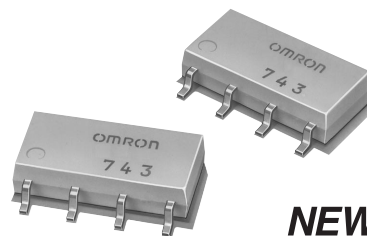


MOS FET Relays

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.


NEW

Application Examples

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

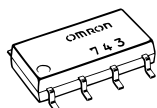
Note: The actual product is marked differently from the image shown here.

List of Models

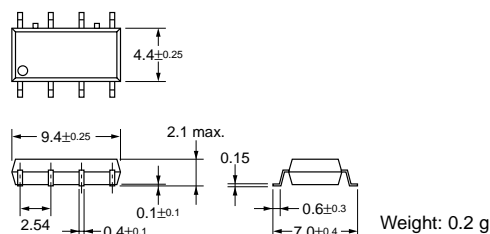
Contact form	Terminals	Load voltage (peak value)	Model	Number per stick	Number per tape
DPST-NO	Surface-mounting terminals	400 VAC	G3VM-402J	50	---
			G3VM-402J(TR)	---	2,500

Dimensions

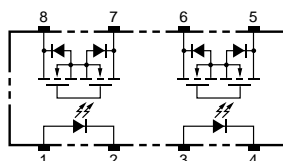
Note: All units are in millimeters unless otherwise indicated.

G3VM-402J


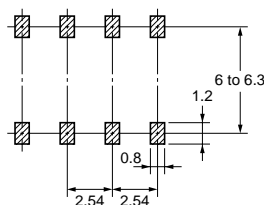
Note: The actual product is marked differently from the image shown here.



Terminal Arrangement/Internal Connections (Top View)

G3VM-402J


Actual Mounting Pad Dimensions (Recommended Value, Top View)

G3VM-402J


Absolute Maximum Ratings (Ta = 25°C)

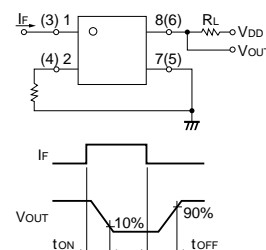
Item	Symbol	Rating	Unit	Measurement Conditions
Input	LED forward current	I_F	50	mA
	Repetitive peak LED forward current	I_{FP}	1	A
	LED forward current reduction rate	$\Delta I_F/^\circ\text{C}$	-0.5	mA/°C
	LED reverse voltage	V_R	5	V
	Connection temperature	T_j	125	°C
Output	Output dielectric strength	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	$V_R = 5\text{ V}$
	Capacity between terminals	C_T	---	30	pF	$V = 0, f = 1\text{ MHz}$
	Trigger LED forward current	I_{FT}	---	1	3	mA
Output	Maximum resistance with output ON	R_{ON}	---	17	35	Ω
	Current leakage when the relay is open	I_{LEAK}	---	1.0	μA	$V_{OFF} = 400\text{ V}$
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	---	MΩ	$V_{I-O} = 500\text{ VDC}, R_{oH} \leq 60\%$
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

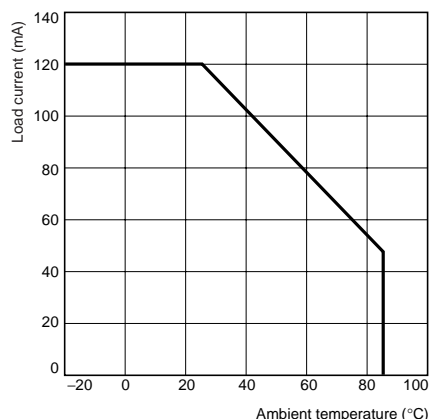
Use the G3VM under the following conditions so that the Relay will operate properly.

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



Safety Precautions

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