

# MOS FET Relays

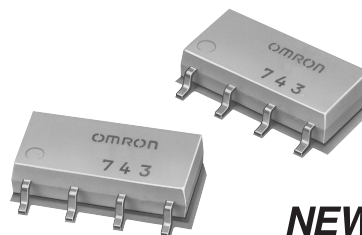
## G3VM-402J

### Expanded Range of Analog-Switching MOS FET Relays with 400-V Load Voltage

- New models with two channels and an 8-pin SOP package included in 400-V load voltage series.
- Continuous load current of 120 mA.
- Dielectric strength of 1,500 Vrms between I/O.
- RoHS Compliant.

#### Application Examples

- Broadband systems
- Measurement devices
- Data loggers
- Amusement machines



**NEW** 

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

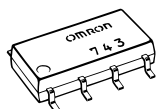
#### List of Models

Contact form	Terminals	Load voltage (peak value)	Model	Number per stick	Number per tape
DPST-NO	Surface-mounting terminals	400 VAC	G3VM-402J	50	---
			G3VM-402J(TR)	---	2,500

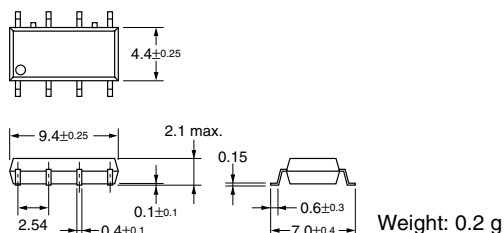
#### Dimensions

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

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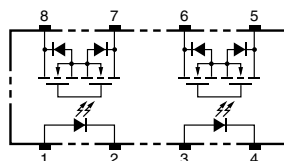


**Note:** The actual product is marked differently from the image shown here.



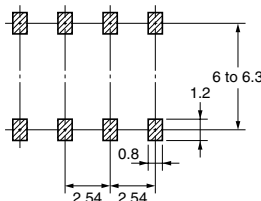
#### Terminal Arrangement/Internal Connections (Top View)

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

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

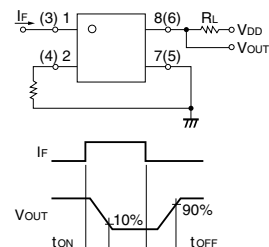
Item	Symbol	Rating	Unit	Measurement conditions
Input	LED forward current	$I_F$	50	mA
	Repetitive peak LED forward current	$I_{FP}$	1	A
	LED forward current reduction rate	$\Delta I_F/^\circ\text{C}$	-0.5	mA/°C
	LED reverse voltage	$V_R$	5	V
	Connection temperature	$T_J$	125	°C
Output	Output dielectric strength	$V_{OFF}$	400	V
	Continuous load current	$I_O$	120	mA
	ON current reduction rate	$\Delta I_{ON}/^\circ\text{C}$	-1.2	mA/°C
Dielectric strength between input and output (See note 1.)		$V_{I-O}$	1,500	Vrms
Operating temperature		$T_a$	-40 to +85	°C
Storage temperature		$T_{stg}$	-55 to +125	°C
Soldering temperature (10 s)		---	260	°C

**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
	Reverse current	$I_R$	---	---	10	μA
	Capacity between terminals	$C_T$	---	30	---	pF
	Trigger LED forward current	$I_{FT}$	---	1	3	mA
Output	Maximum resistance with output ON	$R_{ON}$	---	17	35	Ω
	Current leakage when the relay is open	$I_{LEAK}$	---	---	1.0	μA
Capacity between I/O terminals		$C_{I-O}$	---	0.8	---	pF
Insulation resistance		$R_{I-O}$	1,000	---	---	MΩ
Turn-ON time		$t_{ON}$	---	0.3	1	ms
Turn-OFF time		$t_{OFF}$	---	0.1	1	ms

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



## Recommended Operating Conditions

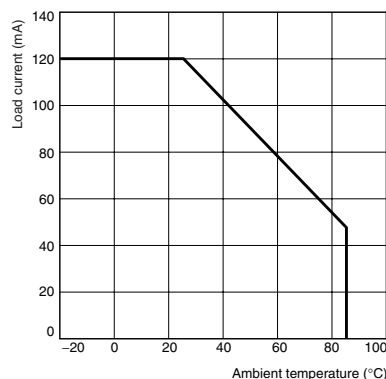
Use the G3VM under the following conditions so that the Relay will operate properly.

Item	Symbol	Minimum	Typical	Maximum	Unit
Output dielectric strength	$V_{DD}$	---	---	320	V
Operating LED forward current	$I_F$	5	7.5	25	mA
Continuous load current	$I_O$	---	---	120	mA
Operating temperature	$T_a$	-20	---	65	°C

## Engineering Data

### Load Current vs. Ambient Temperature

#### G3VM-402J



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