

MOS FET Relays

G3VM-61H1


New MOS FET Relay Designed for Switching Minute Signals and Analog Signals Has a 6-pin SOP Package and 60-V Load Voltage



- Continuous load current of 400 mA.
- Dielectric strength of 1,500 Vrms between I/O.

■ Application Examples

- Broadband systems
- Measurement devices
- Data loggers
- Amusement machines

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

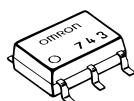
■ List of Models

Contact form	Terminals	Load voltage (peak value)	Model	Number per stick	Number per tape
SPST-NO	Surface-mounting terminals	60 VAC	G3VM-61H1	75	---
			G3VM-61H1(TR)	---	2,500

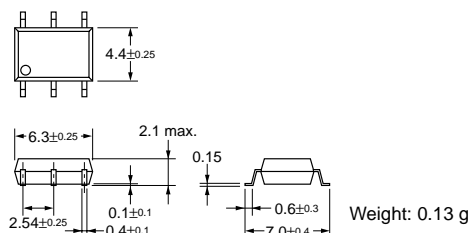
■ Dimensions

Note: All units are in millimeters unless otherwise indicated.

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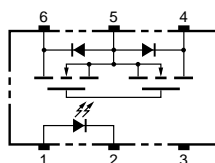


Note: The actual product is marked differently from the image shown here.



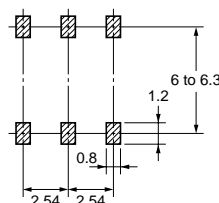
■ Terminal Arrangement/Internal Connections (Top View)

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

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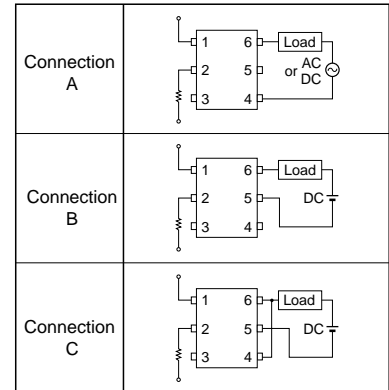


Absolute Maximum Ratings (Ta = 25°C)

Item			Symbol	Rating	Unit	Measurement Conditions
Input	LED forward current		I _F	50	mA	
	Repetitive peak LED forward current		I _{FP}	1	A	100 μs pulses, 100 pps
	LED forward current reduction rate		Δ I _F /°C	−0.5	mA/°C	T _a ≥ 25°C
	LED reverse voltage		V _R	5	V	
	Connection temperature		T _j	125	°C	
Output	Output dielectric strength		V _{OFF}	60	V	
	Continuous load current	Connection A	I _O	400	mA	
		Connection B		400		
		Connection C		800		
	ON current reduction rate	Connection A	Δ I _{ON} /°C	−4.0	mA/°C	T _a ≥ 25°C
		Connection B		−4.0		
		Connection C		−8.0		
	Connection temperature		T _j	125	°C	
Dielectric strength between input and output (See note 1.)			V _{I-O}	1,500	V _{rms}	AC for 1 min
Operating 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.

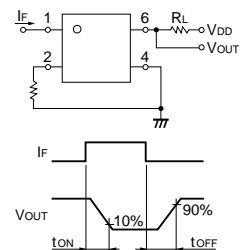
Connection Diagram



Electrical Characteristics (Ta = 25°C)

Item			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	μA	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 = 400 mA
Output	Maximum resistance with output ON	Connection A	R _{ON}	---	1	2	Ω	I _F = 5 mA, I _O = 400 mA
		Connection B		---	0.5	1	Ω	I _F = 5 mA, I _O = 400 mA
		Connection C		---	0.25	---	Ω	I _F = 5 mA, I _O = 800 mA
	Current leakage when the relay is open		I _{LEAK}	---	---	1.0	μA	V _{OFF} = 60 V
	Capacity between I/O terminals			C _{I-O}	---	0.8	---	pF
Insulation resistance			R _{I-O}	1,000	---	---	MΩ	V _{I-O} = 500 VDC, RoH ≤ 60%
Turn-ON time			t _{ON}	---	0.8	2.0	ms	I _F = 5 mA, R _L = 200 Ω, V _{DD} = 20 V (See note 2.)
Turn-OFF time			t _{OFF}	---	0.1	0.5	ms	

Note: 2. Turn-ON and Turn-OFF Times



Recommended Operating Conditions

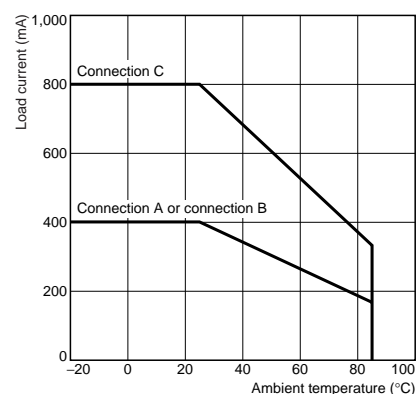
Use the G3VM under the following conditions so that the Relay will operate properly.

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	I_O	---	---	400	mA
Operating temperature	T_a	-20	---	65	°C

Engineering Data

Load Current vs. Ambient Temperature

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Safety Precautions

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