



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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MOS FET Relays

G3VM-401AY/DY

Compact, General-purpose, Analog-switching MOS FET Relays, with Dielectric Strength of 5 kVAC between I/O Using Optical Isolation.

- Trigger LED forward current of 2 mA (maximum) facilitates power saving designs.
- Switches minute analog signals.
- Continuous load current of 120 mA.



NEW

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

RoHS compliant

⚠ Refer to "Common Precautions".

Application Examples

- Power meter
- Measurement devices
- Security systems
- Industrial equipment

List of Models

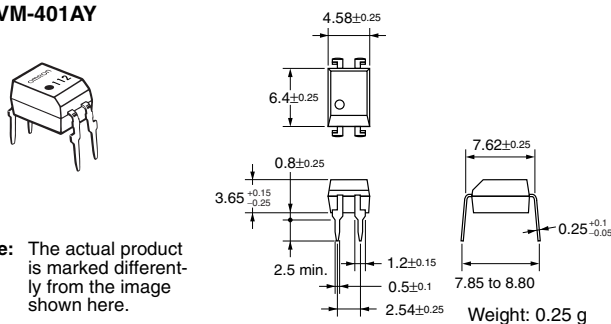
Contact form	Terminals	Load voltage (peak value) (See the note.)	Model	Number per stick	Number per tape
SPST-NO	PCB terminals	400 V	G3VM-401AY	100	---
	Surface-mounting terminals		G3VM-401DY		
			G3VM-401DY(TR)	---	1,500

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

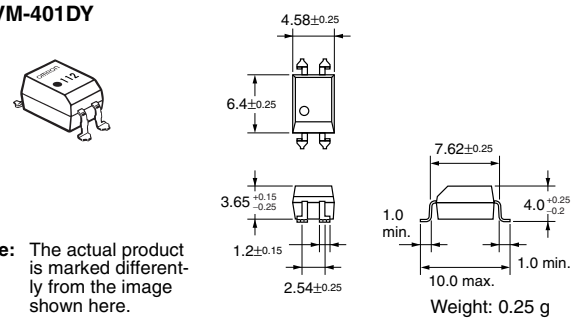
Dimensions

Note: All units are in millimeters unless otherwise indicated.

G3VM-401AY

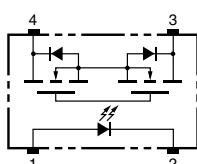


G3VM-401DY

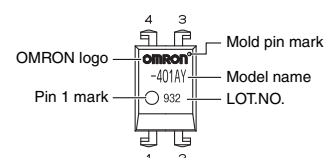
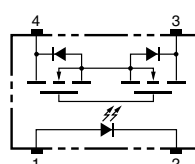


Terminal Arrangement/Internal Connections (Top View)

G3VM-401AY



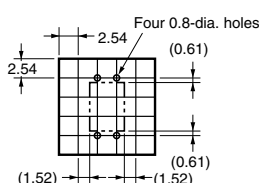
G3VM-401DY



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

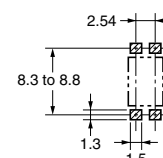
PCB Dimensions (Bottom View)

G3VM-401AY



Actual Mounting Pad Dimensions (Recommended Value, Top View)

G3VM-401DY



Absolute Maximum Ratings (Ta = 25°C)

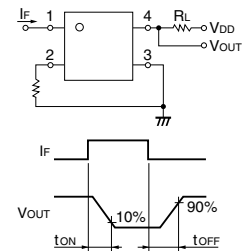
Item		Symbol	Rating	Unit	Measurement Conditions
Input	LED forward current	I_F	30	mA	
	Repetitive peak LED forward current	I_{FP}	1	A	100 μ s pulses, 100 pps
	LED forward current reduction rate	$\Delta I_F/^\circ\text{C}$	-0.3	mA/ $^\circ\text{C}$	Ta \geq 25°C
	LED reverse voltage	V_R	5	V	
	Connection temperature	T_j	125	$^\circ\text{C}$	
Output	Load voltage (AC peak/DC)	V_{OFF}	400	V	
	Continuous load current (AC peak/DC)	I_O	120	mA	
	ON current reduction rate	$\Delta I_O/^\circ\text{C}$	-1.2	mA/ $^\circ\text{C}$	Ta \geq 25°C
	Pulse ON current	I_{op}	0.36	A	t = 100 ms, Duty = 1/10
	Connection temperature	T_j	125	$^\circ\text{C}$	
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	$^\circ\text{C}$	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 (Ta = 25°C)

Item		Symbol	Minimum	Typical	Maximum	Unit	Measurement conditions
Input	LED forward voltage	V_F	1.45	1.63	1.75	V	$I_F = 10$ mA
	Reverse current	I_R	---	---	10	μA	$V_R = 5$ V
	Capacity between terminals	C_T	---	40	---	pF	V = 0, f = 1 MHz
	Trigger LED forward current	I_{FT}	---	0.3	2	mA	$I_O = 120$ mA
Output	Maximum resistance with output ON	R_{ON}	---	17	28	Ω	$I_F = 5$ mA, $I_O = 120$ mA, t < 1 s
			---	22	35		$I_F = 5$ mA, $I_O = 120$ mA
	Current leakage when the relay is open	I_{LEAK}	---	---	1.0	μA	$V_{OFF} = 400$ V
Capacity between terminals		C_{OFF}	---	80	---	pF	V = 0, f = 1 MHz
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 Ω	$V_{I-O} = 500$ VDC, RoH \leq 60%
Turn-ON time		tON	---	0.2	1	ms	$I_F = 5$ mA, $R_L = 200$ Ω , $V_{DD} = 20$ V (See note 2.)
Turn-OFF time		tOFF	---	0.2	1	ms	

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



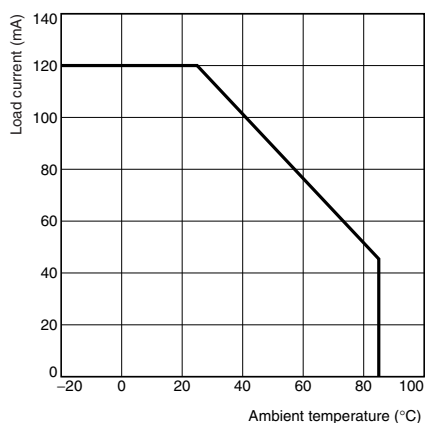
Recommended Operating Conditions

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}	---	---	320	V
Operating LED forward current	I_F	3	5	20	mA
Continuous load current (AC peak/DC)	I_O	---	---	120	mA
Operating temperature	T_a	-20	---	65	$^\circ\text{C}$

Engineering Data

Load Current vs. Ambient Temperature G3VM-401AY(DY)



Safety Precautions

Refer to "Common Precautions" for all G3VM models.