

OMRON



A wide range of contact forms and functions
Over 148 different models available

G3VM MOSFET RELAY

Selection Guide

What's NEW!

The Industry Leading* very small outline package "VSON series" is now available

Expansion of the Ultra Small Outline Package "USOP" series

Expansion of the small DIP4 package with High Dielectric Strength series

*As of March, 2015



MOS FET Relays
G3VM

About MOS FET relays

OMRON's MOS FET Relays lead the industry in Solid State Relay technology, utilizing an input LED, Photodiode Dome Array (PDA) used as photocoupler and MOS FET chip in the load switching current. Our G3VM series of relays offer many benefits including: low maintenance costs, small footprint and high-speed switching.

As a suitable replacement for a mechanical relay, MOS FET relays are displacing reed relays as well as relays containing mercury.

OMRON has expanded the product lineup by introducing their smallest relay* to date, the new very small outline package VSON which leads the industry in size and performance, with high switching capacity and high sensitivity series available.

*As of March, 2015.

Advantages of MOS FET relays

Ultra Small Size and Weight

The SSOP, USOP and new VSON package offer substantial space saving, making it ideal for applications which require small overall size and less space on bottom surface.

Low driving current

Realizing energy saving with standard driving current of 2-15mA. Ultrasensitive models are also available featuring Drive Currents as low as 0.2mA (max).

Long operating life

MOS FET Relays use light signal instead of moveable contacts; avoiding reduction of life caused by contact wear, substantially increasing operational life.

Small leakage current

Can withstand external surge current without addition of snubber circuit. Under normal conditions, the typical leakage current is about 1 nA or below.

Excellent shock resistance

All the internal parts use casting method, and there is no movable parts in it, so it has excellent shock and vibration resistance.

High Insulation

MOS FET relays offer great I/O isolation due to its operational principle. It turns the voltage into the light and transfers by the light signal; Therefore input and output are isolated. The standard models offer 2,500Vrms between input and output, and The High Dielectric Strength Series offer models with up to 5,000Vrms, accomplishing high insulation.

Silent operation

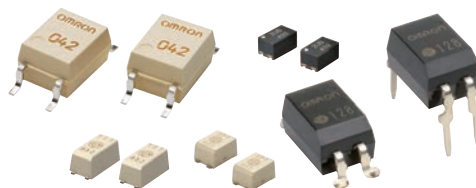
As MOS FET Relays do not have mechanical contacts, by using a MOS FET instead of an electromechanical relay, it is possible to eliminate switching noise in your applications.

High-speed switching

Comparing with the switching time of 3 to 5ms of a mechanical relay, its switching time is shortened to 0.2ms(SSOP, USOP, VSON). Achieving quick response performance.

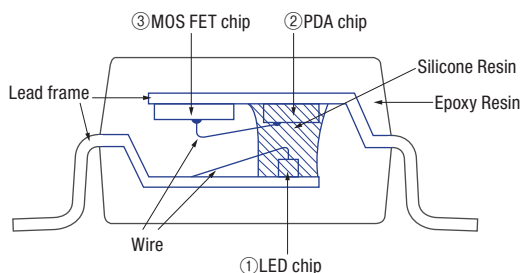
Control the micro analog signal correctly

Comparing with the triac, MOS FET greatly reduces the dead zone. The input waveform of micro analog signal does not suffer distortion as it does with a triac and is basically converted into output waveform without distortion.



Structure and operational principle of MOS FET relays

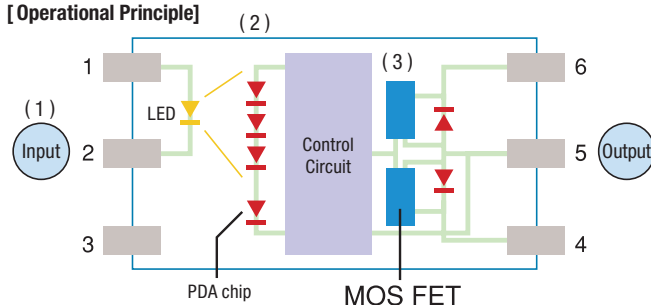
[Internal structure]



MOS FET relay consists of the following three components:

- ① LED (light emitting diode)
- ② Photodiode dome array (PDA)
- ③ MOS FET

[Operational Principle]

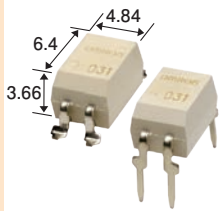


- (1) The LED lights up when the current is connected at the input side.
- (2) The light sent by the LED will be converted into voltage when it is received by the photodiode.
- (3) This voltage will be the gate voltage to drive the MOS FET via control circuit.

