

# For AC/DC Load General-purpose SOP Type Optical MOS Relay

OCMS2 □ 6, 2 □ 7 series

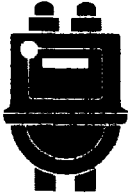
- SOP type ▶ Mounting area 1/2, Mounting height  $\leq$  1/2 (compared with 6pin DIP)
- ON resistance ▶ 2~33  $\Omega$
- Load current ▶ 320~100 mA
- Recommended input current ▶ 10 mA

## ■ Absolute maximum ratings


(Ambient temperature Ta=25°C)

| Product name           |   |                          |   | OCMS206  | OCMS216 | OCMS226 | OCMS236 | OCMS246 |     |
|------------------------|---|--------------------------|---|--|---------|---------|---------|---------|-----|
| Item                   | Symbol  | Condition                | Unit  |  |         |         |         |         |     |
| Input characteristics  | Continuous forward current                    | I <sub>F</sub>           | mA  | 50   |         |         |         |         |     |
|                        | Derating factor of continuous forward current | $\Delta$ I <sub>F</sub>  | mA/°C   | Refer to [Derating Factor of Continuous Forward current] of characteristics data |         |         |         |         |     |
|                        | Peak forward current                          | I <sub>FM</sub>          | <small>Pulse width 100 <math>\mu</math>s<br/>Cycle 10ms</small> A | 0.5  |         |         |         |         |     |
|                        | Reverse voltage                               | V <sub>R</sub>           | V   | 5  |         |         |         |         |     |
|                        | Power dissipation                             | P <sub>DL</sub>          | mW  | 75   |         |         |         |         |     |
| Output characteristics | Load voltage                                  | V <sub>OFF</sub>         | V   | 60   | 100     | 200     | 350     | 400     |     |
|                        | Load current                                  | I <sub>ON</sub>          | mA  | 320  | 280     | 180     | 120     | 100     |     |
|                        | Derating factor of load current               | $\Delta$ I <sub>ON</sub> | mA/°C   | Refer to [Derating Factor of Load Current] of characteristics data               |         |         |         |         |     |
|                        | Surge load current                            | I <sub>SUG</sub>         | <small>Pulse width 1ms<br/>1shot</small> A                        | 1.0  |         | 0.8     |         |         | 0.7 |
|                        | Power dissipation                             | P <sub>D</sub>           | mW  | 300  |         |         |         |         |     |
|                        | Total power dissipation                       | P <sub>tot</sub>         | mW  | 325  |         |         |         |         |     |
|                        | Isolation voltage                             | V <sub>IO</sub>          | V(rms)  | 1500   |         |         |         |         |     |
| Operating temperature  | T <sub>opr</sub>                              | °C                       | -40~+85   |  |         |         |         |         |     |
| Storage temperature    | T <sub>stg</sub>                              | °C                       | -40~+100  |  |         |         |         |         |     |

