

For AC/DC Load Low Output Capacitance Type Optical MOS Relay

OCM2 □ 4, 2 □ 5 series

- Low output capacitance ▶ 7 pF
- Load current ▶ 80~15 mA
- Recommended input current ▶ 10mA
- High speed response (TYP.) ▶ $t_{on} : 30 \mu s, t_{off} : 60 \mu s$
- Isolation loss ▶ 30dB or more (at 10MHz)
- Off-state lead current ▶ max, 1nA

■ Absolute maximum ratings

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

Product name				OCM204	OCM214	OCM224	OCM244
Item	Symbol	Condition	Unit	OCM205	OCM215	OCM225	OCM245
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	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	80	50	40	15
	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	0.1		0.07	0.025
	Power dissipation	P_D	mW	300			
	Total power dissipation	P_{tot}	mW	325			
Isolation voltage	V_{IO}	V(rms)	1500				
			OCM204	OCM214	OCM224	OCM244	
Operating temperature	T_{cpr}	°C	4000				
			OCM205	OCM215	OCM225	OCM245	
Storage temperature	T_{stg}	°C	-40~+85				
			-40~+100				

APPLICATIONS



IC tester



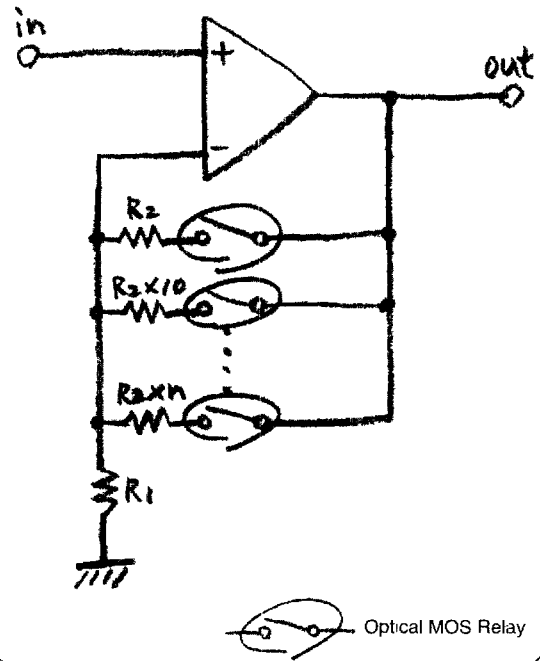
Board tester



Industrial equipment

Example Circuit

● Gain control



Electrical characteristics

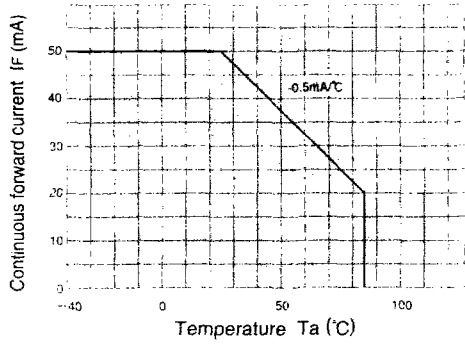
(Ambient temperature Ta=25°C)

Product name					OCM204 OCM205	OCM214 OCM215	OCM224 OCM225	OCM244 OCM245
Item	Symbol	Condition	Unit					
Input characteristics	Forward voltage	V_F	$I_F=10\text{mA}$	MIN			1.0	
				MAX			1.3	
	Reverse voltage	I_R	$V_R=5\text{V}$	MAX			10	
	Operation input current ^{*1}	I_{FA}	$I_{ON}=100\text{mA}$	MAX			5	
	Recovery input current	I_{FR}	$V_{OFF}=\text{Rating}$ $I_{ON}=100\ \mu\text{A}$	MIN			0.2	
Output characteristics	On-resistance	R_{ON}	$I_F=10\text{mA}$ $I_{ON}=\text{Rating}$ Time to flow current is within one second	MIN	20	40	100	300
				TYP	30	65	150	600
				MAX	40	90	200	900
	Off-state leakage current ^{*2}	I_{OFF}	$V_{OFF}=\text{Rating}$	MAX			1.0	
	Output terminal capacitance	C_{OUT}	$V_{OFF}=50\text{V}$ $f=1\text{MHz}$	TYP			7	
Coupling characteristics	Input-to-output capacitance	C_{IO}	$f=1\text{MHz}$	TYP			1.3	
	Turn on time	t_{on}	$I_F=10\text{mA}$ $I_{ON}=\text{Rating}$	TYP			30	
				MAX			200	
Turn off time	t_{off}			TYP			60	
				MAX			200	