Package of MOS FET Relays

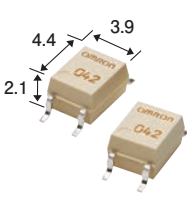
DIP

Bottom surface
100%



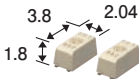
SOP

Bottom surface
59%



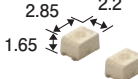
SSOP

Bottom surface
19%



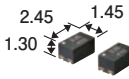
USOP

Bottom surface
16%



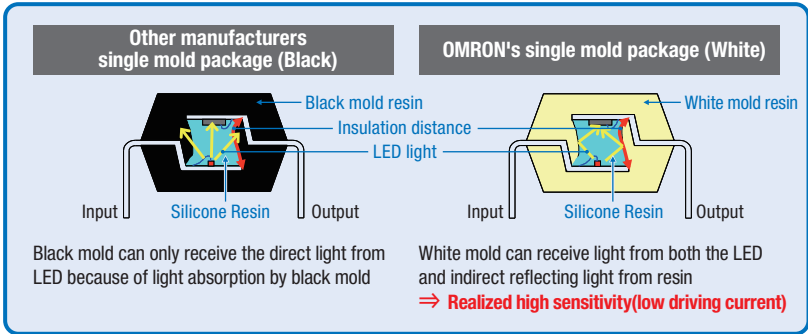
VSON

Bottom surface
12%



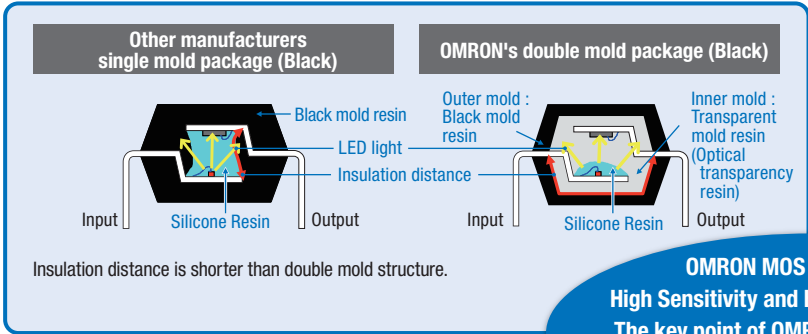
Features of OMRON's MOS FET Relays

Feature 1 Achieves high sensitivity (low driving current) with white mold resin package!



Many models of OMRON's MOS FET Relays are made with white mold resin in order to achieve high sensitivity.

Feature 2 Realizes high dielectric strength and high sensitivity with black mold resin package!



High Dielectric Strength types have double molded structure which assures longer insulation distance; the utilization of high-luminance LED achieves high dielectric strength and high sensitivity.

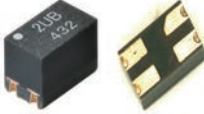
Feature 3 Good solderability with small package!

● SSOP/USOP Package ... Lead type

● VSON Package ... Non-lead type

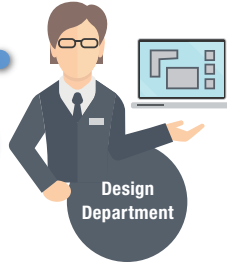


Offers High Visibility with side solder joints



Achieves high solder bond strength with large solder joints in the bottom surface

Due to the small size of MOS FET Relays, solder mounting and inspection becomes more difficult. With High Visibility lead terminals and side solder joints, OMRON's MOS FET Relays solve this problem allowing us to improve productivity.



