

# MOS FET Relays

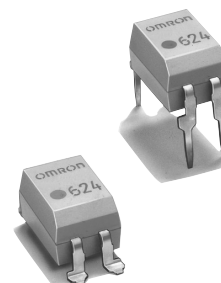
## G3VM-2(F)L

### Analog-switching MOS FET Relays with 350-V Load Voltage and Current Limit.

- A 4-pin Relay available with the same terminal-pin position as 4-pin photocouplers.
- Approved standards: UL1577 (File No. E80555)
- RoHS Compliant.

### ■ Application Examples

- Electronic automatic exchange systems
- Cordless telephones
- Multi-functional telephones
- Measurement devices



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

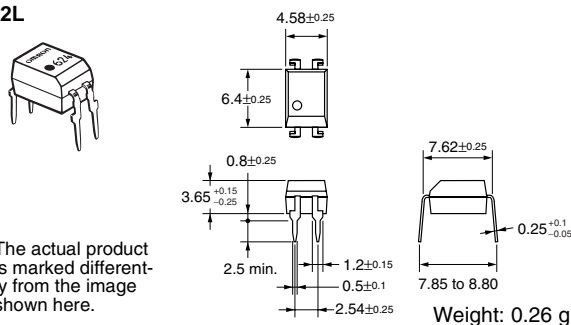
### ■ List of Models

Contact form	Terminals	Load voltage (peak value)	Model	Current limit	Number per stick	Number per tape
SPST-NO	PCB terminals	350 VAC	G3VM-2L	Yes	100	---
	Surface-mounting terminals		G3VM-2FL			
			G3VM-2FL(TR)		---	1,500

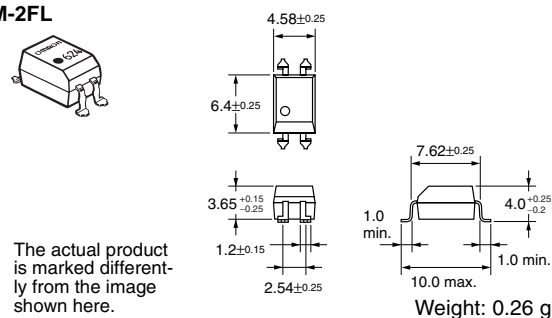
### ■ Dimensions

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

G3VM-2L

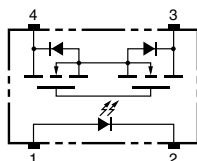


G3VM-2FL

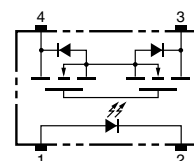


### ■ Terminal Arrangement/Internal Connections (Top View)

G3VM-2L

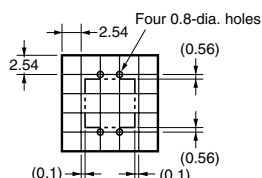


G3VM-2FL



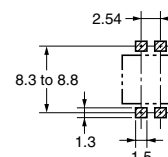
### ■ PCB Dimensions (Bottom View)

G3VM-2L



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

G3VM-2FL



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

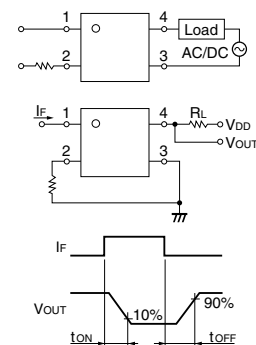
Item		Symbol	Rating	Unit	Measurement conditions
Input	LED forward current	$I_F$	50	mA	
	Repetitive peak LED forward current	$I_{FP}$	1	A	100 μs pulses, 100 pps
	LED forward current reduction rate	$\Delta I_F/^{\circ}\text{C}$	-0.5	mA/ $^{\circ}\text{C}$	Ta ≥ 25 $^{\circ}\text{C}$
	LED reverse voltage	$V_R$	6	V	
	Connection temperature	$T_j$	125	$^{\circ}\text{C}$	
Output	Output dielectric strength	$V_{OFF}$	350	V	
	Continuous load current	$I_O$	120	mA	
	ON current reduction rate	$\Delta I_{ON}/^{\circ}\text{C}$	-1.2	mA/ $^{\circ}\text{C}$	Ta ≥ 25 $^{\circ}\text{C}$
	Connection temperature	$T_j$	125	$^{\circ}\text{C}$	
Dielectric strength between input and output (See note 1.)		$V_{I-O}$	2,500	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	$V_F$	1.0	1.15	1.3	V
	Reverse current	$I_R$	---	---	10	μA
	Capacity between terminals	$C_T$	---	30	---	pF
	Trigger LED forward current	$I_{FT}$	---	1	3	mA
Output	Maximum resistance with output ON	$R_{ON}$	---	22	35	Ω
	Current leakage when the relay is open	$I_{LEAK}$	---	---	1.0	μA
Limit current		$I_{LIM}$	150	---	300	mA
Capacity between I/O terminals		$C_{I-O}$	---	0.8	---	pF
Insulation resistance		$R_{I-O}$	1,000	---	---	MΩ
Turn-ON time		$t_{ON}$	---	---	1.0	ms
Turn-OFF time		$t_{OFF}$	---	---	1.0	ms

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



## Recommended Operating Conditions

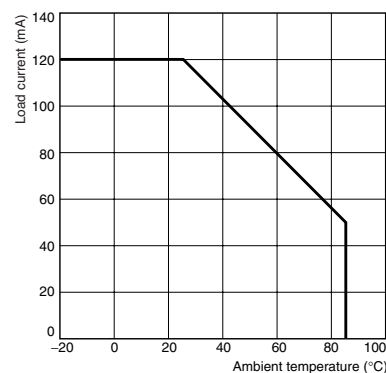
Use the G3VM under the following conditions so that the Relay will operate properly.

Item	Symbol	Minimum	Typical	Maximum	Unit
Output dielectric strength	$V_{DD}$	---	---	280	V
Operating LED forward current	$I_F$	5	7.5	25	mA
Continuous load current	$I_O$	---	---	100	mA
Operating temperature	$T_a$	-20	---	65	°C

## Engineering Data

### Load Current vs. Ambient Temperature

#### G3VM-2(F)L



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