

For AC/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 $T_a=25^\circ\text{C}$)

Product name					OCM202 OCM203	OCM212 OCM213	OCM222 OCM223	OCM242 OCM243
Item	Symbol	Condition	Unit					
Input characteristics	Continuous forward current	V_F		mA	50			
	Derating factor of continuous forward current	ΔI_F		mA/ $^\circ\text{C}$	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			
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/ $^\circ\text{C}$	Refer to [Derating Factor of Load Current] of characteristics data			
	Surge load current	I_{SUG}	Pulse width 1ms 1shot	A	3.5			
	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}		$^\circ\text{C}$	-40~+85			
	Storage temperature	T_{stg}		$^\circ\text{C}$	-40~+100			

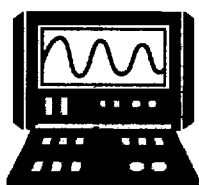
APPLICATIONS



PBX



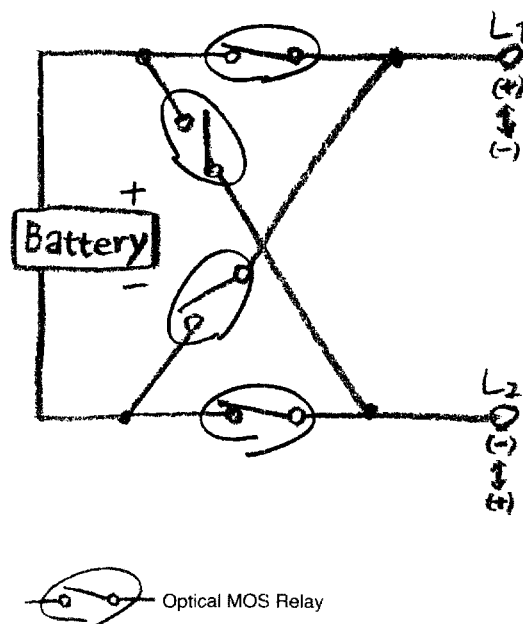
Electronic switching system



Measurement equipment

Example Circuit

● Battery polarity Inversion



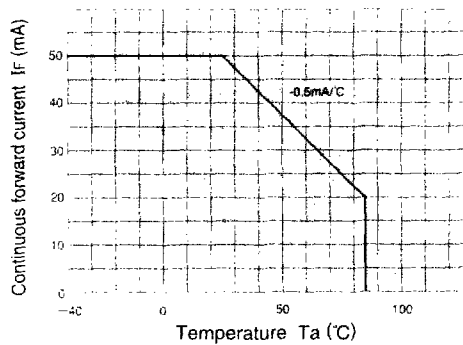
Electrical characteristics

(Ambient temperature $T_a=25^\circ\text{C}$)

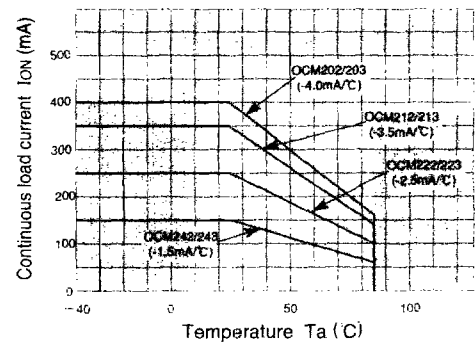
Product name						OCM202 OCM203	OCM212 OCM213	OCM222 OCM223	OCM242 OCM243
Item		Symbol	Condition		Unit				
Input characteristics	Forward voltage	V _F	I _F =10mA	MIN	V	1.0			
				MAX		1.3			
	Reverse voltage	I _R	V _R =5V	MAX	μA	10			
	Operation input current ^{*1}	I _{FA}	I _{ON} =100mA	MAX	mA	5			
	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 Time to flow current is within one second	MIN	Ω	0.4	0.6	2.0	6.0
				TYP		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
Coupling characteristics	Input-to-output capacitance	C _{IO}	f=1MHz	TYP	pF	1.3			
	Turn on time ^{*3}	t _{on}		TYP	ms	0.3			
				MAX		1.0			
	Turn off time ^{*3}	t _{off}	I _F =10mA I _{ON} =100mA	TYP	ms	0.2			
				MAX		1.0			

^{*1} : Can correspond to special specification: $I_{FA} < 3.0\text{mA}$ ^{*2} : Can correspond to special specification: $I_{OFF} < 1.0\mu\text{A}$ ^{*3} : Can correspond to special specification: $t_{on} / t_{off} < 0.5\text{ms}$

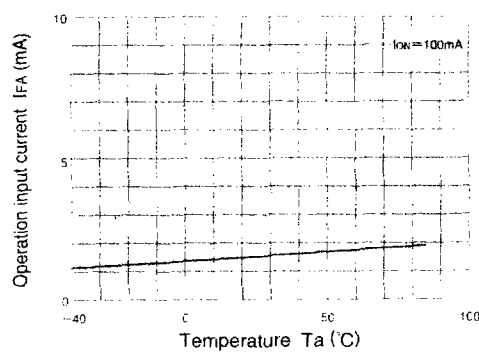
OCM2 2, 2 3 series Characteristics Curves



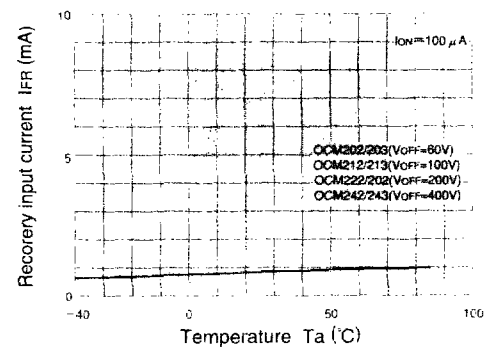
Derating factor of continuous forward current