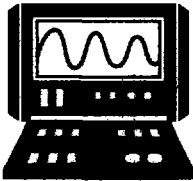
### APPLICATIONS




Automatic meter reading system



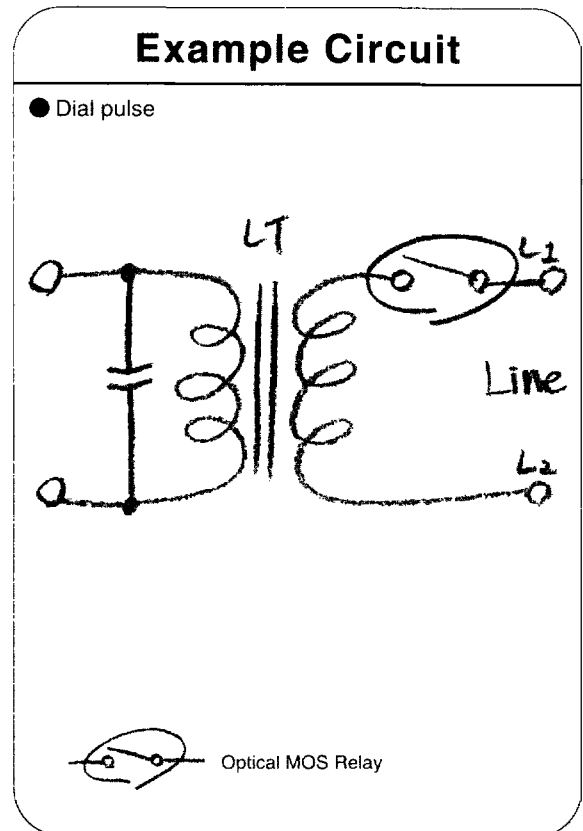
Card modem



Measurement equipment



Industrial equipment



### Electrical characteristics

(Ambient temperature Ta=25°C)

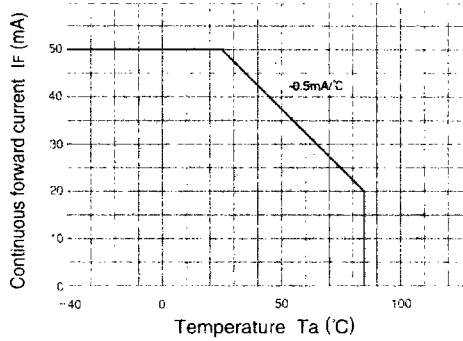
| Product name                            |                                       |  |   |     | OCMS206 | OCMS216 | OCMS226 | OCMS236 | OCMS246 |    |
|---|---------------------------------------|--|---|-----|---------|---------|---------|---------|---------|----|
| Item                                    | Symbol                                | Condition                              | Unit                                      |     |         |         |         |         |         |    |
| Input characteristics                   | Forward voltage                       | VF                                     | IF=10mA                                   | MIN |         |         | 1.0     |         |         |    |
|   |                                       |  |   | MAX |         |         | 1.3     |         |         |    |
|   | Reverse voltage                       | IR                                     | VR=5V                                     | MAX | μA      |         | 10      |         |         |    |
|   | Operation input current <sup>*1</sup> | IFA                                    | ION=100mA                                 | MAX | mA      |         | 5       |         |         |    |
| Recovery input current                  | IFR                                   | V <sub>OFF</sub> =Rating<br>ION=100 μA | MIN                                       | mA  |         |         | 0.2     |         |         |    |
| Output characteristics                  | On-resistance                         | RON                                    | IF=10mA<br>ION=100mA                      | MIN | Ω       | 1.0     | 2.0     | 4.0     | 7.0     | 10 |
|   |                                       |  | Time to flow current is within one second | TYP |         | 2.0     | 3.0     | 7.0     | 17      | 22 |
|   |                                       |  |   | MAX |         | 3.0     | 4.0     | 10      | 24      | 33 |
| Off-state leakage current <sup>*2</sup> | IOFF                                  | V <sub>OFF</sub> =Rating               | MAX                                       | μA  |         |         | 1.0     |         |         |    |
| Output terminal capacitance             | COU                                   | V <sub>OFF</sub> =50V<br>f=1MHz        | TYP                                       | pF  | 35      | 25      | 15      | 12      | 10      |    |
| Input-to-output capacitance             | CIO                                   | f=1MHz                                 | TYP                                       | pF  |         |         | 1.3     |         |         |    |
| Coupling characteristics                | Turn on time <sup>*3</sup>            | ton                                    | IF=10mA<br>ION=100mA                      | TYP | ms      |         |         | 0.3     |         |    |
|   |                                       |  | OCMS206<br>OCMS216<br>OCMS226             | MAX |         |         | 1.0     |         |         |    |
| Turn off time <sup>*3</sup>             | toff                                  | toff                                   | I <sub>off</sub> =50mA                    | TYP | ms      |         |         | 0.2     |         |    |
|   |                                       |  | OCMS236<br>OCMS246                        | MAX |         |         | 1.0     |         |         |    |

