ForAC/DC Load Low ON Resistance Type Optical MOS Relay

OCM2 □ 2, 2 □ 3 series
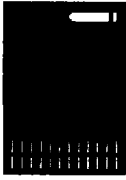
■ **Low on resistance** ▶ 0.9~12.5 Ω

■ **Load current** ▶ 400~150 mA

■ **Recommended input current** ▶ 10 mA

■ **Absolute maximum ratings** (Ambient temperature Ta=25℃)

Product name Item	Symbol	Condition	Unit	OCM202 OCM203	OCM212 OCM213	OCM222 OCM223	OCM242 OCM243
Input characteristics							
Continuous forward current	V_F		mA	50			
Derating factor of continuous forward current	ΔI_F		mA/℃	Refer to [Derating Factor of Continuous Forward current] of characteristics data			
Peak forward current	I_{FM}	Pulse width 100 μs Cycle 10ms	A	0.5			
Reverse voltage	V_R		V	5			
Power dissipation	P_{DL}		mW	75			
Output characteristics							
Load voltage	V_{OFF}		V	60	100	200	400
Load current	I_{ON}		mA	400	350	250	150
Derating factor of load current	ΔI_{ON}		mA/℃	Refer to [Derating Factor of Load Current] of characteristics data			
Surge load current	I_{SUG}	Pulse width 1ms 1shot	A	3.5			1.5
Total power dissipation	P_D		mW	300			
Total power dissipation	P_{tot}		mW	325			
Isolation voltage	V_{IO}		V(rms)	1500 — OCM202, OCM212, OCM222, OCM242; 4000 — OCM203, OCM213, OCM223, OCM243			
Operating temperature	T_{opr}		℃	−40~+85			
Storage temperature	T_{stg}		℃	−40~+100			
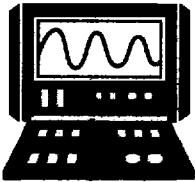
APPLICATIONS

PBX

Electronic switching system

Measurement equipment

Example Circuit

● Battery polarity Inversion

Battery

Optical MOS Relay
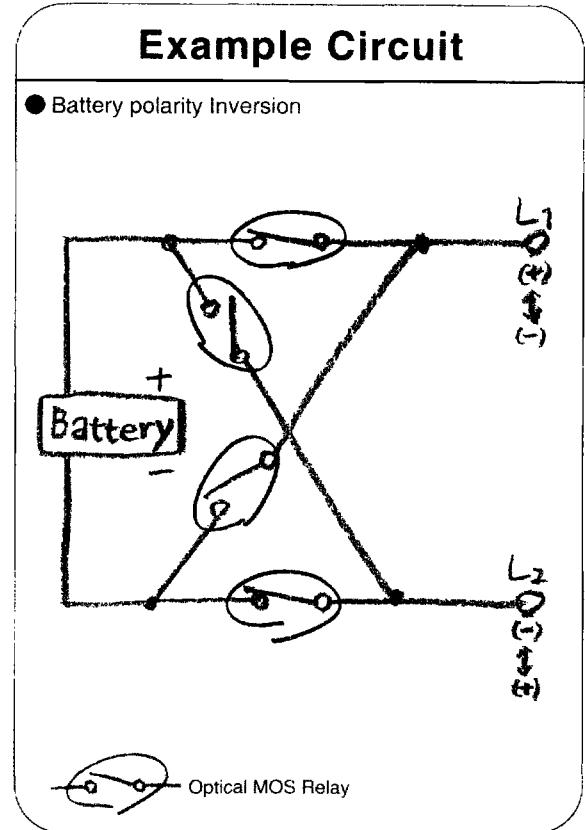
■ Electrical characteristics

(Ambient temperature Ta=25°C)

