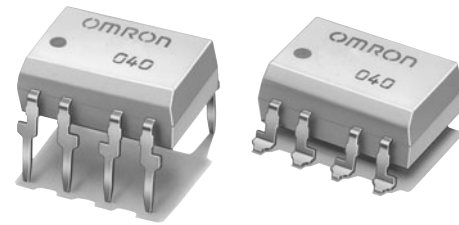


MOS FET Relays

G3VM-355C/CR/F/FR

New MOS FET Relays with Both SPST-NO and SPST-NC Contacts Incorporated in a Single DIP Package. General-purpose Models Added.

- SPST-NO/SPST-NC models now included in the 350-V load voltage series.
- Continuous load current of 120 mA (90 mA).
- Dielectric strength of 2,500 Vrms between I/O.
- General-purpose models (models with high ON resistance) added to the series.



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

RoHS compliant

⚠ Refer to "Common Precautions".

Application Examples

- Measurement devices
- Security systems
- Amusement machines

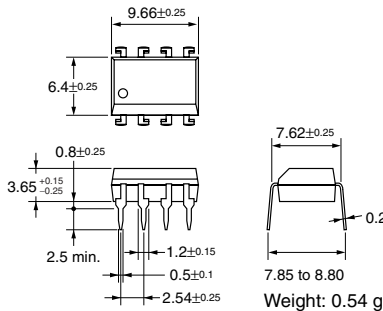
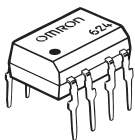
List of Models

Contact form	Terminals	Load voltage (peak value)	Model	Number per stick	Number per tape
SPST-NO/ SPST-NC	PCB terminals	350 VAC	G3VM-355CR	50	---
			G3VM-355C		
			G3VM-355FR		
			G3VM-355F		
	Surface-mounting terminals		G3VM-355FR(TR)	---	1,500
			G3VM-355F(TR)		

Dimensions

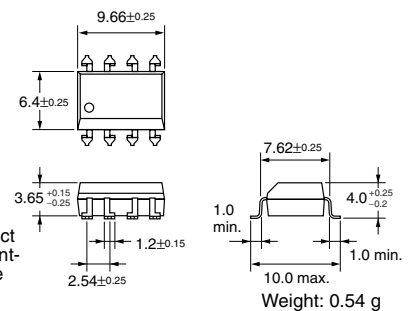
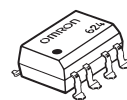
Note: All units are in millimeters unless otherwise indicated.

G3VM-355C/CR



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

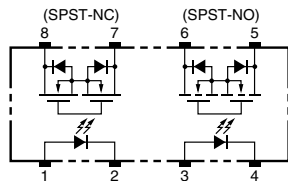
G3VM-355F/FR



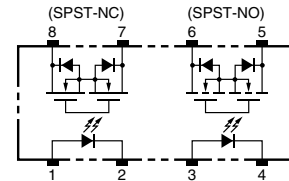
Note: The actual product is marked differently from the image shown here.

Terminal Arrangement/Internal Connections (Top View)

G3VM-355C/CR

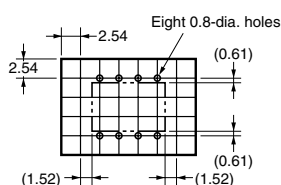


G3VM-355F/FR



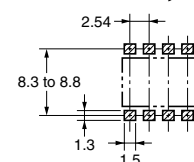
PCB Dimensions (Bottom View)

G3VM-355C/CR



Actual Mounting Pad Dimensions (Recommended Value, Top View)

G3VM-355F/FR



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	
	LED forward current reduction rate	$\Delta I_F/^\circ\text{C}$	-0.5	mA/°C	
	LED reverse voltage	V_R	5	V	
	Connection temperature	T_j	125	°C	
Output	Output dielectric strength	V_{OFF}	350	V	
	Continuous load current	I_O	120 (100)	mA	
	ON current reduction rate	$\Delta I_{ON}/^\circ\text{C}$	-1.2 (-1)	mA/°C	
	Connection temperature	T_j	125	°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	°C	With no icing or condensation
Storage temperature		T_{stg}	-55 to +125	°C	With no icing or condensation
Soldering temperature (10 s)		---	260	°C	10 s

Values in parentheses are for the G3VM-355C/F.

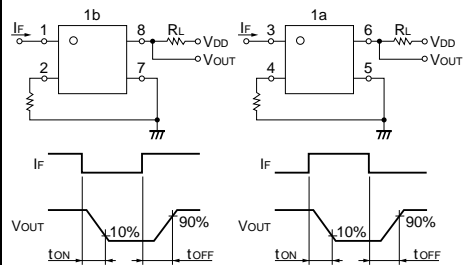
Note: 1. The dielectric strength between the input and output was checked by applying voltage between all pins as a group on the LED side and all pins as a group on the light-receiving side.

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	$I_F = 10 \text{ mA}$
	Reverse current	I_R	---	---	10	μA	$V_R = 5 \text{ V}$
	Capacity between terminals	C_T	---	30	---	pF	$V = 0, f = 1 \text{ MHz}$
	Trigger LED forward current	I_{FT}	---	1	3	mA	SPST-NO: $I_O = 120 \text{ mA}$ (100 mA) SPST-NC: $I_{OFF} = 10 \mu\text{A}$
Output	Maximum resistance with output ON	R_{ON}	---	15 (40)	25 (50)	Ω	SPST-NO: $I_F = 5 \text{ mA}, I_O = 120 \text{ mA}$ (100 mA) SPST-NC: $I_F = 0 \text{ mA}, I_O = 120 \text{ mA}$ 100 mA
	Current leakage when the relay is open	I_{LEAK}	---	---	1.0	μA	$V_{OFF} = 350 \text{ V}$
Capacity between I/O terminals		C_{I-O}	---	0.8	---	pF	$f = 1 \text{ MHz}, V_s = 0 \text{ V}$
Insulation resistance		R_{I-O}	1,000	---	---	M Ω	$V_{I-O} = 500 \text{ VDC}, \text{RoH} \leq 60\%$
Turn-ON time	SPST-NO	t_{ON}	---	(0.3)	1.0	ms	$I_F = 5 \text{ mA}, R_L = 200 \Omega, V_{DD} = 20 \text{ V}$ (See note 2.)
	SPST-NC	---	---	(0.25)	1.0	ms	
Turn-OFF time	SPST-NO	t_{OFF}	---	(0.15)	1.0	ms	
	SPST-NC	---	---	(0.5)	3.0 (1)	ms	

Values in parentheses are for the G3VM-355C/F.

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.

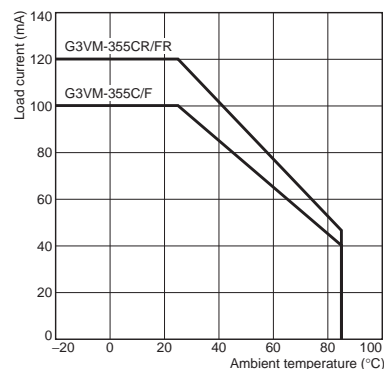
Item	Symbol	Minimum	Typical	Maximum	Unit
Output dielectric strength	V_{DD}	---	---	280	V
Operating LED forward current	I_F	5	---	25	mA
Continuous load current	I_O	---	---	120 (100)	mA
Operating temperature	T_a	-20	---	65	°C

Values in parentheses are for the G3VM-355C/F.

Engineering Data

Load Current vs. Ambient Temperature

G3VM-355C(F)
G3VM-355CR/FR



Safety Precautions

Refer to "Common Precautions" for all G3VM models.