\*1 : Can correspond to special specification I<sub>FA</sub> < 3.0mA

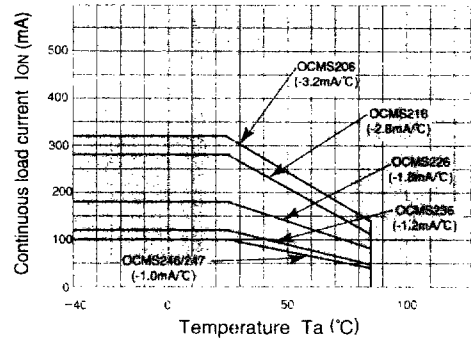
\*2 : Can correspond to special specification I<sub>OFF</sub> < 1.0mA

\*3 : Can correspond to special specification t<sub>on</sub> / t<sub>off</sub> < 0.5ms

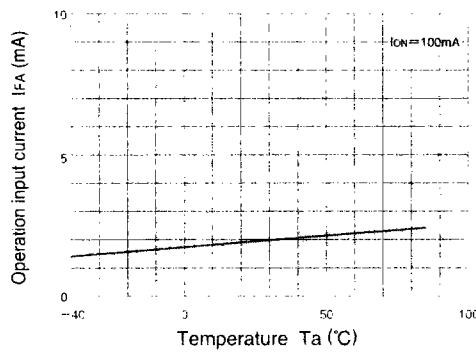
# OCMS2 6, 2 7 series Characteristics Curves



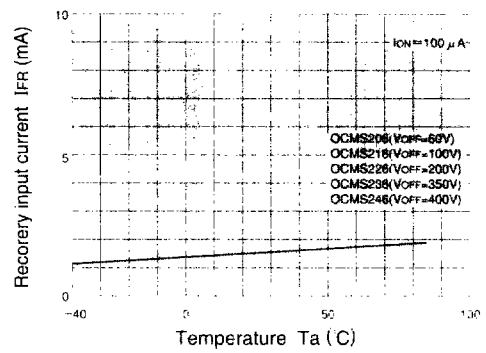
**Derating factor of continuous forward current**



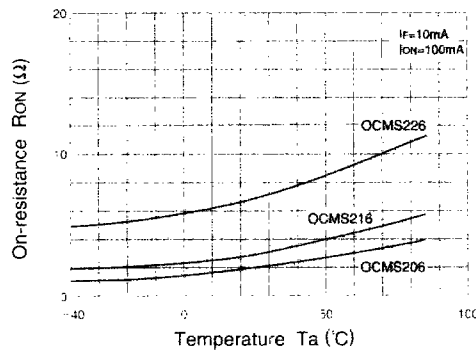
**Derating factor of load current**



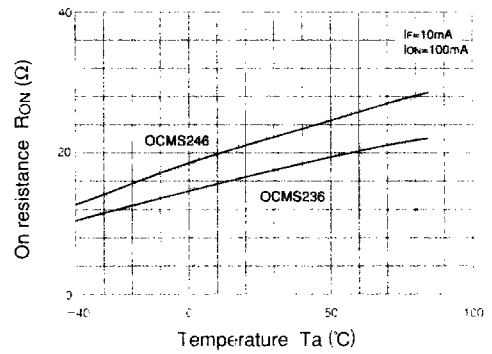
**Operation input current vs. Ambient temperature**



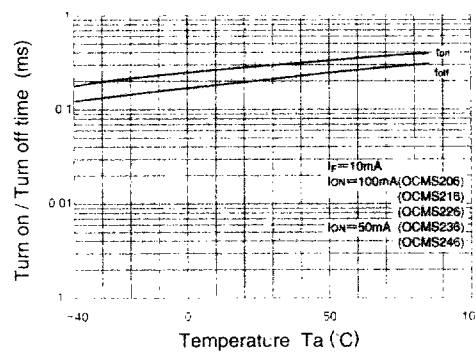
**Recovery input current vs. Ambient temperature**