Product name					OCM202 OCM203	OCM212 OCM213	OCM222 OCM223	OCM242 OCM243
Item	Symbol	Condition		Unit				
Forward voltage	V_F	I_F=10mA	MIN	V			1.0	
			MAX				1.3	
Reverse voltage	I_R	V_R=5V	MAX	μA			10	
Operation input current *1	I_{FA}	I_{ON}=100mA	MAX	mA			5	
Recovery input current	I_{FR}	V_{OFF}=Rating I_{ON}=100μA	MIN	mA			0.2	
On-resistance	R_{ON}	I_F=10mA I_{ON}=100mA Time to flow current is within one second	MIN		0.4	0.6	2.0	6.0
			TYP	Ω	0.9	1.3	3.0	9.0
			MAX		1.5	2.0	4.0	12.5
Off-state leakage current *2	I_{OFF}	V_{OFF}=Rating	MAX	μA			1.0	
Output terminal capacitance	C_{OUT}	V_{OFF}=50V f=1MHz	TYP	pF	70	50	35	25
input-to-output capacitance	C_{IO}	f=1MHz	TYP	pF			1.3	
Turn on time *3	t_{on}	I_F=10mA I_{ON}=100mA	TYP	ms			0.3	
			MAX				1.0	
Turn off time *3	t_{off}		TYP	ms			0.2	
			MAX				1.0	

*1 : Can correspond to special specification I_{FA}≦3.0mA
*2 : Can correspond to special specification I_{OFF}<1.0nA
*3 : Can correspond to special specification t_{ON} / t_{OFF}<0.5ms
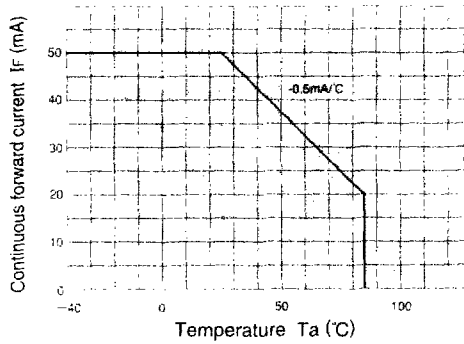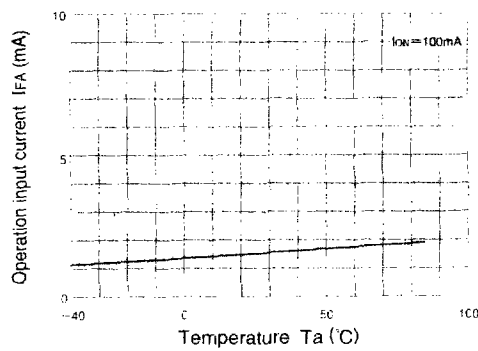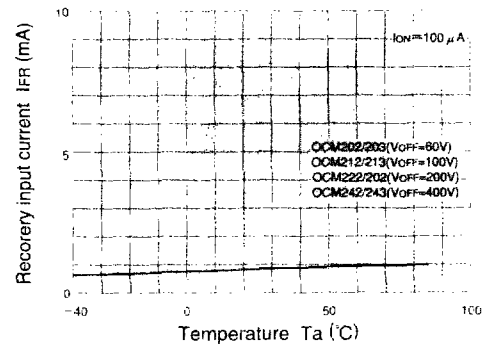
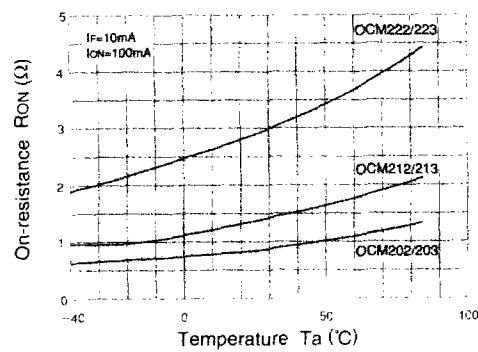**Derating factor of continuous forward current**
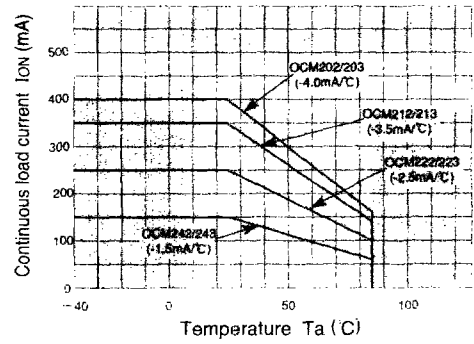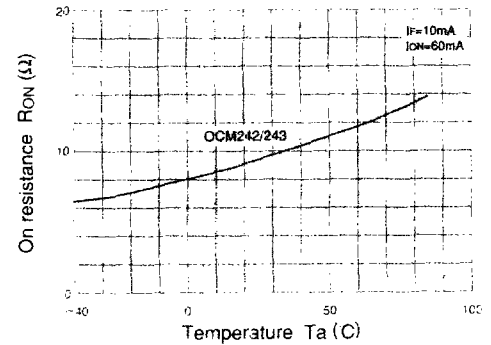
Derating factor of load current