Design Department



Manufacturing Department

MOS FET Relay Lineup

General Purpose Type



Best-selling products suitable for various applications
Ideal for AC/DC load, Micro analog signal

Package	Model	Contact form	Load voltage (V) Max.	Continuous load current (mA) Max.	Dielectric strength between I/O (Vrms)
DIP	G3VM-61A1/D1	1a	60	500	2500
	G3VM-61B1/E1	1a	60	500(1000)	2500
	G3VM-62C1/F1	2a	60	500	2500
	G3VM-351A/D	1a	350	120	2500
	G3VM-351B/E	1a	350	120(240)	2500
	G3VM-352C/F	2a	350	120	2500
SOP	G3VM-61G1	1a	60	400	1500
	G3VM-61VY1 NEW	1a	60	100	3750
	G3VM-61H1	1a	60	400(800)	1500
	G3VM-62J1	2a	60	400	1500
	G3VM-81G1	1a	80	350	1500
	G3VM-351G	1a	350	110	1500
	G3VM-351H	1a	350	110(220)	1500
	G3VM-352J	2a	350	110	1500

* Load current in case of connection C is shown in parentheses

High Current & Low On-resistance Type



Offers High Current & Low On-resistance in the same level as the mechanical relay

Package	Model	Load voltage (V) Max.	Continuous load current (mA) Max.	Maximum resistance with output ON(Ω) Typ.
DIP	G3VM-21AR/DR	20	3	0.04
	G3VM-21BR/ER	20	4(8)*	0.02(0.005)*
	G3VM-41AR/DR	40	2.5	0.05
	G3VM-41BR/ER	40	3.5(7)*	0.03(0.008)*
	G3VM-61AR/DR	60	2	0.08
	G3VM-61BR/ER	60	2.5	0.065
	G3VM-61BR1/ER1	60	3(6)*	0.04(0.01)*
	G3VM-101AR/DR	100	1	0.25
	G3VM-101BR/ER	100	2(4)*	0.1(0.025)*
SOP	G3VM-21HR	20	2.5(5)*	0.02(0.005)*
	G3VM-41GR8	40	1	0.1
	G3VM-41HR	40	2.5(5)*	0.03(0.008)*
	G3VM-61GR1	60	1	0.25
	G3VM-61HR	60	2.3(4.6)*	0.04(0.01)*
	G3VM-81HR	80	1.25(2.5)*	0.11(0.03)*
	G3VM-101HR	100	1.4(2.8)*	0.1(0.025)*

* Load current in case of connection C is shown in parentheses

Small & High Dielectric Strength Type



Dielectric Strength between I/O 5,000Vrms with small DIP4.
High Continuous load current at 2A for G3VM-41AY1/DY1

Package	Model	Load voltage (V) Max.	Continuous load current (mA) Max.	Recommended Trigger LED forward current (mA) Max.	Dielectric strength between I/O (Vrms)
DIP4	G3VM-41AY1/DY1	40	2000	7.5	5000
	G3VM-61AY1/DY1	60	500	7.5	5000
	G3VM-201AY1/DY1	200	250	7.5	5000
	G3VM-351AY1/DY1	350	100	7.5	5000
	G3VM-401AY1/DY1	400	120	7.5	5000
	G3VM-601AY1/DY1	600	90	7.5	5000

G3VM Model Number Legend

G3VM-□□□□□□

① Load voltage	② Contact form	③ Package type	④ Additional functions	⑤ Other information
2: 20V 10: 100V 4: 40V 20: 200V 5: 50V 35: 350V 6: 60V 40: 400V 7: 75V 60: 600V 8: 80V	1: 1a(SPST-NO) 2: 2a(DPST-NO) 3: 1b(SPST-NC) 4: 2b(DPST-NC) 5: 1a1b (SPST-NO/SPST-NC)	A: DIP 4pin PCB Terminals B: DIP 6pin PCB Terminals C: DIP 8pin PCB Terminals D: DIP 4pin Surface-mounting Terminals E: DIP 6pin Surface-mounting Terminals F: DIP 8pin Surface-mounting Terminals G: SOP 4pin H: SOP 6pin J: SOP 8pin L: SSOP 4pin P: USOP 4pin U: VSON 4pin V: SOP 4pin (Special)	L: Current limit R: Low ON-resistance type Y: Dielectric strength between I/O above 2.5 kV type	When specifications overlap, serial code is added in the recorded order.

