

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

⚠ Refer to "Common Precautions".

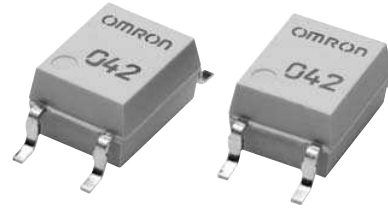
Application Examples

- 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.



NEW

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

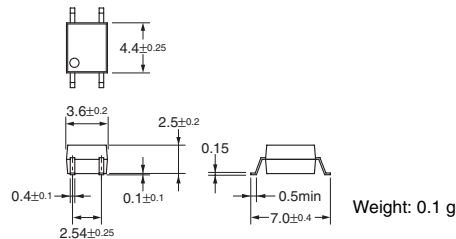
Dimensions

Note: All units are in millimeters unless otherwise indicated.

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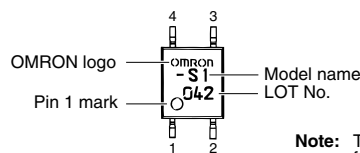
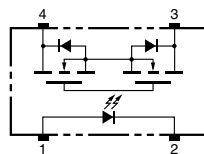


Note: The actual product is marked differently from the image shown here.



Terminal Arrangement/Internal Connections (Top View)

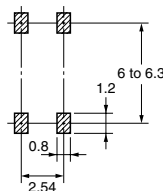
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Note: The actual product is marked differently from the image shown here.

Actual Mounting Pad Dimensions (Recommended Value, Top View)

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Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

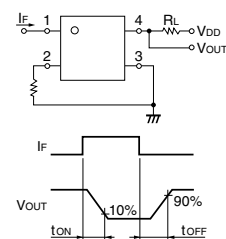
Item		Symbol	Rating	Unit	Measurement Conditions
Input	LED forward current	I_F	50	mA	
	Repetitive peak LED forward current	I_{FP}	1	A	100 μs pulses, 100 pps
	LED forward current reduction rate	$\Delta I_F/^\circ\text{C}$	-0.5	mA/ $^\circ\text{C}$	$T_a \geq 25^\circ\text{C}$
	LED reverse voltage	V_R	5	V	
	Connection temperature	T_J	125	$^\circ\text{C}$	
Output	Load voltage (AC peak/DC)	V_{OFF}	60	V	
	Continuous load current (AC peak/DC)	I_O	70	mA	
	ON current reduction rate	$\Delta I_O/^\circ\text{C}$	-0.7	mA/ $^\circ\text{C}$	$T_a \geq 25^\circ\text{C}$
	Connection temperature	T_J	125	$^\circ\text{C}$	
Dielectric strength between input and output (See note 1.)		V_{I-O}	3,750	V_{rms}	AC for 1 min
Operating temperature		T_a	-40 to +85	$^\circ\text{C}$	With no icing or condensation
Storage temperature		T_{stg}	-55 to +125	$^\circ\text{C}$	With no icing or condensation
Soldering temperature (10 s)		---	260	$^\circ\text{C}$	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 ($T_a = 25^\circ\text{C}$)

Item		Symbol	Minimum	Typical	Maximum	Unit	Measurement conditions
Input	LED forward voltage	V_F	1.0	1.15	1.3	V	$I_F = 10\text{ mA}$
	Reverse current	I_R	---	---	10	μA	$V_R = 5\text{ V}$
	Capacity between terminals	C_T	---	30	---	pF	$V = 0, f = 1\text{ MHz}$
	Trigger LED forward current	I_{FT}	---	0.6	2	mA	$I_O = 70\text{ mA}$
Output	Maximum resistance with output ON	R_{ON}	---	25	50	Ω	$I_F = 3\text{ mA}, I_O = 70\text{ mA}$
	Current leakage when the relay is open	I_{LEAK}	---	1	1000	nA	$V_{OFF} = 60\text{ V}$
Capacity between I/O terminals		C_{I-O}	---	0.4	---	pF	$f = 1\text{ MHz}, V_S = 0\text{ V}$
Insulation resistance		R_{I-O}	1,000	---	---	M Ω	$V_{I-O} = 500\text{ VDC}, R_{OH} \leq 60\%$
Turn-ON time		t_{ON}	---	1	5	ms	$I_F = 3\text{ mA}, R_L = 200\ \Omega, V_{DD} = 10\text{ V}$ (See note 2.)
Turn-OFF time		t_{OFF}	---	0.5	5	ms	

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



Recommended Operating Conditions

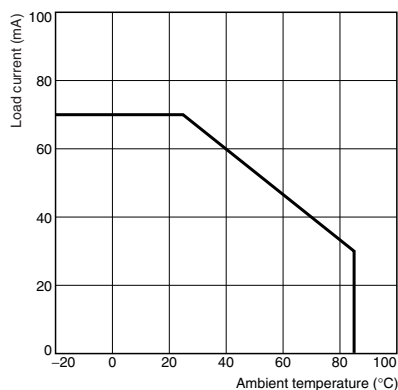
Use the G3VM under the following conditions so that the Relay will operate properly.

Item	Symbol	Minimum	Typical	Maximum	Unit
Load voltage (AC peak/DC)	V_{DD}	---	---	48	V
Operating LED forward current	I_F	---	3	25	mA
Continuous load current (AC peak/DC)	I_O	---	---	60	mA
Operating temperature	T_a	-20	---	65	$^\circ\text{C}$

Engineering Data

Load Current vs. Ambient Temperature

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Safety Precautions

Refer to "Common Precautions" for all G3VM models.