For AC/DC Dual-channel / Purpose General-purpose Type Optical MOS Relay

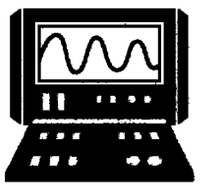
OCM4 □ 8, 4 □ 9 series

- **Space saving ▶ Dual channels mounted in the 6-pin DIP space**
- **On resistance ▶ 4~70 Ω**
- **Load current ▶ 200~50 mA**
- **Recommended input current ▶ 10 mA**

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

	Item	Symbol	Condition	Unit	OCM408 OCM409	OCM418 OCM419	OCM428 OCM429	OCM438 OCM439	OCM448 OCM449
Input characteristics	Continuous forward current	I_F		mA	50				
	Derating factor of continuous forward current	ΔI_F		mA/°C	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				
Out-put characteristics	Load voltage	V_{OFF}		V	60	100	200	350	400
	Load current	I_{ON}		mA	200	150	100	75	50
	Derating factor of load current	ΔI_{ON}		mA/°C	Refer to [Derating Factor of Load Current] of characteristics data				
	Surge load current	I_{SUG}	Pulse width 1ms 1shot	A	0.5			0.3	
	Power dessipation	P_D		mW	300				
	Total power dessipation	P_{tot}		mW	325				
	Isolation voltage	V_{IO}		V(rms)	1500				
					OCM408	OCM418	OCM428	OCM438	OCM448
					4000				
					OCM409	OCM419	OCM429	OCM439	OCM449
	Operating temperature	T_{opr}		°C	−40~+85				
	Storage temperature	T_{stg}		°C	−40~+100				

APPLICATIONS



Measurement equipment

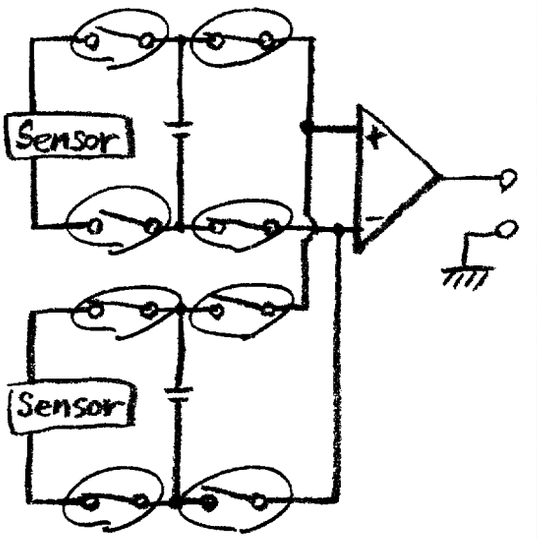
Security equipment

Office automation system

Industrial equipment

Example Circuit

● Flying capacitor



Optical MOS Relay

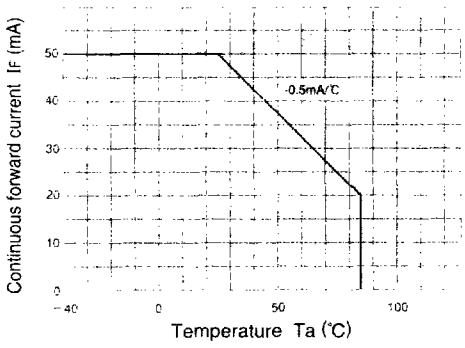
■ Electrical characteristics

(Ambient temperature Ta=25°C)

