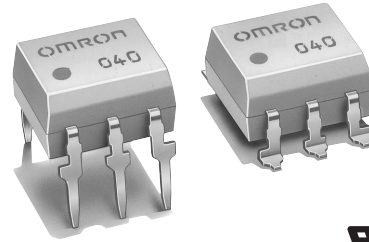


MOS FET Relays

G3VM-601BY/EY

Analog-switching MOS FET Relay with a Dielectric Strength of 5 kVAC between I/O Using Optical Isolation

- Switches minute analog signals.
- Switching AC and DC.
- Peak load voltage of 600 V.
- Dielectric strength of 5 kVAC between I/O.



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

Application Examples

- Electronic automatic exchange systems
- FA systems
- Measurement devices
- Security systems

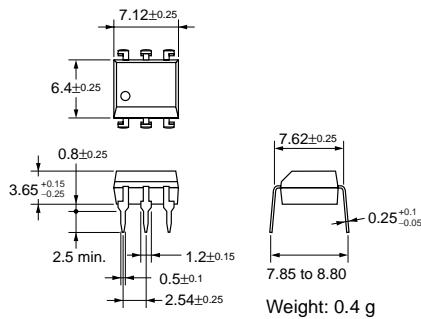
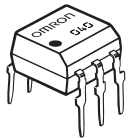
List of Models

Contact form	Terminals	Load voltage (peak value)	Model	Number per stick	Number per tape
SPST-NO	PCB terminals	600 VAC	G3VM-601BY	50	---
	Surface-mounting terminals		G3VM-601EY		
			G3VM-601EY(TR)	---	

Dimensions

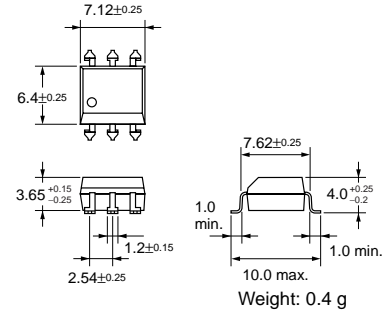
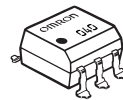
Note: All units are in millimeters unless otherwise indicated.

G3VM-601BY



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

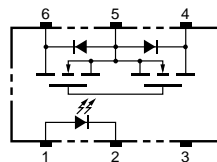
G3VM-601EY



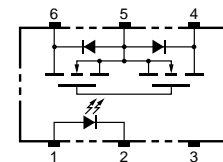
Note: The actual product is marked differently from the image shown here.

Terminal Arrangement/Internal Connections (Top View)

G3VM-601BY

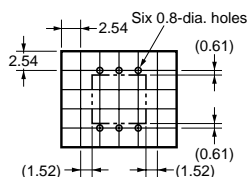


G3VM-601EY



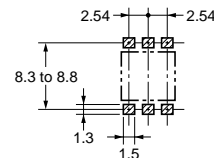
PCB Dimensions (Bottom View)

G3VM-601BY



Actual Mounting Pad Dimensions (Recommended Value, Top View)

G3VM-601EY

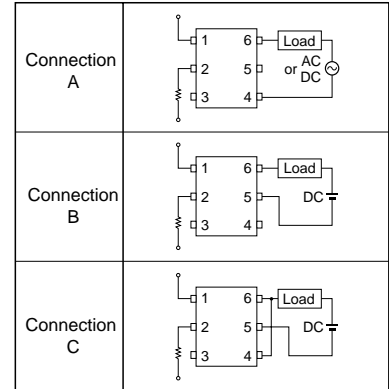


Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rating	Unit	Measurement Conditions	
Input	LED forward current	I_F	50	mA	
	Repetitive peak LED forward current	I_{FP}	1	A	100 μ 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}	600	V	
	Continuous load current	Connection A	I_O	100	mA
		Connection B		100	
		Connection C		200	
	ON current reduction rate	Connection A	$\Delta I_{ON}/^\circ\text{C}$	-1.0	mA/°C
Connection B			-1.0		
Connection C			-2.0		
Connection temperature	T_j	125	°C		
Dielectric strength between input and output (See note 1.)		V_{I-O}	5,000	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.

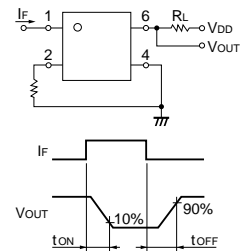
Connection Diagram



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	μ 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	5	mA	$I_O = 100$ mA	
Output	Maximum resistance with output ON	Connection A	R_{ON}	---	25	35	Ω	$I_F = 10$ mA, $I_O = 100$ mA
			---	30	45	Ω	$I_F = 10$ mA, $I_O = 100$ mA	
			---	23	35	Ω	$I_F = 10$ mA, $I_O = 100$ mA	
	Current leakage when the relay is open	Connection C	I_{LEAK}	---	---	1.0	μ A	$V_{OFF} = 600$ 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 Ω	$V_{I-O} = 500$ VDC, $RoH \leq 60\%$		
Turn-ON time	t_{ON}	---	0.2	1.5	ms	$I_F = 5$ mA, $R_L = 200 \Omega$, $V_{DD} = 20$ V (See note 2.)		
Turn-OFF time	t_{OFF}	---	0.2	1.0	ms			

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



Recommended Operating Conditions

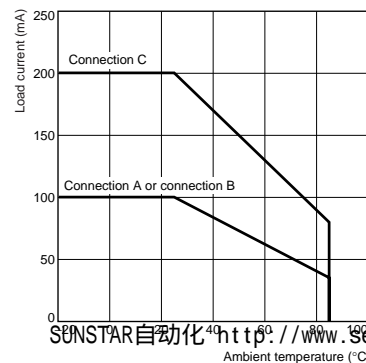
Use the G3VM under the following conditions so that the Relay will operate properly.

Item	Symbol	Minimum	Typical	Maximum	Unit
Output dielectric strength	V_{DD}	---	---	480	V
Operating LED forward current	I_F	7.5	15	25	mA
Continuous load current	I_O	---	---	100	mA
Operating temperature	T_a	-20	---	65	°C

Engineering Data

Load Current vs. Ambient Temperature

G3VM-601BY(EY)



Safety Precautions

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