

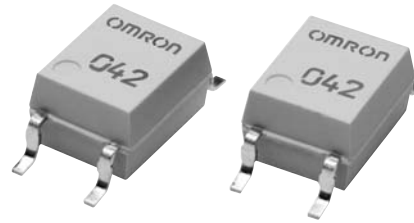
## MOS FET Relays

G3VM-61VY

### Special SOP4-pin package with Dielectric strength AC 3.75 kV

- Trigger LED forward current of 2 mA (maximum) facilitates power saving designs and prolonged battery life.
- Continuous load current of 70 mA.

**RoHS compliant**



**NEW**

⚠ Refer to "Common Precautions".

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

### Application Examples

- Broadband systems
- Security systems
- Industrial equipment
- Battery powered equipment
- Measurement devices
- Amusement machines

### List of Models

Package	Contact form	Terminals	Load voltage (peak value) (See the note.)	Model	Number per stick	Number per tape
Special SOP4	SPST-NO	Surface-mounting terminals	60 V	G3VM-61VY	150	---
				G3VM-61VY(TR)	---	3,000

**Note:** The AC peak and DC value are given for the load voltage.

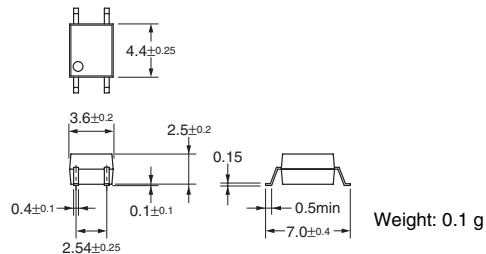
### Dimensions

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

G3VM-61VY

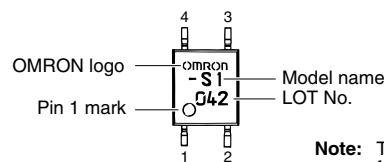
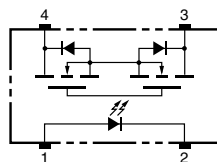


**Note:** The actual product is marked differently from the image shown here.



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

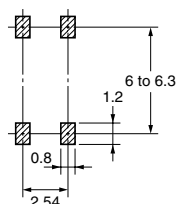
G3VM-61VY



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

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

G3VM-61VY



**Absolute Maximum Ratings (T<sub>a</sub> = 25°C)**

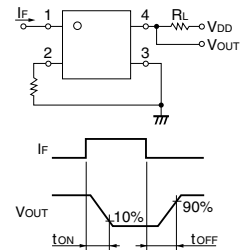
Item	Symbol	Rating	Unit	Measurement Conditions	
Input	LED forward current	I <sub>F</sub>	50	mA	
	Repetitive peak LED forward current	I <sub>FP</sub>	1	A	
	LED forward current reduction rate	Δ I <sub>F</sub> /°C	-0.5	mA/°C	T <sub>a</sub> ≥ 25°C
	LED reverse voltage	V <sub>R</sub>	5	V	
	Connection temperature	T <sub>j</sub>	125	°C	
Output	Load voltage (AC peak/DC)	V <sub>OFF</sub>	60	V	
	Continuous load current (AC peak/DC)	I <sub>O</sub>	70	mA	
	ON current reduction rate	Δ I <sub>O</sub> /°C	-0.7	mA/°C	T <sub>a</sub> ≥ 25°C
	Connection temperature	T <sub>j</sub>	125	°C	
Dielectric strength between input and output (See note 1.)		V <sub>I-O</sub>	3,750	V <sub>rms</sub>	AC for 1 min
Operating temperature		T <sub>a</sub>	-40 to +85	°C	With no icing or condensation
Storage temperature		T <sub>stg</sub>	-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 (T<sub>a</sub> = 25°C)**

Item	Symbol	Minimum	Typical	Maximum	Unit	Measurement conditions	
Input	LED forward voltage	V <sub>F</sub>	1.0	1.15	1.3	V	I <sub>F</sub> = 10 mA
	Reverse current	I <sub>R</sub>	---	---	10	μA	V <sub>R</sub> = 5 V
	Capacity between terminals	C <sub>T</sub>	---	30	---	pF	V = 0, f = 1 MHz
	Trigger LED forward current	I <sub>FT</sub>	---	0.6	2	mA	I <sub>O</sub> = 70 mA
Output	Maximum resistance with output ON	R <sub>ON</sub>	---	25	50	Ω	I <sub>F</sub> = 3 mA, I <sub>O</sub> = 70 mA
	Current leakage when the relay is open	I <sub>LEAK</sub>	---	1	1000	nA	V <sub>OFF</sub> = 60 V
Capacity between I/O terminals		C <sub>I-O</sub>	---	0.4	---	pF	f = 1 MHz, V <sub>s</sub> = 0 V
Insulation resistance		R <sub>I-O</sub>	1,000	---	---	MΩ	V <sub>I-O</sub> = 500 VDC, R <sub>oH</sub> ≤ 60%
Turn-ON time		t <sub>ON</sub>	---	1	5	ms	I <sub>F</sub> = 3 mA, R <sub>L</sub> = 200 Ω, V <sub>DD</sub> = 10 V (See note 2.)
Turn-OFF time		t <sub>OFF</sub>	---	0.5	5	ms	

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



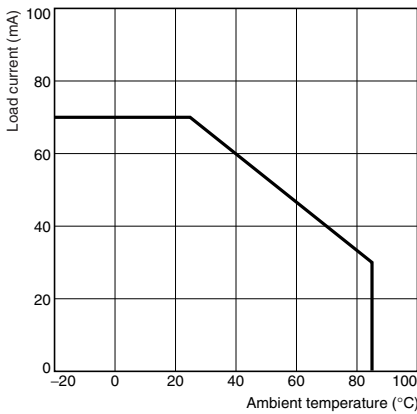
**Recommended Operating Conditions**

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

Item	Symbol	Minimum	Typical	Maximum	Unit
Load voltage (AC peak/DC)	V <sub>DD</sub>	---	---	48	V
Operating LED forward current	I <sub>F</sub>	---	3	25	mA
Continuous load current (AC peak/DC)	I <sub>O</sub>	---	---	60	mA
Operating temperature	T <sub>a</sub>	-20	---	65	°C

**Engineering Data**

**Load Current vs. Ambient Temperature**  
G3VM-61VY



**Safety Precautions**

Refer to "Common Precautions" for all G3VM models.