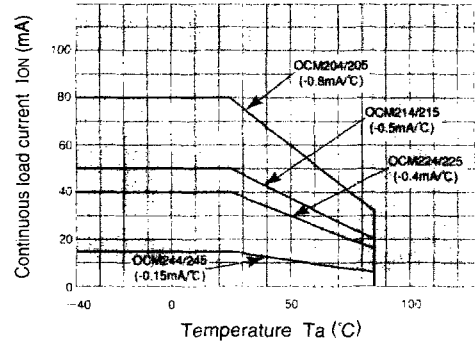
*1 : Can correspond to special specification $I_{FA} < 3.0\text{mA}$

*2 : Can correspond to special specification $I_{OFF} < 0.1\text{nA}$

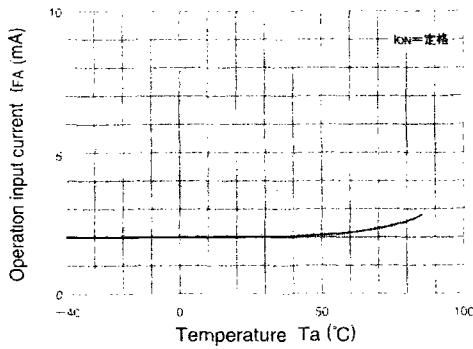
OCM2 4, 2 5 series Characteristics Curves



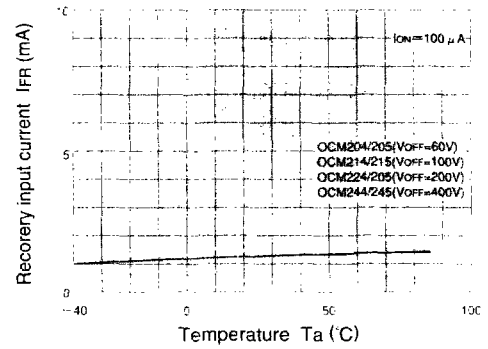
Derating factor of continuous forward current



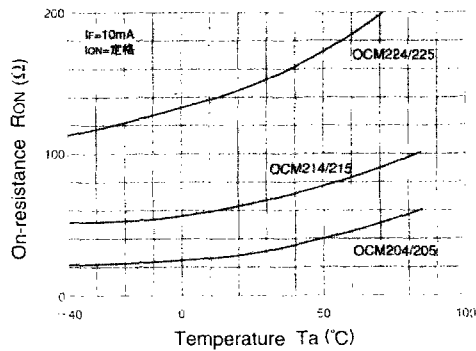
Derating factor of load current



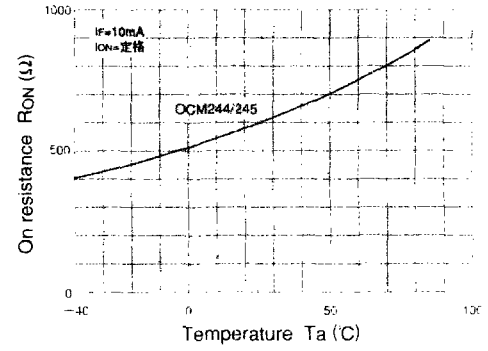
Operation input current vs. Ambient temperature



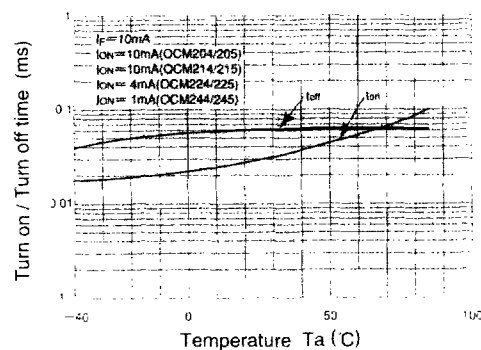
Recovery input current vs. Ambient temperature



