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# MOS FET Relays

# G3VM-22CO/FO

## New MOS FET Relay Featuring Unique Contact Construction (1 Input Channel Drives 2 Output Channels)

- Ideal for application in line interface and data logging blocks.
- Switches minute analog signals.
- Switching AC and DC.
- RoHS Compliant.

## ■ Application Examples

- ADSL modems and routers
- Edge routers
- Data storage devices



**NEW**  Approval pending

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

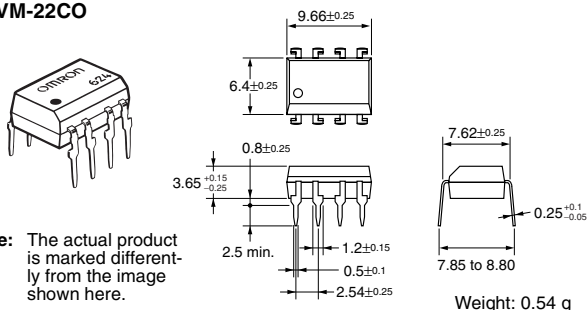
## ■ List of Models

Contact form	Terminals	Load voltage (peak value)	Model	Number per stick	Number per tape
DPST-NO	PCB terminals	20 VAC	G3VM-22CO	50	---
	Surface-mounting terminals		G3VM-22FO		
				G3VM-22FO(TR)	---

## ■ Dimensions

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

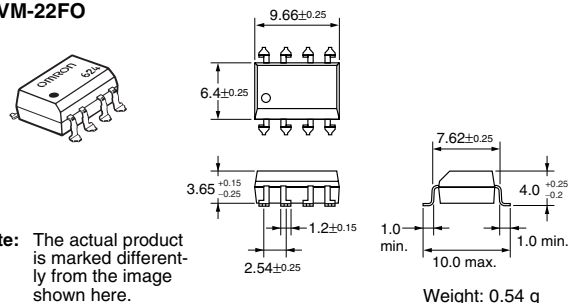
**G3VM-22CO**



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

Weight: 0.54 g

**G3VM-22FO**

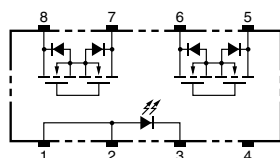


**Note:** The actual product is marked differently from the image shown here.

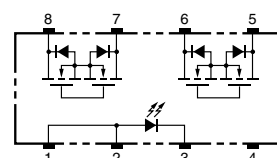
Weight: 0.54 a

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

**G3VM-22CO**

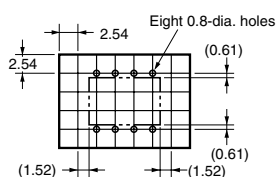


**G3VM-22FO**



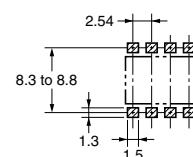
### ■ PCB Dimensions (Bottom View)

**G3VM-22CO**



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

**G3VM-22FO**



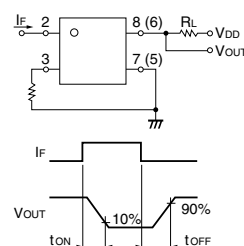
## ■ Absolute Maximum Ratings (Ta = 25°C)

	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/°C	Ta $\geq$ 25°C
	LED reverse voltage	$V_R$	6	V	
	Connection temperature	$T_J$	125	°C	
Output	Output dielectric strength	$V_{OFF}$	20	V	
	Continuous load current	$I_O$	150	mA	
	ON current reduction rate	$\Delta I_{ON}/^\circ\text{C}$	-1.5	mA/°C	Ta $\geq$ 25°C
	Connection temperature	$T_J$	125	°C	
	Dielectric strength between input and output	$V_{I-O}$	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

## ■ 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	$\mu$ A	$V_R = 5$ V
	Capacity between terminals	$C_T$	---	15	---	pF	$V = 0$ , $f = 1$ MHz
	Trigger LED forward current	$I_{FT}$	---	1.5	5	mA	$I_O = 150$ mA
Output	Maximum resistance with output ON	$R_{ON}$	---	2	4	$\Omega$	$I_F = 5$ mA, $I_O = 150$ mA
	Current leakage when the relay is open	$I_{LEAK}$	---	$10 \times 10^{-6}$	1.0	$\mu$ A	$V_{OFF} = 20$ 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	$t_{ON}$	---	---	1.0	ms	$I_F = 5$ mA, $R_L = 200 \Omega$ , $V_{DD} = 20$ V (See note.)
	Turn-OFF time	$t_{OFF}$	---	---	1.0	ms	

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



## ■ Recommended Operating Conditions

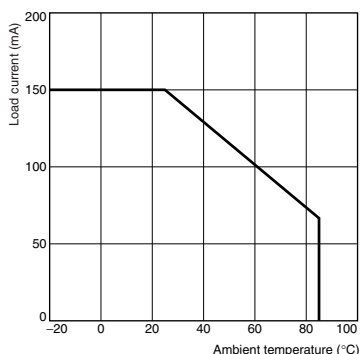
Use the G3VM under the following conditions so that the Relay will operate properly.

Item	Symbol	Minimum	Typical	Maximum	Unit
Output dielectric strength	$V_{DD}$	---	---	20	V
Operating LED forward current	$I_F$	5	---	30	mA
Continuous load current	$I_O$	---	---	150	mA
Operating temperature	$T_a$	-25	---	65	°C

## ■ Engineering Data

### Load Current vs. Ambient Temperature

G3VM-22CO(FO)



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