Note 1 : Some products may have a different model number structure.

Note 2 : In order to avoid the confusion of I (English letter) and 1 (number), I (English letter) is not used here.

Note 3 : For 4-pin SOP models, where the available marking space is insufficient to clearly differentiate model numbers with 6 or more suffix digits, the package type code ③ is omitted.

Ultrasensitive Type



Ideal for energy saving, various battery-driven devices
Ultrasensitive Driving current* 0.2 mA (Max.)

with SOP4 available

*Driving current = LED forward current

Model	Load voltage (V) Max.	Continuous load current (mA) Max.	Trigger LED forward current (mA) Max.	Recommended trigger LED forward current (mA) Max.
G3VM-61G2	60	400	1	2
G3VM-61G3 NEW	60	400	0.2	0.5
G3VM-201G1	200	200	1	2
G3VM-201G2 NEW	200	200	0.2	0.5
G3VM-351G1	350	100	1	2
G3VM-401G1 NEW	400	100	0.2	0.5
G3VM-601G1 NEW	600	70	0.2	0.5
G3VM-601G	600	90	1	2

Low Output Capacitance and ON Resistance Type (Low CxR)

Ideal for semi-conductor test equipment.

low C(capacitance between terminals)
× R(output on-resistance) type



■SSOP package

Model	Load voltage (V) Max.	Continuous load current (mA) Max.	Maximum resistance with output ON(Ω) Typ.	Capacitance between terminals (pF) Typ.
G3VM-21LR	20	160	5	1
G3VM-21LR1	20	450	0.8	5
G3VM-21LR10	20	200	3	0.8
G3VM-41LR4	40	250	2	5
G3VM-41LR5	40	300	1	10
G3VM-41LR6	40	120	10	1
G3VM-41LR10	40	120	12	0.45
G3VM-41LR11	40	140	7	0.7

■USOP package

Model	Load voltage (V) Max.	Continuous load current (mA) Max.	Maximum resistance with output ON(Ω) Typ.	Capacitance between terminals (pF) Typ.
G3VM-21PR1 NEW	20	450	0.6	5
G3VM-21PR10 NEW	20	200	3	0.8
G3VM-21PR11 NEW	20	900	0.18	40
G3VM-41PR12 NEW	40	100	15	0.3
G3VM-41PR6 NEW	40	120	10	1
G3VM-41PR10 NEW	40	120	12	0.45
G3VM-41PR11 NEW	40	140	7	0.7
G3VM-61PR1 NEW	60	120	10	0.7

■VSON package

Model	Load voltage (V) Max.	Continuous load current (mA) Max.	Maximum resistance with output ON(Ω) Typ.	Capacitance between terminals (pF) Typ.
G3VM-21UR10 NEW	20	200	3	0.8
G3VM-21UR1 NEW	20	450	0.8	5
G3VM-21UR11 NEW	20	1000	0.18	40
G3VM-41UR12 NEW	40	100	15	0.3
G3VM-41UR10 NEW	40	120	12	0.45
G3VM-41UR11 NEW	40	140	7	0.7
G3VM-61UR1 NEW	60	120	10	0.7

Product lineup of MOS FET Relays

Please refer to our web site or datasheet for more information such as measurement conditions.