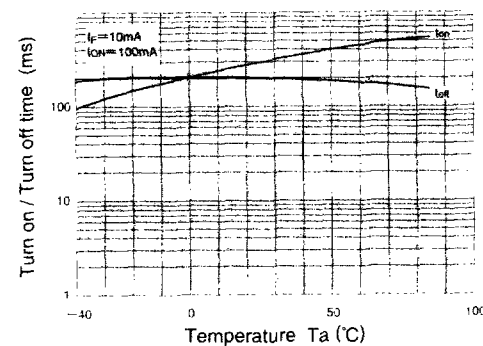**Operation input current vs. Ambient temperature**

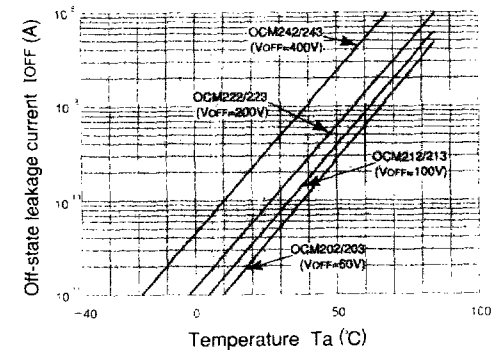**Recovery input current vs. Ambient temperature**
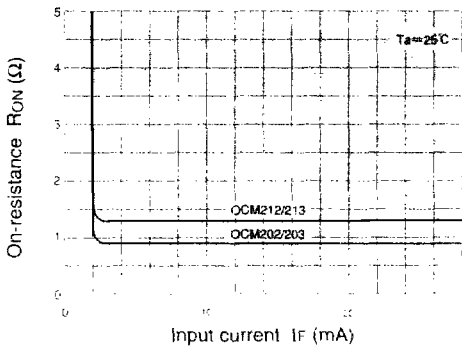
On-resistance vs. Ambient temperature-1

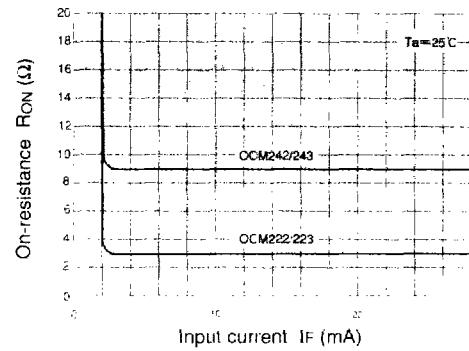**On-resistance vs. Ambient temperature-2**

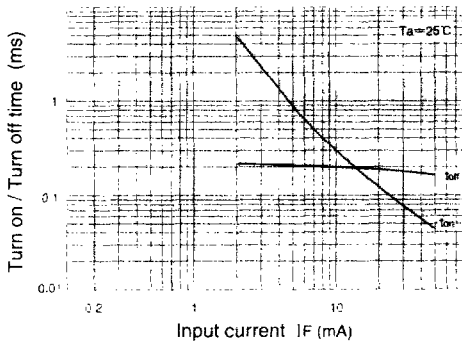**Turn on/Turn off time vs. Ambient temperature**

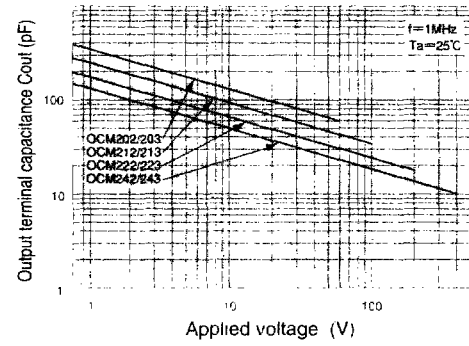**Off-state leakage current vs. Ambient temperature**

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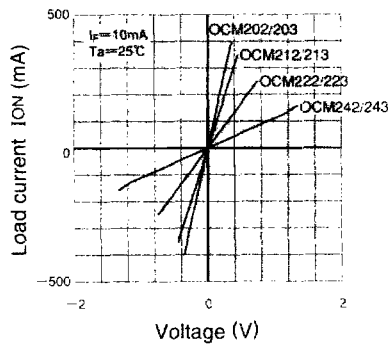vs. On-resistance-1**

**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