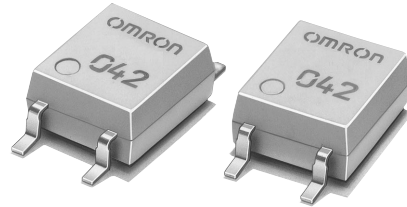


## MOS FET Relays

G3VM-61G1

### New MOS FET Relay Designed for Switching Minute Signals and Analog Signals

- Upgraded G3VM-S1 Series.
- Continuous load current of 400 mA.
- Dielectric strength of 1,500 Vrms between I/O.



**NEW**

### Application Examples

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

**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-61G1	100	---
			G3VM-61G1(TR)	---	2,500

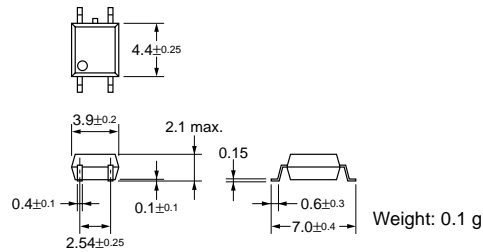
### Dimensions

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

G3VM-61G1

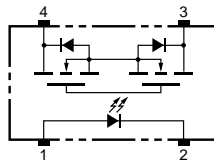


**Note:** The actual product is marked differently from the image shown here.



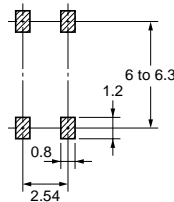
### Terminal Arrangement/Internal Connections (Top View)

G3VM-61G1



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

G3VM-61G1



## Absolute Maximum Ratings (Ta = 25°C)

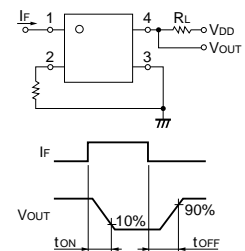
Item	Symbol	Rating	Unit	Measurement Conditions	
Input	LED forward current	$I_F$	50	mA	
	Repetitive peak LED forward current	$I_{FP}$	1	A	100 $\mu$ s pulses, 100 pps
	LED forward current reduction rate	$\Delta I_F/^\circ\text{C}$	-0.5	mA/°C	Ta $\geq$ 25°C
	LED reverse voltage	$V_R$	5	V	
	Connection temperature	$T_j$	125	°C	
Output	Output dielectric strength	$V_{OFF}$	60	V	
	Continuous load current	$I_O$	400	mA	
	ON current reduction rate	$\Delta I_{ON}/^\circ\text{C}$	-4.0	mA/°C	Ta $\geq$ 25°C
	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	$R_{ON}$	---	1	2	$\Omega$	$I_F = 5$ mA, $I_O = 400$ 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, $V_S = 0$ V	
Insulation resistance	$R_{I-O}$	1,000	---	---	M $\Omega$	$V_{I-O} = 500$ VDC, $RoH \leq 60\%$	
Turn-ON time	$t_{ON}$	---	0.8	2.0	ms	$I_F = 5$ mA, $R_L = 200 \Omega$ , $V_{DD} = 20$ 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

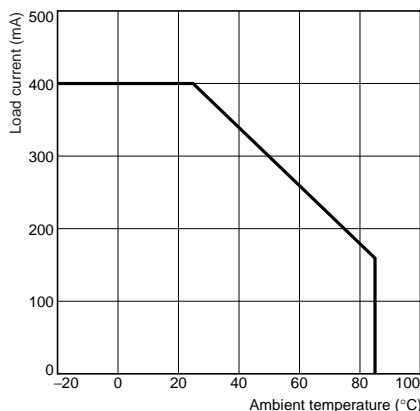
Use the G3VM under the following conditions so that the Relay will operate properly.

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

#### G3VM-61G1



## Safety Precautions

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