DIP (Dual Inline Package)

Load Voltage (V) Max.	Model	Number of terminals	Contact form	Continuous load current (mA) Max.	Maximum resistance with output ON (Ω) Typ.	Current leakage when the relay is open (nA) Max.	Capacitance between terminals (pF) Typ.	Turn-ON time (ms) Max.	Turn-OFF time (ms) Max.	Dielectric strength between I/O (Vrms)
20	G3VM-21AR/DR	4	1a	3000	0.04	1000	300	5.0	1.0	2500
20	G3VM-21BR/ER	6	1a	4000 (8000) *1	0.02	1000	1000	5.0	1.0	2500
40	G3VM-41AY/DY NEW	4	1a	2000	0.09	1000	300	5.0	1.0	5000
40	G3VM-41AY1/DY1 NEW	4	1a	2000	0.09	1000	300	5.0	1.0	5000
40	G3VM-41AR/DR	4	1a	2500	0.05	1000	300	5.0	1.0	2500
40	G3VM-41BR/ER	6	1a	3500 (7000) *1	0.03	1000	1000	5.0	1.0	2500
60	G3VM-61A1/D1	4	1a	500	1	1000	130	2.0	0.5	2500
60	G3VM-61AY/DY	4	1a	500	0.6	1000	130	1.0	1.0	5000
60	G3VM-61AY1/DY1 NEW	4	1a	500	0.6	1000	130	3.0	1.0	5000
60	G3VM-61AR/DR	4	1a	2000	0.08	1000	250	5.0	1.0	2500
60	G3VM-61B1/E1	6	1a	500 (1000) *1	1	1000	130	2.0	0.5	2500
60	G3VM-61BR/ER	6	1a	2500	0.065	10	400	1.5	0.4	2500
60	G3VM-61BR1/ER1	6	1a	3000 (6000) *1	0.04	1000	1000	5.0	1.0	2500
60	G3VM-62C1/F1	8	2a	500	1	1000	130	2.0	0.5	2500
100	G3VM-101AR/DR	4	1a	1000	0.25	1000	200	5.0	1.0	2500
100	G3VM-101BR/ER	6	1a	2000 (4000) *1	0.1	1000	1000	5.0	1.0	2500
200	G3VM-201AY/DY	4	1a	250	5	1000	90	1.0	1.0	5000
200	G3VM-201AY1/DY1 NEW	4	1a	250	5	1000	90	3.0	1.0	5000
350	G3VM-351AY/DY	4	1a	100	35	1000	30	1.0	1.0	5000
350	G3VM-351AY1/DY1 NEW	4	1a	100	35	1000	30	2.0	1.0	5000
350	G3VM-2L/2FL	4	1a	120 *2	22	1000	40	1.0	1.0	2500
350	G3VM-351A/D	4	1a	120	35	1000	30	1.0	1.0	2500
350	G3VM-353A/D	4	1b	150	15	1000	85	1.0	3.0	2500
350	G3VM-351B/E	6	1a	120 (240) *1	35	1000	30	1.0	1.0	2500
350	G3VM-353B/E	6	1b	150 (300) *1	15	1000	85	1.0	3.0	2500
350	G3VM-355CR/FR	8	1a1b	120	15	1000	65	1.0	3.0	2500
350	G3VM-352C/F	8	2a	120	35	1000	30	1.0	1.0	2500
350	G3VM-WL/WFL	8	2a	120 *2	22	1000	40	1.0	1.0	2500
350	G3VM-354C/F	8	2b	150	15	1000	85	1.0	3.0	2500
400	G3VM-401A/D	4	1a	120	18	1000	40	1.0	1.0	2500
400	G3VM-401AY/DY	4	1a	120	22	1000	80	1.0	1.0	5000
400	G3VM-401AY1/DY1 NEW	4	1a	120	22	1000	80	2.0	1.0	5000
400	G3VM-401B/E	6	1a	120 (240) *1	17	1000	40	1.0	1.0	2500
400	G3VM-401BY/EY	6	1a	120 (240) *1	17	1000	40	1.0	1.0	5000
400	G3VM-402C/F	8	2a	120	18	1000	40	1.0	1.0	2500
600	G3VM-601AY/DY	4	1a	90	45	1000	75	1.0	1.0	5000
600	G3VM-601AY1/DY1 NEW	4	1a	90	45	1000	75	2.0	1.0	5000
600	G3VM-601BY/EY	6	1a	100 (200) *1	30	1000	120	1.5	1.0	5000

*1 Load current in case of connection C is shown in parentheses

*2 Current-Limiting function (Limit current 150mA Min. 300mA Max.)

