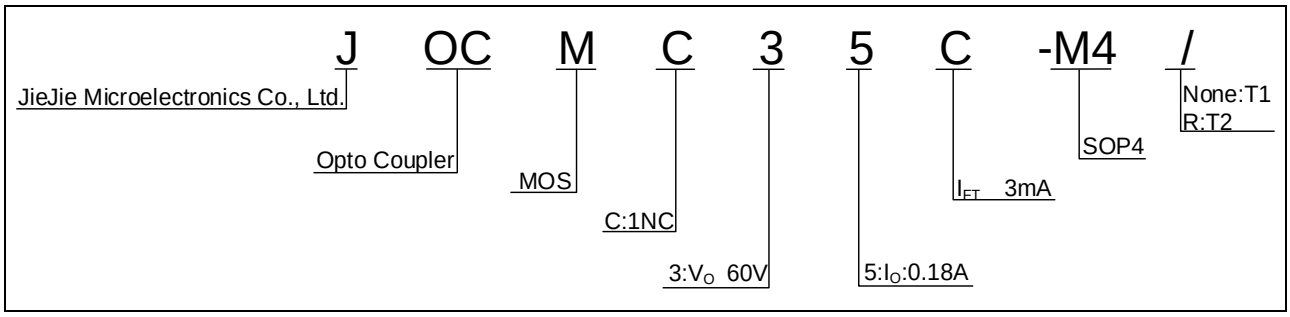

High isolation 3750 Vrms
Operating temperature range -40°C to 110°C
REACH & RoHS compliance
HBM: H3A; MM: M4; CDM: C3
CQC approved
VDE approved
UL approved

(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 |
| | Input Power Dissipation | $P_D$ | 75 | mW |
| Output | Load Voltage | $V_O$ | 60 | V |
| | Continuous load current | $I_O$ | 0.18 | A |
| | Output Power Dissipation | $P_O$ | 300 | mW |
| Total Power Dissipation | | $P_{tot}$ | 375 | mW |
| Isolation Voltage | | $V_{iso}$ | 3750 | Vrms |
| Operating Temperature | | $T_{opr}$ | -40~110 | |
| Junction Temperature | | $T_j$ | 125 | |
| Storage Temperature | | $T_{stg}$ | -40~125 | |
| Soldering Temperature | | $T_{sol}$ | 260 | |

(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 |
| | Action Current | $I_{F(ON)}$ | $I_L$=$I_{L(MAX)}$ | - | 0.9 | 3 | mA |
| | Reset Current | $I_{F(OFF)}$ | $I_L$=$I_{L(MAX)}$ | 0.4 | 0.8 | - | mA |
| Output | On Resistance | $R_{on}$ | $I_F$=5mA $I_L$=Max. Within 1s on time | - | - | 8 | Ω |
| | Off State Leakage Current | $I_{Leak}$ | $I_F$=0mA, $V_L$=Max. | - | - | 1 | μA |
| Switching Characteristics | Isolation Resistance | $R_{ISO}$ | DC500V 40~60%R.H. | $10^{12}$ | - | - | Ω |
| | Floating Capacitance | $C_{IO}$ | V=0, f=1MHz | - | - | 1.5 | pF |
| | Turn On Time | $t_{on}$ | $I_F$=5mA, $I_L$=Max. | - | 0.65 | 2 | ms |
| | Turn Off Time | $t_{off}$ | $I_F$=5mA, $I_L$=Max. | - | 0.08 | 0.2 | ms |


J
OC
M
C
3
5
C
-M4
/
JieJie Microelectronics Co., Ltd.
Opto Coupler
MOS
C:1NC
3:VO 60V
5:IO:0.18A
IFT 3mA
SOP4
None:T1
R:T2

