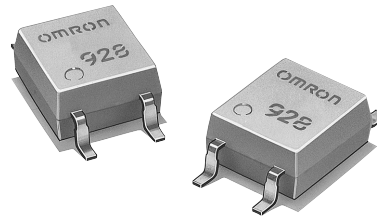


### Expanded Range of Analog-Switching MOS FET Relays in 200-V Load Voltage Series.

- Ideal replacement for the dial-pulse relay or hook relay of each modem or facsimile machine.
- Ideal for application to the line interface blocks of PBX and telephone exchange systems.
- Can be applied to hybrid IC circuits and card-type modems conforming to PCMCIA standards.
- Peak load voltage of 200 V.
- Approved standards: UL1577 (File No. E80555)



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

### Application Examples

- PBX subscriber interfaces
- Multi-functional telephones
- Card-type modems and fax modems
- Built-in modems in personal computers
- Measurement devices

### List of Models

Contact form	Terminals	Load voltage (peak value)	Model	Number per stick	Number per tape
SPST-NO	Surface-mounting terminals	200 VAC	G3VM-S5	100	---
			G3VM-S5(TR)	---	2,500

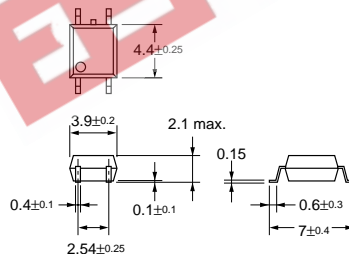
### Dimensions

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

#### G3VM-S5



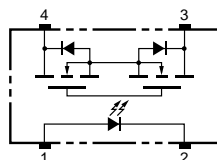
**Note:** The actual product is marked differently from the image shown here.



Weight: 0.1 g

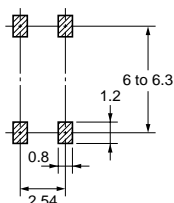
### Terminal Arrangement/Internal Connections (Top View)

#### G3VM-S5



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

#### G3VM-S5



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

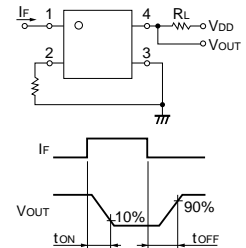
Item	Symbol	Rating	Unit	Measurement Conditions	
Input	LED forward current	I <sub>F</sub>	50	mA	
	Repetitive peak LED forward current	I <sub>FP</sub>	1	A	100 μs pulses, 100 pps
	LED forward current reduction rate	Δ I <sub>F</sub> /°C	-0.5	mA/°C	Ta ≥ 25°C
	LED reverse voltage	V <sub>R</sub>	5	V	
	Connection temperature	T <sub>j</sub>	125	°C	
Output	Output dielectric strength	V <sub>OFF</sub>	200	V	
	Continuous load current	I <sub>O</sub>	150	mA	
	ON current reduction rate	Δ I <sub>ON</sub> /°C	-1.5	mA/°C	Ta ≥ 25°C
	Connection temperature	T <sub>j</sub>	125	°C	
Dielectric strength between input and output (See note 1.)	V <sub>I-O</sub>	1,500	Vrms	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 +100	°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 (Ta = 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>	---	1	3	mA	I <sub>O</sub> = 150 mA
Output	Maximum resistance with output ON	R <sub>ON</sub>	---	5	8	Ω	I <sub>F</sub> = 5 mA, I <sub>O</sub> = 500 mA
	Current leakage when the relay is open	I <sub>LEAK</sub>	---	---	1.0	μA	V <sub>OFF</sub> = 200 V
Capacity between I/O terminals	C <sub>I-O</sub>	---	0.8	---	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, RoH ≤ 60%	
Turn-ON time	t <sub>ON</sub>	---	0.6	1.5	ms	I <sub>F</sub> = 5 mA, R <sub>L</sub> = 200 Ω, V <sub>DD</sub> = 20 V (See note 2.)	
Turn-OFF time	t <sub>OFF</sub>	---	0.1	1.0	ms		

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



## Recommended Operating Conditions

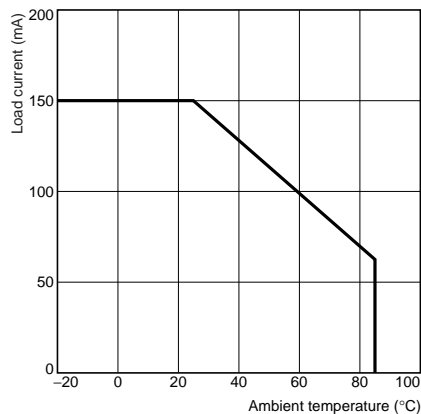
Use the G3VM under the following conditions so that the Relay will operate properly.

Item	Symbol	Minimum	Typical	Maximum	Unit
Output dielectric strength	V <sub>DD</sub>	---	150	200	V
Operating LED forward current	I <sub>F</sub>	5	7.5	25	mA
Continuous load current	I <sub>O</sub>	---	---	120	mA
Operating temperature	T <sub>a</sub>	-20	---	65	°C

## Engineering Data

### Load Current vs. Ambient Temperature

#### G3VM-S5



## Safety Precautions

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