SOP (Small Outline Package)

Load Voltage (V) Max.	Model	Number of terminals	Contact form	Continuous load current (mA) Max.	Maximum resistance with output ON (Ω) Typ.	Current leakage when the relay is open (nA) Max.	Capacitance between terminals (pF) Typ.	Turn-ON time (ms) Max.	Turn-OFF time (ms) Max.	Dielectric strength between I/O (Vrms)
20	G3VM-21GR	4	1a	160	5	1	1	0.5	0.5	1500
20	G3VM-21GR1	4	1a	300	1	1	5	0.5	0.5	1500
20	G3VM-21HR	6	1a	2500 (5000) *1	0.02	10	1000	5.0	1.0	1500
40	G3VM-41GR6	4	1a	120	10	1	1	0.5	0.5	1500
40	G3VM-41GR4	4	1a	250	2	1	5	0.5	0.5	1500
40	G3VM-41GR5	4	1a	300	1	1	10	0.5	0.5	1500
40	G3VM-41GR8	4	1a	1000	0.1	1	300	3.0	0.5	1500
40	G3VM-41HR	6	1a	2500 (5000) *1	0.03	10	1000	5.0	1.0	1500
60	G3VM-61VY1 NEW	4	1a	100	25	1000	10	5.0	5.0	3750
60	G3VM-61G1	4	1a	400	1	1000	130	2.0	0.5	1500
60	G3VM-61G2	4	1a	400	1	1000	130	8.0	3.0	1500
60	G3VM-61G3 NEW	4	1a	400	1	1000	130	10.0	5.0	1500
60	G3VM-61GR1	4	1a	1000	0.25	100	90	3.0	1.0	1500
60	G3VM-61H1	6	1a	400 (800) *1	1	1000	130	2.0	0.5	1500
60	G3VM-61HR	6	1a	2300 (4600) *1	0.04	10	1000	5.0	1.0	1500
60	G3VM-62J1	8	2a	400	1	1000	130	2.0	0.5	1500
80	G3VM-81GR	4	1a	40	16	1	2.5	0.5	0.5	1500
80	G3VM-81GR1	4	1a	200	5	1	6.5	0.5	0.5	1500
80	G3VM-81G1	4	1a	350	1	1	30	0.5	0.5	1500
80	G3VM-81HR	6	1a	1250 (2500) *1	0.11	1.5	460	3.0	1.0	1500
100	G3VM-101HR	6	1a	1400 (2800) *1	0.1	10	1000	5.0	1.0	1500
200	G3VM-201G	4	1a	50	40	1	15	0.5	0.2	1500
200	G3VM-201G1	4	1a	200	5	1000	90	8.0	3.0	1500
200	G3VM-201G2 NEW	4	1a	200	5	1000	90	10.0	5.0	1500
200	G3VM-S5	4	1a	200	5	1000	100	1.5	1.0	1500
200	G3VM-201H1	6	1a	200 (400) *1	5	1000	100	1.5	1.0	1500

*1 Load current in case of connection C is shown in parentheses

*2 Current-Limiting function (Limit current 150mA Min. 300mA Max.)

Product lineup of MOS FET Relays

Please refer to our web site or datasheet for more information such as measurement conditions.

SOP (Small Outline Package)