| | |
|---|---|
| | |
| | |

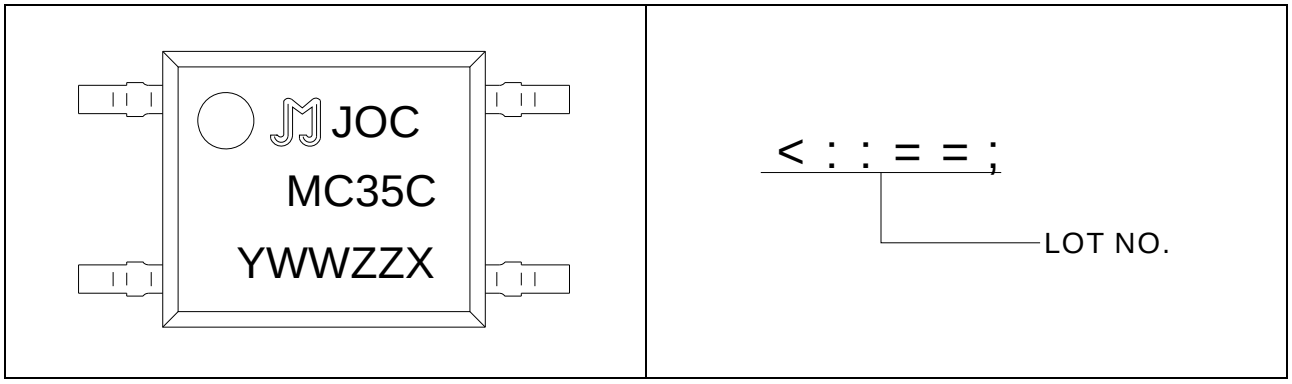

JOC
MC35C
YWWZZX
LOT NO.

