MOS FET Relays

G3VM-62C1/F1

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

- New 2-channel model included in the 60-V load voltage series.
- Switches minute analog signals.
- Dielectric strength of 2,500 Vrms between I/O.
- Surface-mounting models included in series.

■ Application Examples

- Measurement devices
- · Security systems





The actual product is marked differently from the image shown here.

■List of Models

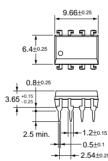
Contact form	Terminals	Load voltage (peak value)	Model	Number per stick	Number per tape
DPST-NO	PCB terminals	60 VAC	G3VM-62C1	50	
	Surface-mounting		G3VM-62F1		
	terminals		G3VM-62F1(TR)		1,500

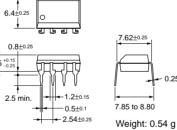
■ Dimensions

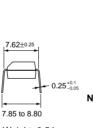
Note: All units are in millimeters unless otherwise indicated.



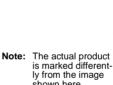
Note: The actual product is marked differently from the image

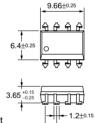


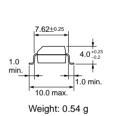




G3VM-62F1

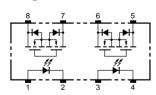




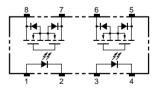


■ Terminal Arrangement/Internal Connections (Top View)

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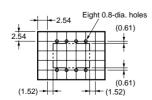


G3VM-62F1



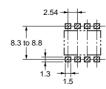
■ PCB Dimensions (Bottom View)

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■ Actual Mounting Pad Dimensions (Recommended Value, Top View)

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Note:

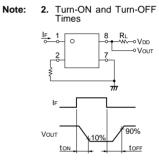
■ Absolute Maximum Ratings (Ta = 25°C)

Item		Symbol	Rating Unit		Measurement Conditions	
Input	Input LED forward current		50	mA		
	Repetitive peak LED forward current	I _{FP}	1	А	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	Tj	125	°C		
Output	Output dielectric strength	V _{OFF}	60	V		
	Continuous load current	I _O	500	mA		
	ON current reduction rate	Δ I _{ON} /°C	-5.0	mA/°C	Ta ≥ 25°C	
	Connection temperature	Tj	125	°C		
Dielectric strength between input and output (See note 1.)		V _{I-O}	2,500	Vrms	AC for 1 min	
Operating temperature		Ta	-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	

 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)

ltem		Symbol	Mini- mum	Typical	Maxi- mum	Unit	Measurement conditions	
Input	LED forward voltage	V_{F}	1.0	1.15	1.3	V	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}			1.0	μА	V _{OFF} = 60 V	
Capacity	Capacity between I/O terminals			0.8		pF	f = 1 MHz, Vs = 0 V	
Insulation resistance		R _{I-O}	1,000			ΜΩ	V_{I-O} = 500 VDC, RoH \leq 60%	
Turn-ON time		tON		0.8	2.0	ms	I_F = 5 mA, R_L = 200 Ω , V_{DD} = 20 V (See note 2.)	
Turn-OFF time		tOFF		0.1	0.5	ms		



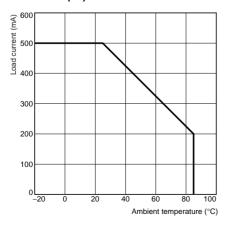
■Recommended Operating Conditions

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

Item	Symbol	Minimum	Typical	Maximum	Unit
Output dielectric strength	V_{DD}			48	V
Operating LED forward current	I _F	5	7.5	25	mA
Continuous load current	Io			500	mA
Operating temperature	T _a	- 20		65	°C

■ Engineering Data

Load Current vs. Ambient Temperature G3VM-62C1(F1)



■ Safety Precautions

Refer to page 6 for precautions common to all G3VM models.