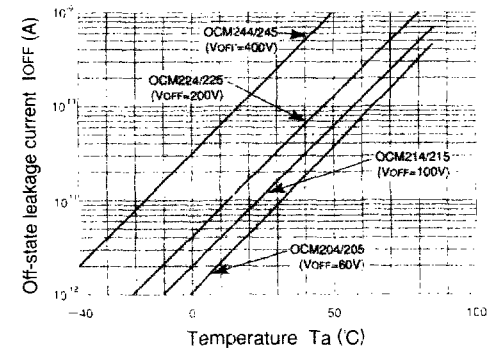
On-resistance vs. Ambient temperature-1



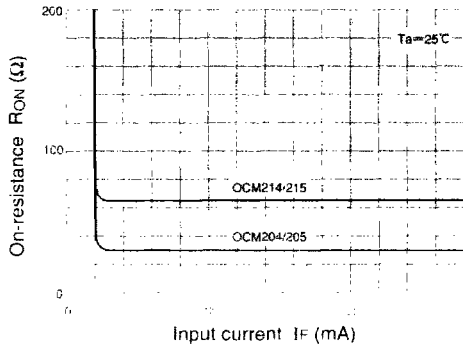
On-resistance vs. Ambient temperature-2



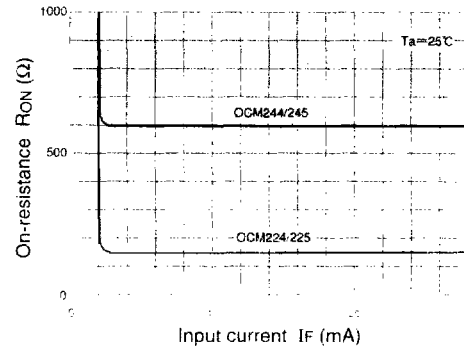
Turn on/Turn off time vs. Ambient temperature



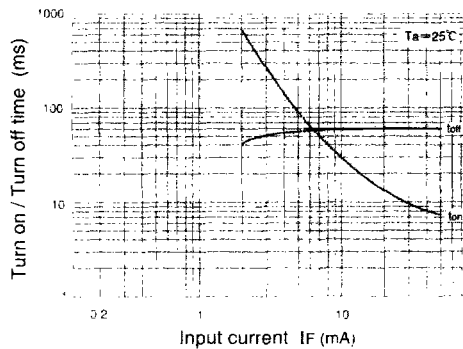
Off-state leakage current vs. Ambient temperature



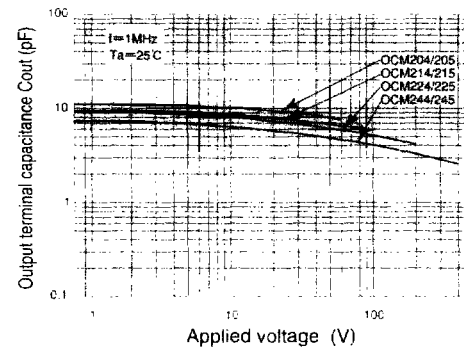
Continuous forward current vs. On-resistance-1



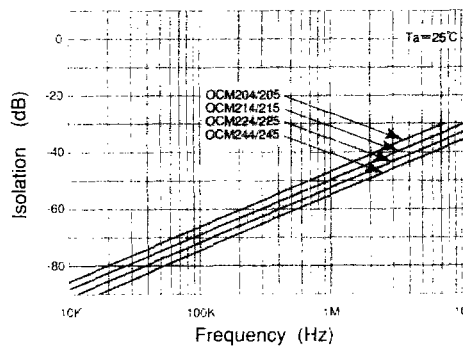
Continuous forward current vs. On-resistance-2



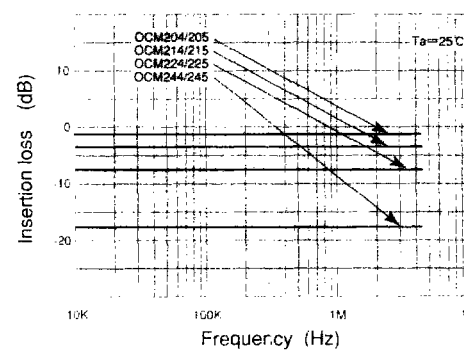
Continuous forward current vs. Turn on/Turn off time



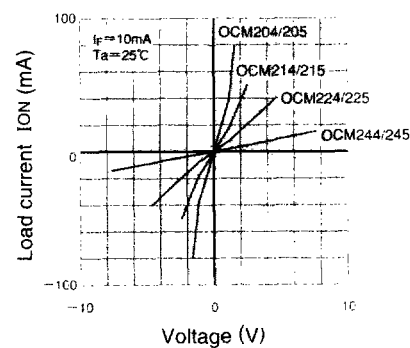
Output terminal capacitance vs. Applied voltage



Isolation



Insertion loss



Load current vs. Voltage