**FIG.1:** LED Dropout Voltage vs. Ambient Temperature

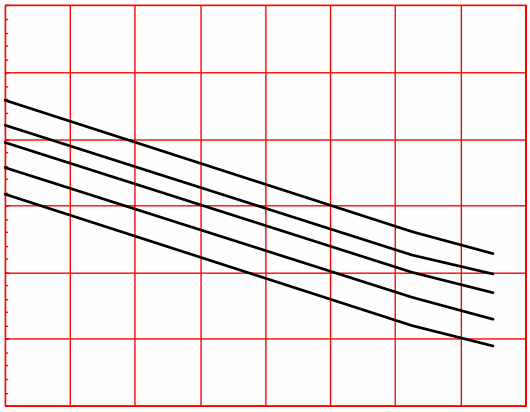


**FIG.2:** Output Current vs. Output Voltage

**FIG.7:** Turn On Time vs. Ambient Temperature

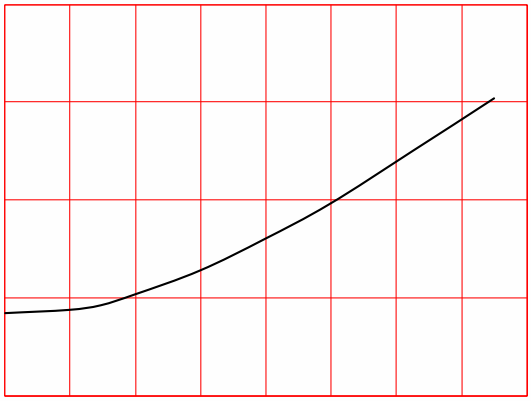


**FIG.8:** Turn Off Time vs. Ambient Temperature

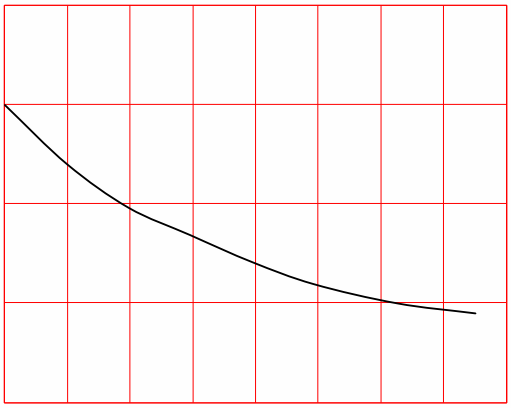


**FIG.9:** Turn On Time vs. LED Forward Current

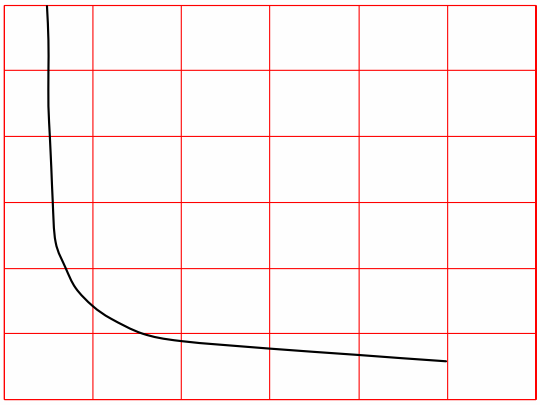


**FIG.10:** Turn Off Time vs. LED Forward Current

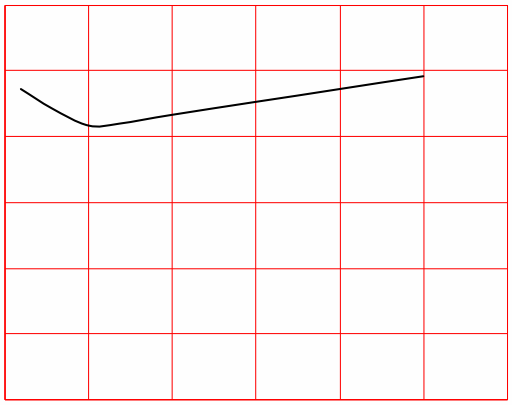


**FIG.11:** Off State Leakage Current vs. Load Voltage

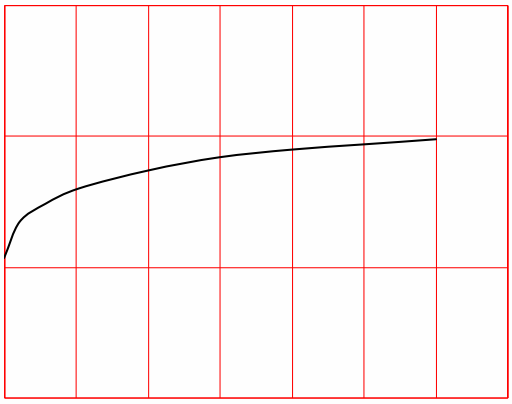
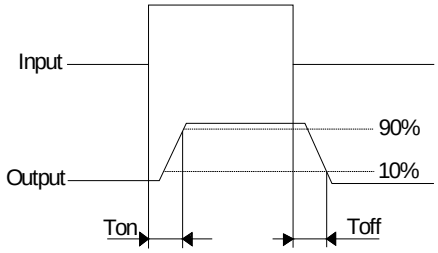
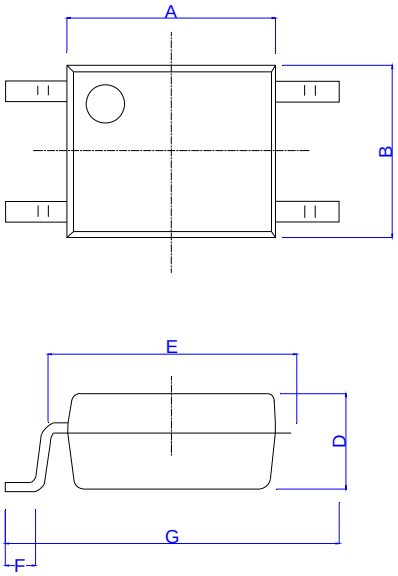


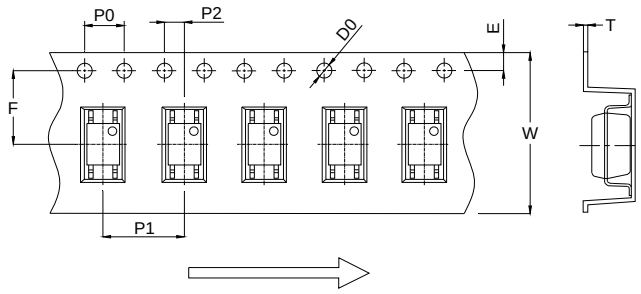
**Fig.12: Turn on/Turn off time**





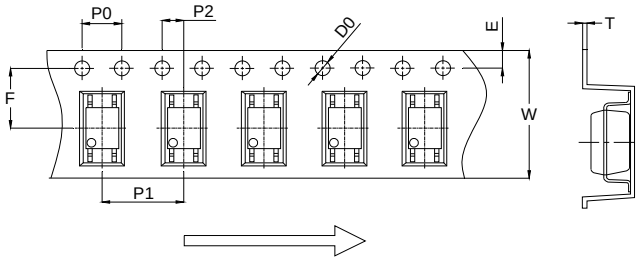

| Ref. | Dimensions | | | | | |
|---|---|---|---|---|---|---|
| | Millimeters | | | Inches | | |
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| A | 4.40 | | 4.80 | 0.173 | | 0.189 |
| B | 3.60 | | 4.20 | 0.142 | | 0.165 |
| C | | | | | | |
| D | 1.90 | | 2.30 | 0.075 | | 0.091 |
| E | 5.00 | | 5.60 | 0.197 | | 0.220 |
| F | | | | | | |
| G | 6.70 | | | 0.264 | | |
| H | | | | | | |
| I | | | | | | |
| J | | | | | | |
| | | | | | | |

