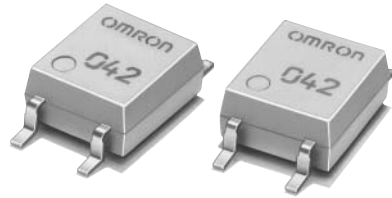


## MOSFET Relay with 350-V Load Voltage and SOP Current Limit

- G3VM-351G Current Limit Relays.
- Limit current of 150 to 300 mA.



**NEW**

### ■ Application Examples

- Electronic automatic exchange systems
- Multi-functional telephones
- Cordless 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	Minimum packaging unit	
					Number per stick	Taping quantity
SPST-NO	Surface-mounting terminals	350 VAC	G3VM-351GL	Yes	100	–
			G3VM-351GL(TR)		–	2,500

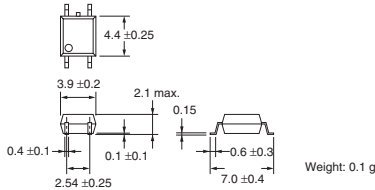
### ■ Dimensions

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

#### G3VM-351GL

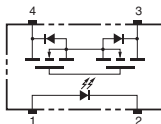


**Note:** The actual product is marked differently from the image shown here.



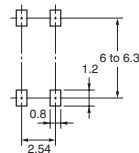
### ■ Terminal Arrangement/Internal Connections (Top View)

#### G3VM-351GL



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

#### G3VM-351GL



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

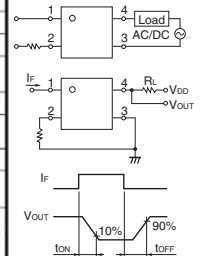
Item		Symbol	Rating	Unit	Measurement Conditions
Input	LED forward current	$I_F$	50	mA	
	Repetitive peak LED forward current	$I_{FP}$	1	A	100 $\mu$ s pulses, 100 pps
	LED forward current reduction rate	$\Delta I_F/^\circ\text{C}$	-0.5	mA/ $^\circ\text{C}$	Ta $\geq 25^\circ\text{C}$
	LED reverse voltage	$V_R$	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 $\geq 25^\circ\text{C}$
	Connection temperature	$T_J$	125	$^\circ\text{C}$	
	Dielectric strength between input and output (See note 1.)	$V_{IO}$	1,500	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	1.16	1.3	V	$I_F = 10 \text{ mA}$
	Reverse current	$I_R$	---	---	10	$\mu\text{A}$	$V_R = 6 \text{ V}$
	Capacity between terminals	$C_T$	---	30	---	pF	$V = 0, f = 1 \text{ MHz}$
	Trigger LED forward current	$I_{FT}$	---	1	3	mA	$I_O = 120 \text{ mA}$
Output	Maximum resistance with output ON	$R_{ON}$	---	15	35	$\Omega$	$I_F = 5 \text{ mA}, I_O = 120 \text{ mA}$
	Current leakage when the relay is open	$I_{LEAK}$	---	---	1.0	$\mu\text{A}$	$V_{OFF} = 350 \text{ V}$
Limit current	$I_{LM}$	150	---	300	mA	$I_F = 5 \text{ mA}, V_{DD} = 5 \text{ V}, t = 5 \text{ ms}$	
Capacity between I/O terminals	$C_{IO}$	---	0.8	---	pF	$f = 1 \text{ MHz}, V_s = 0 \text{ V}$	
Insulation resistance	$R_{IO}$	1,000	---	---	M $\Omega$	$V_{IO} = 500 \text{ V DC}, R_{OH} \leq 60\%$	
Turn-ON time	$t_{ON}$	---	0.3	1.0	ms	$I_F = 5 \text{ mA}, R_L = 200 \Omega, V_{DD} = 20 \text{ V}$ (See note 2.)	
Turn-OFF time	$t_{OFF}$	---	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	$V_{DD}$	---	---	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	$^\circ\text{C}$

## Engineering Data

### Load Current vs. Ambient Temperature

G3VM-351GL