Load Voltage (V) Max.	Model	Number of terminals	Contact form	Continuous load current (mA) Max.	Maximum resistance with output ON (Ohm) Typ.	Current leakage when the relay is open (nA) Max.	Capacitance between terminals (pF) Typ.	Turn-ON time (ms) Max.	Turn-OFF time (ms) Max.	Dielectric strength between I/O (Vrms)
200	G3VM-202J1	8	2a	200	5	1000	100	1.5	1.0	1500
350	G3VM-351G1	4	1a	100	35	1000	35	5.0	3.0	1500
350	G3VM-351G	4	1a	110	35	1000	30	1.0	1.0	1500
350	G3VM-351GL	4	1a	120 *2	15	1000	70	1.0	1.0	1500
350	G3VM-353G	4	1b	120	15	1000	65	1.0	3.0	1500
350	G3VM-351H	6	1a	110 (220) *1	35	1000	30	1.0	1.0	1500
350	G3VM-353H	6	1b	120 (240) *1	15	1000	65	1.0	3.0	1500
350	G3VM-355JR	8	1a1b	120	15	1000	65	1.0	3.0	1500
350	G3VM-352J	8	2a	110	35	1000	30	1.0	1.0	1500
350	G3VM-354J	8	2b	120	15	1000	65	1.0	3.0	1500
400	G3VM-401G1 NEW	4	1a	100	18	1000	70	10.0	5.0	1500
400	G3VM-401G	4	1a	120	17	1000	70	1.0	1.0	1500
400	G3VM-401H	6	1a	120 (240) *1	17	1000	70	1.0	1.0	1500
400	G3VM-402J	8	2a	120	17	1000	70	1.0	1.0	1500
600	G3VM-601G1 NEW	4	1a	70	35	1000	75	10.0	5.0	1500
600	G3VM-601G	4	1a	90	45	1000	75	8.0	3.0	1500

*1 Load current in case of connection C is shown in parentheses

*2 Current-Limiting function (Limit current 150mA Min. 300mA Max.)

SSOP (Shrink Small Outline Package)

Load Voltage (V) Max.	Model	Number of terminals	Contact form	Continuous load current (mA) Max.	Maximum resistance with output ON (Ohm) Typ.	Current leakage when the relay is open (nA) Max.	Capacitance between terminals (pF) Typ.	Turn-ON time (ms) Max.	Turn-OFF time (ms) Max.	Dielectric strength between I/O (Vrms)
20	G3VM-21LR	4	1a	160	5	1	1	0.5	0.5	1500
20	G3VM-21LR10	4	1a	200	3	0.2	0.8	0.2	0.2	1500
20	G3VM-21LR1	4	1a	450	0.8	1	5	0.5	0.5	1500
20	G3VM-21LR11	4	1a	900	0.18	1	40	2.0	1.0	1500
40	G3VM-41LR6	4	1a	120	10	1	1	0.5	0.5	1500
40	G3VM-41LR10	4	1a	120	12	0.2	0.45	0.2	0.3	1500
40	G3VM-41LR11	4	1a	140	7	0.2	0.7	0.2	0.2	1500
40	G3VM-41LR4	4	1a	250	2	1	5	0.5	0.5	1500
40	G3VM-41LR5	4	1a	300	1	1	10	0.5	0.5	1500
60	G3VM-61LR	4	1a	400	1	1000	20	1.0	1.0	1500
80	G3VM-81LR	4	1a	120	7.5	0.2	5	0.25	0.2	1500
100	G3VM-101LR	4	1a	80	8	0.2	6	0.3	0.3	1500

USOP (Ultra Small Outline Package)

Load Voltage (V) Max.	Model	Number of terminals	Contact form	Continuous load current (mA) Max.	Maximum resistance with output ON (Ohm) Typ.	Current leakage when the relay is open (nA) Max.	Capacitance between terminals (pF) Typ.	Turn-ON time (ms) Max.	Turn-OFF time (ms) Max.	Dielectric strength between I/O (Vrms)
20	G3VM-21PR10 NEW	4	1a	200	3	1	0.8	0.2	0.2	500
20	G3VM-21PR1 NEW	4	1a	450	0.6	1	5	0.5	0.5	500
20	G3VM-21PR11 NEW	4	1a	900	0.18	1	40	2.0	1.0	500
40	G3VM-41PR12 NEW	4	1a	100	15	1	0.3	0.2	0.2	500
40	G3VM-41PR10 NEW	4	1a	120	12	1	0.45	0.2	0.3	500
40	G3VM-41PR6 NEW	4	1a	120	10	0.2	1	0.2	0.3	500
40	G3VM-41PR11 NEW	4	1a	140	7	1	0.7	0.2	0.2	500
40	G3VM-41PR5 NEW	4	1a	300	1	1	10	0.5	0.3	500
50	G3VM-51PR NEW	4	1a	300	1	1	12	0.5	0.4	500
60	G3VM-61PR1 NEW	4	1a	120	10	1	0.7	0.2	0.2	500
60	G3VM-61PR	4	1a	400	1	1	20	0.5	0.5	500
75	G3VM-71PR NEW	4	1a	400	1	1	30	2.0	1.0	500
80	G3VM-81PR NEW	4	1a	120	7	0.02	5	0.5	0.2	500
100	G3VM-101PR NEW	4	1a	100	8	0.2	6	0.3	0.3	500