## Option None

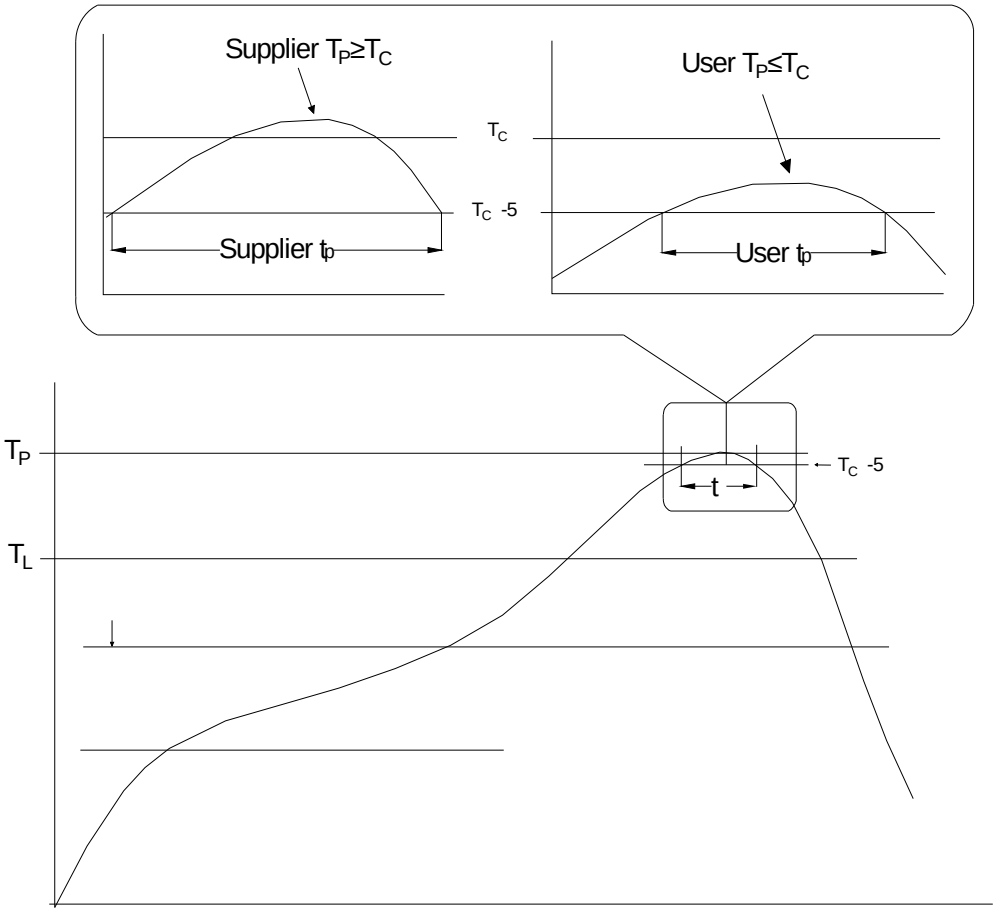



| Ref. | Dimensions | | | | | |
|---|---|---|---|---|---|---|
| | Millimeters | | | Inches | | |
| | Min. | Typ. | Max. | Min. | Typ. | Max. |
| D0 | | 1.50 | 1.60 | | 0.059 | 0.063 |
| P0 | 3.90 | 4.00 | 4.10 | 0.154 | 0.157 | 0.161 |
| P1 | 7.90 | 8.00 | 8.10 | 0.311 | 0.315 | 0.319 |
| P2 | 1.90 | 2.00 | 2.10 | 0.075 | 0.079 | 0.083 |
| E | 1.65 | 1.75 | 1.85 | 0.065 | 0.069 | 0.073 |
| F | 7.40 | 7.50 | 7.60 | 0.291 | 0.295 | 0.299 |
| T | 0.27 | 0.30 | 0.33 | 0.011 | 0.012 | 0.013 |
| W | 15.80 | 16.00 | 16.20 | 0.622 | 0.630 | 0.638 |

## Option R




| 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 |


Supplier $T_P \geq T_C$
User $T_P \leq T_C$
$T_C$
$T_C$ -5
Supplier $t_p$
User $t_p$
$T_P$
$T_L$
$T_C$ -5
t

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