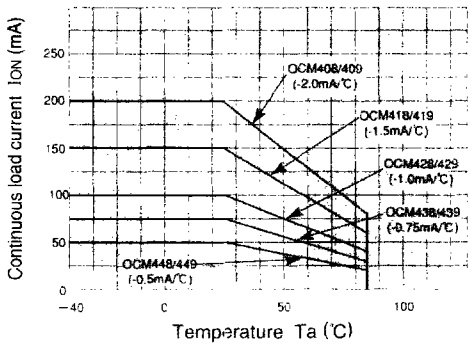
Item		Symbol	Condition		Unit	Product name: OCM408 OCM409	OCM418 OCM419	OCM428 OCM429	OCM438 OCM439	OCM448 OCM449
Input characteristics	Forward voltage	V_F	I_F=10mA	MIN	V			1.0		
				MAX				1.3		
	Reverse voltage	I_R	V_R=5V	MAX	μA			10		
	Operation input current *1	I_{FA}	I_{ON}=100mA	MAX	mA			5		
	Recovery input current	I_{FR}	V_{OFF}=Rating I_{ON}=100 μA	MIN	mA			0.2		
Output characteristics	On-resistance	R_{ON}	I_F=10mA I_{ON}=100mA OCM408.409.418.419 I_{ON}=Rating *4 Time to flow current is within one second	MIN	Ω					
				TYP		4.0	5.0	12	25	50
				MAX		5.0	7.0	16	35	70
	Off-sate leakage current *2	I_{OFF}	V_{OFF}=Rating	MAX	μA			1.0		
	Output terminal capacitance	C_{OUT}	V_{OFF}=50V f=1MHz	TYP	pF	15	10	8	6	5
Coupling characteristics	Input-to-output capacitance	C_{IO}	f=1MHz	TYP	pF			1.3		
	Turn on time *3	t_{on}	I_F=10mA I_{on}=100mA OCM408.409 OCM418.419 OCM428.429	TYP	ms			0.3		
				MAX				1.0		
	Turn off time *3	t_{off}	I_{off}=50mA OCM438.439 OCM448.449	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
*4 : Except (OCM408, 409, 418, 419)

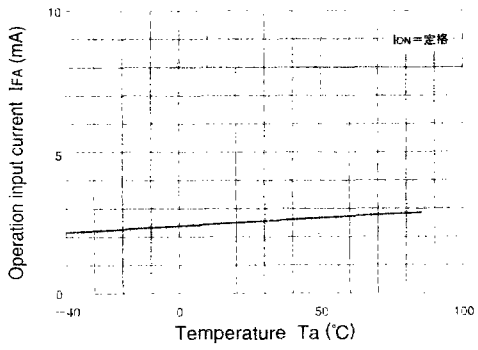
■ OCM4□8, 4□9 series Characteristics Curves



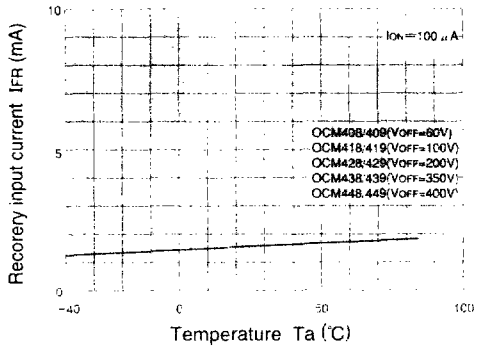
Derating factor of continuous forward current



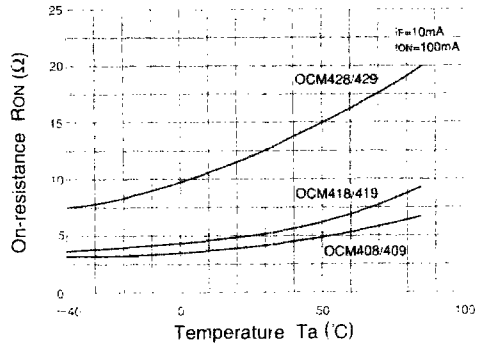
Derating factor of load current



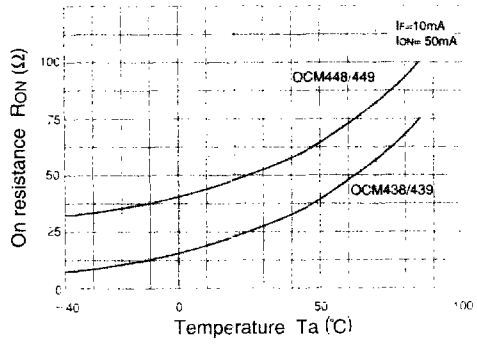
Operation input current vs. Ambient temperature



