

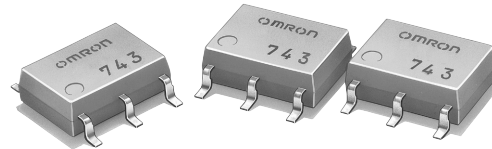
# MOS FET Relays G3VM-61H1

**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.
- RoHS Compliant.

■ **Application Examples**

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



**NEW**

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

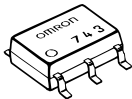
■ **List of Models**

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

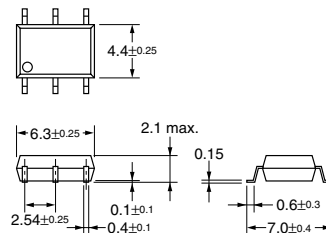
■ **Dimensions**

**Note:** All units are in millimeters unless otherwise indicated.

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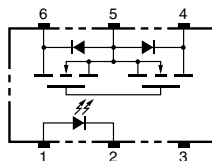
**Note:** The actual product is marked differently from the image shown here.



Weight: 0.13 g

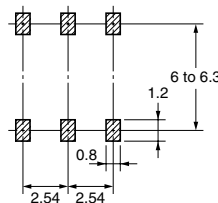
■ **Terminal Arrangement/Internal Connections (Top View)**

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

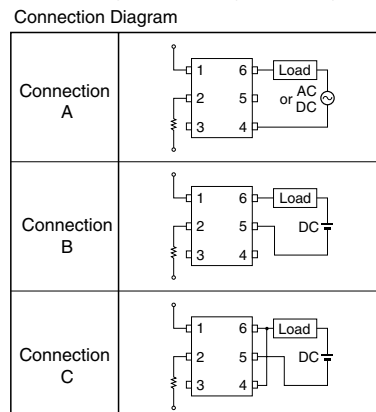
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■ Absolute Maximum Ratings (Ta = 25°C)

Item		Symbol	Rating	Unit	Measurement conditions	
Input	LED forward current	$I_F$	50	mA		
	Repetitive peak LED forward current	$I_{FP}$	1	A	100 $\mu$ s pulses, 100 pps	
	LED forward current reduction rate	$\Delta I_F/^\circ\text{C}$	-0.5	mA/°C	Ta $\geq$ 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	$\Delta I_{ON}/^\circ\text{C}$	-4.0	mA/°C	Ta $\geq$ 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	Vrms	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	

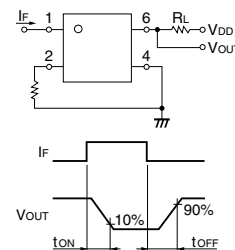
Note: 1. The dielectric strength between the input and output was checked by applying voltage between all pins as a group on the LED side and all pins as a group on the light-receiving side.



■ Electrical Characteristics (Ta = 25°C)

Item		Symbol	Minimum	Typical	Maximum	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	$\mu$ A	$V_R = 5$ 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	$\Omega$	$I_F = 5$ mA, $I_O = 400$ mA
		Connection B		---	0.5	1	$\Omega$	$I_F = 5$ mA, $I_O = 400$ mA
		Connection C		---	0.25	---	$\Omega$	$I_F = 5$ mA, $I_O = 800$ mA
	Current leakage when the relay is open	$I_{LEAK}$	---	---	1.0	$\mu$ A	$V_{OFF} = 60$ V	
Capacity between I/O terminals		$C_{I-O}$	---	0.8	---	pF	f = 1 MHz, Vs = 0 V	
Insulation resistance		$R_{I-O}$	1,000	---	---	M $\Omega$	$V_{I-O} = 500$ VDC, RoH $\leq$ 60%	
Turn-ON time		tON	---	0.8	2.0	ms	$I_F = 5$ mA, $R_L = 200$ $\Omega$ , $V_{DD} = 20$ V (See note 2.)	
Turn-OFF time		tOFF	---	0.1	0.5	ms		

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



■ Recommended Operating Conditions

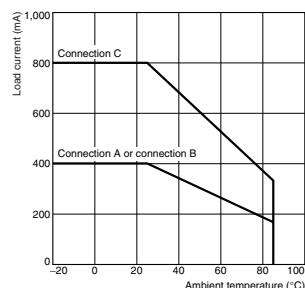
Use the G3VM under the following conditions so that the Relay will operate properly.

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

G3VM-61H1



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