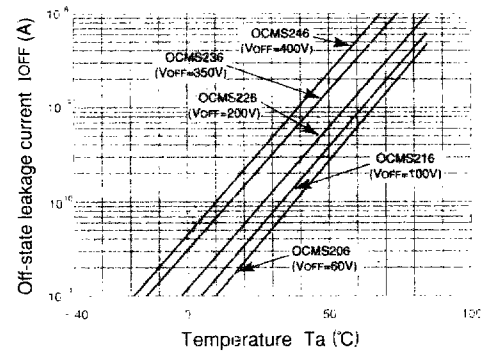
**On-resistance vs. Ambient temperature-1**



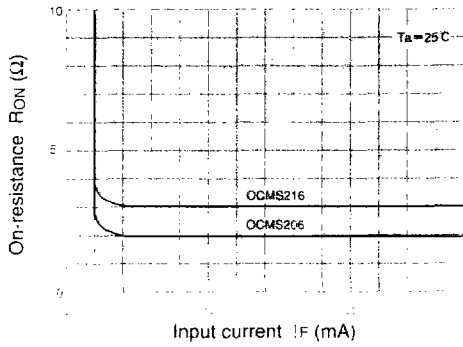
**On-resistance vs. Ambient temperature-2**



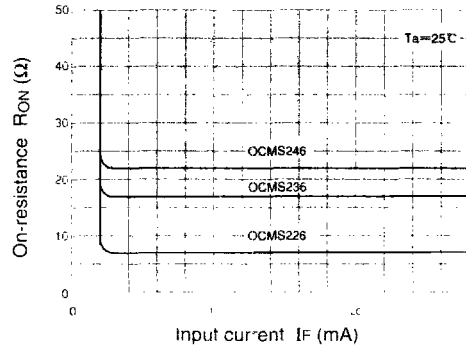
**Turn on/Turn off time vs. Ambient temperature**



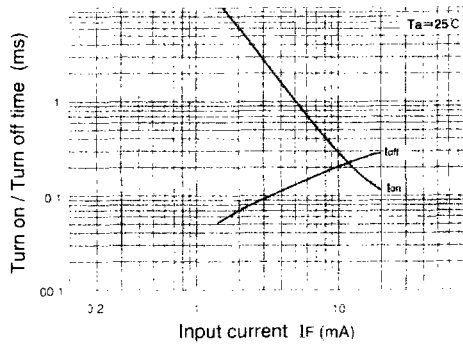
**Off-state leakage current vs. Ambient temperature**



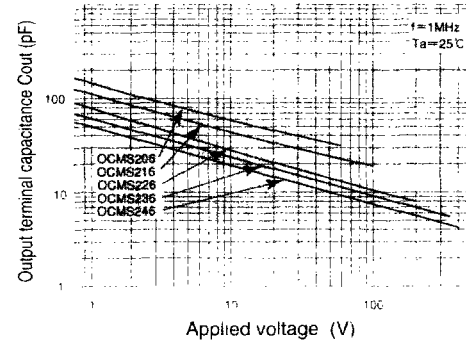
**Continuous forward current vs. On-resistance-1**



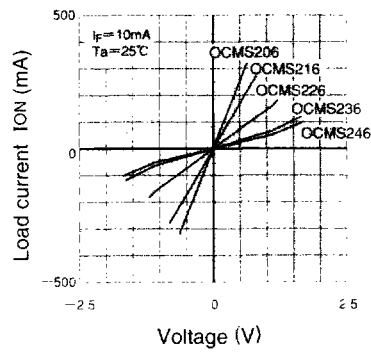
**Continuous forward current vs. On-resistance-2**



**Continuous forward current vs. Turn on/Turn off time**



**Output terminal capacitance vs. Applied voltage**



**Load current vs. Voltage**