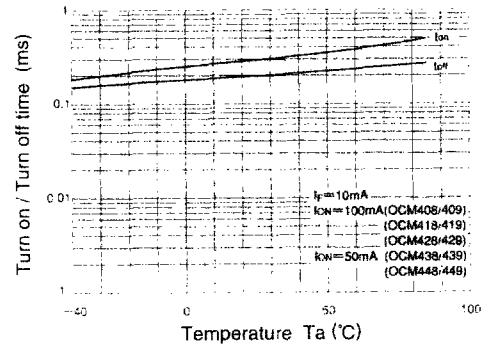
Recovery input current vs. Ambient temperature



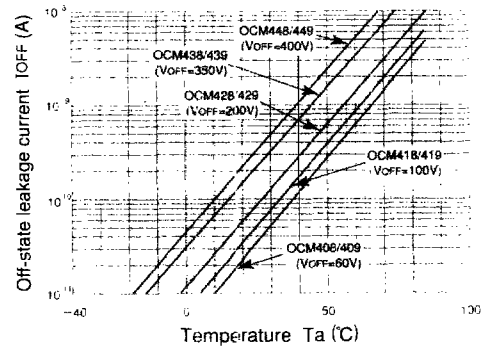
On-resistance vs. Ambient temperature-1



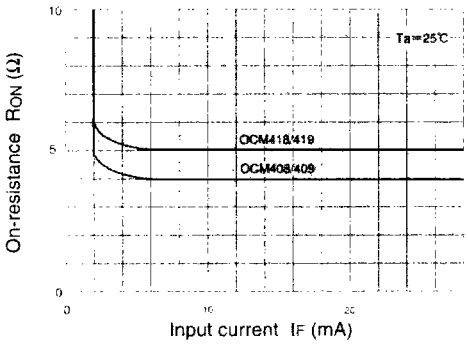
On-resistance vs. Ambient temperature-2



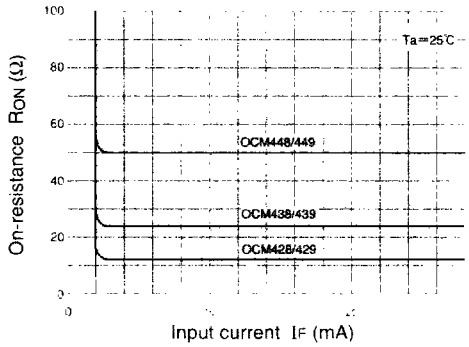
Turn on/Turn off time vs. Ambient temperature



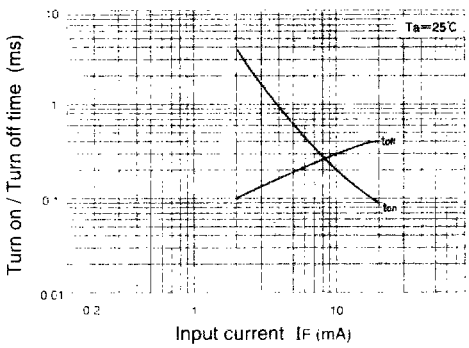
Off-state leakage current vs. Ambient temperature



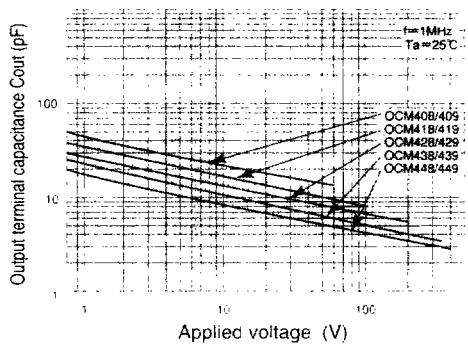
Continuous forward current vs. On-resistance-1



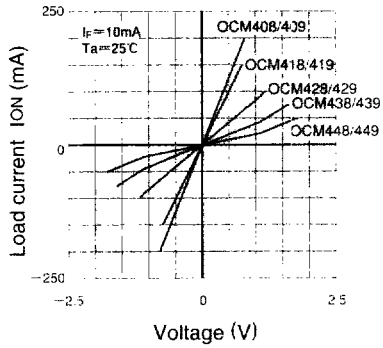
Continuous forward current vs. On-resistance-2



Continuous forward current vs. Turn on/Turn off time



Output terminal capacitance vs. Applied voltage



Load current vs. Voltage