

### New Series with 350-V Load Voltage

- Upgraded G3VM-3 Series.
- Continuous load current of 120 mA
- Dielectric strength of 2,500 Vrms between I/O.
- Operating time of 0.3 ms (typical).

### Application Examples

- Measurement devices
- Security systems
- Amusement machines



**NEW** Approval pending

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

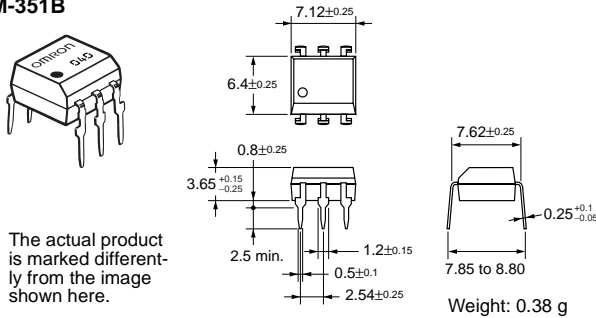
### List of Models

Contact form	Terminals	Load voltage (peak value)	Model	Number per stick	Number per tape
SPST-NO	PCB terminals	350 VAC	G3VM-351B	50	---
	Surface-mounting terminals		G3VM-351E		
			G3VM-351E(TR)	---	1,500

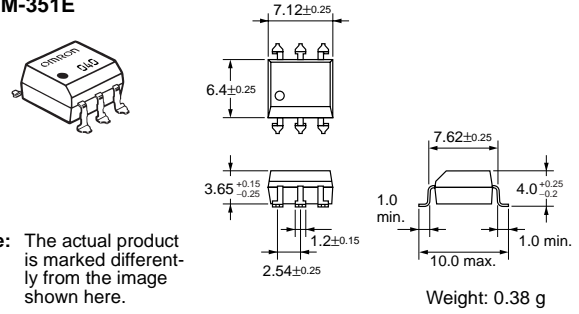
### Dimensions

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

#### G3VM-351B

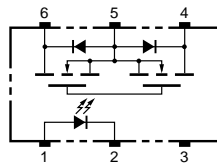


#### G3VM-351E

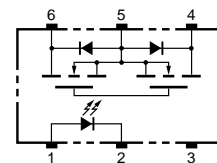


### Terminal Arrangement/Internal Connections (Top View)

#### G3VM-351B

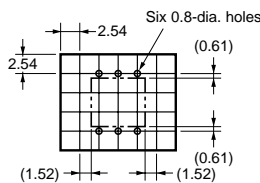


#### G3VM-351E



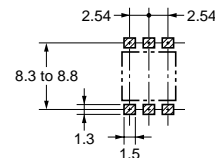
### PCB Dimensions (Bottom View)

#### G3VM-351B



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

#### G3VM-351E

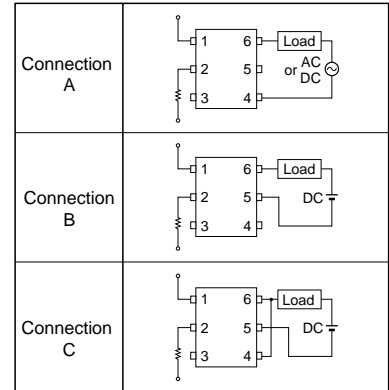


### Absolute Maximum Ratings (Ta = 25°C)

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°C
	LED reverse voltage	$V_R$	5	V	
	Connection temperature	$T_j$	125	$^\circ\text{C}$	
Output	Output dielectric strength	$V_{OFF}$	350	V	
	Continuous load current	Connection A	120	mA	
		Connection B	120		
		Connection C	240		
	ON current reduction rate	Connection A	-1.2	mA/ $^\circ\text{C}$	Ta $\geq$ 25°C
		Connection B	-1.2		
Connection C		-2.4			
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.

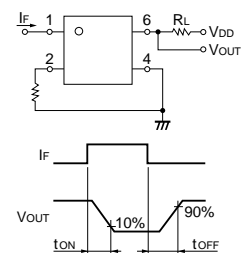
Connection Diagram



### 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	$\mu\text{A}$	$V_R = 5$ V	
	Capacity between terminals	$C_T$	---	30	---	pF	$V = 0$ , $f = 1$ MHz	
	Trigger LED forward current	$I_{FT}$	---	1	3	mA	$I_O = 120$ mA	
Output	Maximum resistance with output ON	Connection A	$R_{ON}$	---	25	35	$\Omega$	$I_F = 5$ mA, $I_O = 120$ mA, $t < 1$ s
			---	35	50	$\Omega$	$I_F = 5$ mA, $I_O = 120$ mA	
			Connection B	---	28	40	$\Omega$	$I_F = 5$ mA, $I_O = 120$ mA
	Current leakage when the relay is open	Connection C	$I_{LEAK}$	---	---	1.0	$\mu\text{A}$	$V_{OFF} = 350$ V
			---	---	---	---	$\mu\text{A}$	$V_{OFF} = 350$ 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 $\Omega$	$V_{I-O} = 500$ VDC, $RoH \leq 60\%$		
Turn-ON time	$t_{ON}$	---	0.3	1.0	ms	$I_F = 5$ mA, $R_L = 200 \Omega$ , $V_{DD} = 20$ V (See note 2.)		
Turn-OFF time	$t_{OFF}$	---	0.1	1.0	ms	$I_F = 5$ mA, $R_L = 200 \Omega$ , $V_{DD} = 20$ V (See note 2.)		

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



### Recommended Operating Conditions

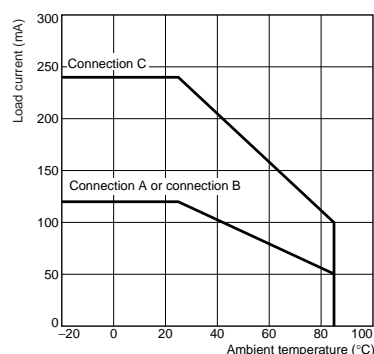
Use the G3VM under the following conditions so that the Relay will operate properly.

Item	Symbol	Minimum	Typical	Maximum	Unit
Output dielectric strength	$V_{DD}$	---	---	280	V
Operating LED forward current	$I_F$	5	10	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-351B(E)



### Safety Precautions

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