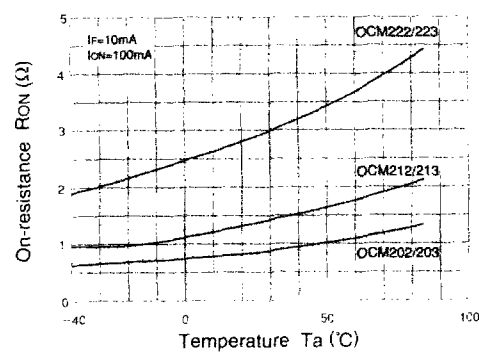
Derating factor of load current



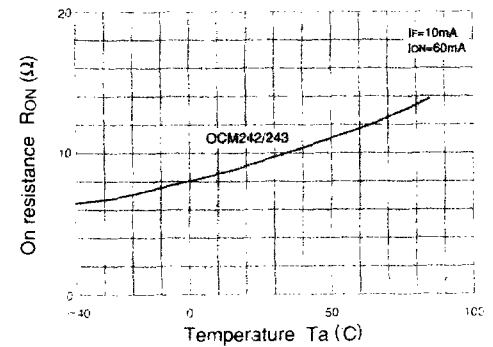
Operation input current vs. Ambient temperature



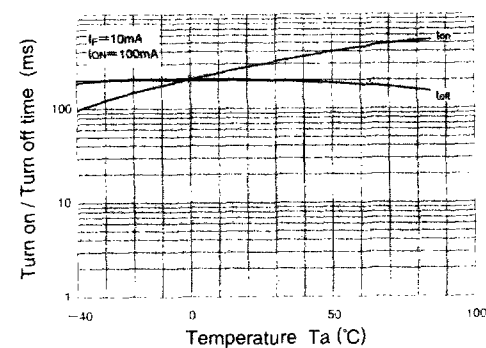
Recovery input current vs. Ambient temperature



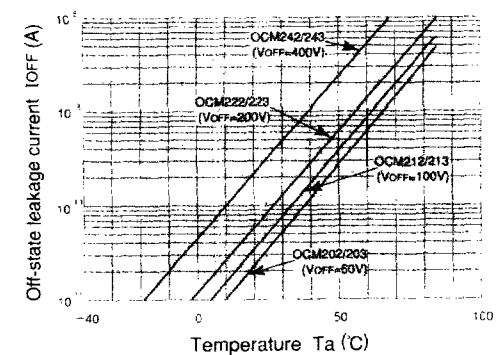
On-resistance vs. Ambient temperature-1



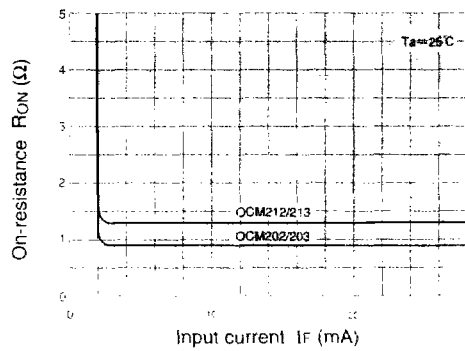
On-resistance vs. Ambient temperature-2



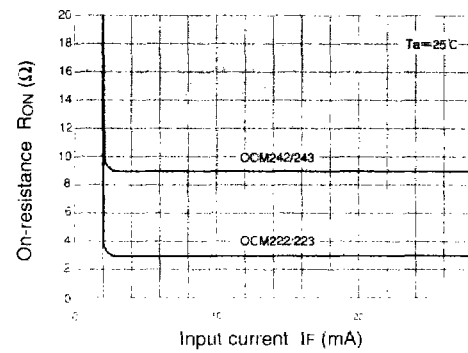
Turn on/Turn off time vs. Ambient temperature



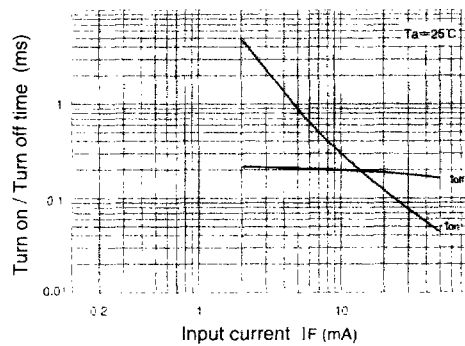
Off-state leakage current vs. Ambient temperature



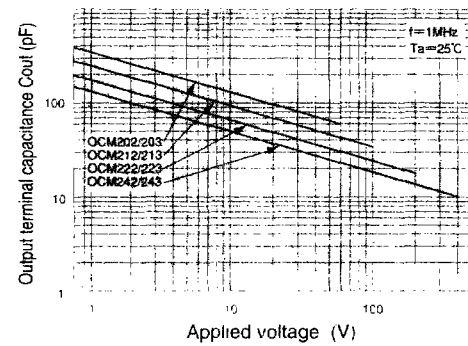
**Continuous forward current
vs. On-resistance-1**



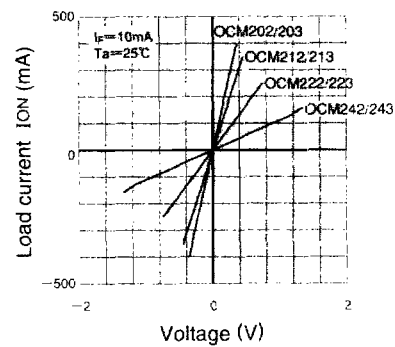
**Continuous forward current
vs. On-resistance-2**



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



**Output terminal capacitance
vs. Applied voltage**



Load current vs. voltage