MOS FET Relays G3VM-62C1/F1

Analog-switching MOS FET Relays with 2 Output channels. Dielectric Strength of 2.5 kVAC between I/O.

- Switches minute analog signals.
- Dielectric strength of 2,500 Vrms between I/O.
- RoHS Compliant.

■ Application Examples

- Measurement devices
- · Security systems



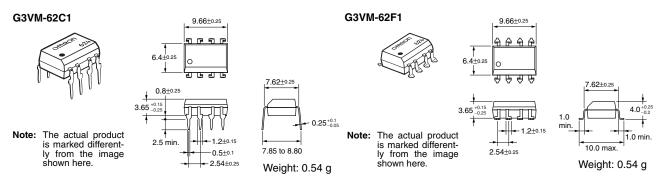
Note: The actual product is marked differently from the image shown

■ List of Models

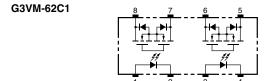
Contact form	Terminals	Load voltage (peak value)	Model	Number per stick	Number per tape
DPST-NO	PCB terminals	60 VAC	G3VM-62C1	50	
	Surface-mounting terminals		G3VM-62F1		
			G3VM-62F1(TR)		1,500

Dimensions

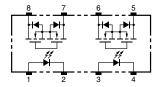
Note: All units are in millimeters unless otherwise indicated.



■ Terminal Arrangement/Internal Connections (Top View)

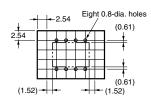


G3VM-62F1



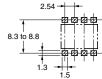
■ PCB Dimensions (Bottom View)

G3VM-62C1



Actual Mounting Pad Dimensions (Recommended Value, Top View)

G3VM-62F1



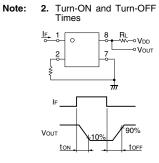
■ Absolute Maximum Ratings (Ta = 25°C)

Item		Symbol	Rating Unit		Measurement conditions		
Input	LED forward current	I _F	50	mA			
	Repetitive peak LED forward current	I _{FP}	1	Α	100 μs pulses, 100 pps		
	LED forward current reduction rate	Δ I _F /°C	-0.5	mA/°C	Ta ≥ 25°C		
	LED reverse voltage	V_R	5	V			
	Connection temperature	T _j	125	°C			
Output	Load voltage (AC peak/DC)	V_{OFF}	60	V			
	Continuous load current	I _o	500	mA			
	ON current reduction rate	ΔI_{ON} /°C	-5.0	mA/°C	Ta ≥ 25°C		
	Connection temperature	T _j	125	°C			
	ric strength between input and See note 1.)	V _{I-O}	2,500	V_{rms}	AC for 1 min		
Operati	ng temperature	T _a	-40 to +85	°C	With no icing or condensation		
Storage temperature		T_{stg}	-55 to +125	°C	With no icing or condensation		
Soldering temperature (10 s)			260	°C	10 s		

Note: 1. The dielectric strength between the input and output was checked by applying voltage between all pins as a group on the LED side and all pins as a group on the light-receiving side.

■ Electrical Characteristics (Ta = 25°C)

Item		Symbol	Mini- mum	Typical	Maxi- mum	Unit	Measurement conditions
Input	LED forward voltage		1.0	1.15	1.3	٧	I _F = 10 mA
	Reverse current	I _R			10	μА	V _R = 5 V
	Capacity between terminals	C _T		30		pF	V = 0, f = 1 MHz
	Trigger LED forward current	I _{FT}		1.6	3	mA	I _O = 500 mA
Output	Maximum resistance with output ON	R _{ON}		1.0	2.0	Ω	I _F = 5 mA, I _O = 500 mA
	Current leakage when the relay is open	I _{LEAK}		0.001	1.0	μΑ	V _{OFF} = 60 V
	Capacity between terminals	C _{OFF}		130		pF	V = 0, f = 1MHz
Capacity between I/O terminals		C _{I-O}		0.8		pF	f = 1 MHz, Vs = 0 V
Insulation resistance		R _{I-O}	1,000			ΜΩ	$\begin{aligned} &V_{\text{I-O}} = 500 \text{ VDC}, \\ &R_{\text{oH}} \leq 60\% \end{aligned}$
Turn-ON time		t _{ON}		0.8	2.0	ms	$I_F = 5 \text{ mA}, R_L = 200 \Omega,$
Turn-OFF time		t _{OFF}		0.1	0.5	ms	V _{DD} = 20 V (See note 2.)



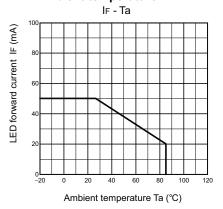
■ Recommended Operating Conditions

Use the G3VM under the following conditions so that the Relay will operate properly.

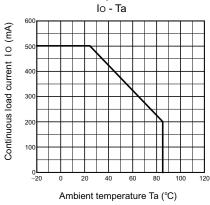
Item	Symbol	Minimum	Typical	Maximum	Unit
Load voltage (AC peak/DC)	V_{DD}			48	V
Operating LED forward current	I _F	5	7.5	25	mA
Continuous load current (AC peak/DC)	Io			500	mA
Operating temperature	T _a	- 20		65	°C

■ Engineering Data

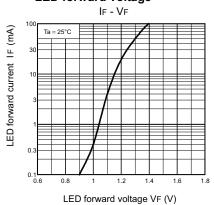
LED forward current vs. Ambient temperature



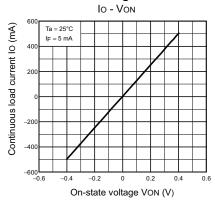
Continuous load current vs. Ambient temperature



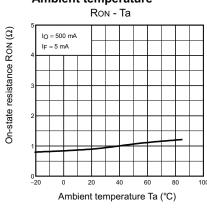
LED forward current vs. LED forward voltage



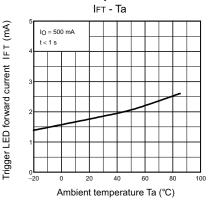
Continuous load current vs. On-state voltage



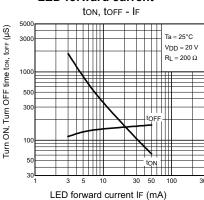
On-state resistance vs. Ambient temperature



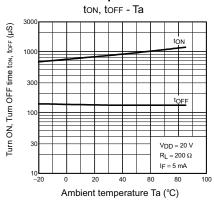
Trigger LED forward current vs. Ambient temperature



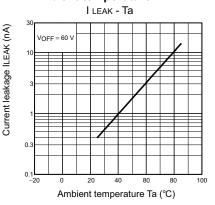
Turn ON, Turn OFF time vs. LED forward current



Turn ON, Turn OFF time vs. Ambient temperature



Current leakage vs.
Ambient temperature





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