VSON (Very Small Outline Package Non-leaded)

Load Voltage (V) Max.	Model	Number of terminals	Contact form	Continuous load current (mA) Max.	Maximum resistance with output ON (Ohm) Typ.	Current leakage when the relay is open (nA) Max.	Capacitance between terminals (pF) Typ.	Turn-ON time (ms) Max.	Turn-OFF time (ms) Max.	Dielectric strength between I/O (Vrms)
20	G3VM-21UR10 NEW	4	1a	200	3	1	0.8	0.2	0.2	300
20	G3VM-21UR1 NEW	4	1a	450	0.8	1	5	0.4	0.4	300
20	G3VM-21UR11 NEW	4	1a	1000	0.18	1	40	2.0	1.0	300
40	G3VM-41UR12 NEW	4	1a	100	15	1	0.3	0.2	0.2	300
40	G3VM-41UR10 NEW	4	1a	120	12	1	0.45	0.2	0.3	300
40	G3VM-41UR11 NEW	4	1a	140	7	1	0.7	0.2	0.2	300
50	G3VM-51UR NEW	4	1a	300	1	1	12	0.5	0.4	300
60	G3VM-61UR1 NEW	4	1a	120	10	1	0.7	0.2	0.2	300
60	G3VM-61UR NEW	4	1a	400	1	1	20	0.5	0.5	300
80	G3VM-81UR NEW	4	1a	120	7	0.02	5	0.5	0.2	300
80	G3VM-81UR1 NEW	4	1a	200	6	1	6.5	0.4	0.4	300
100	G3VM-101UR NEW	4	1a	100	8	0.2	6	0.3	0.3	300

Product lineup of MOS FET Relays

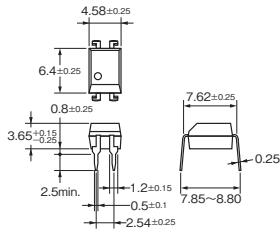
Package dimensions/Appearance

(Unit:mm)

DIP (Dual Inline Package)

PCB Terminals

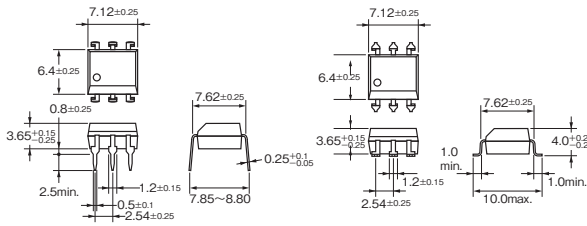
■DIP4 weight : 0.25g



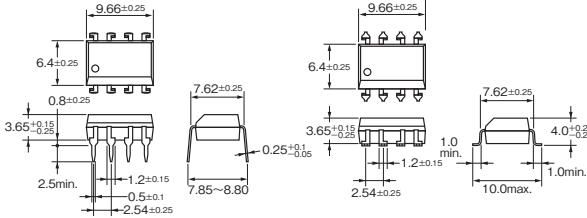
Surface-mounting Terminals

(Exclude G3VM-61BR/ER)

■DIP6 weight : 0.4g



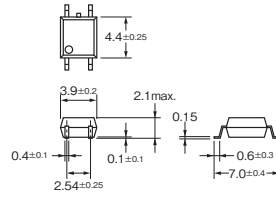
■DIP8 weight : 0.54g



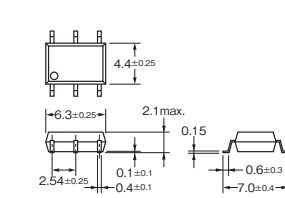
SOP (Small Outline Package)

Surface-mounting Terminals

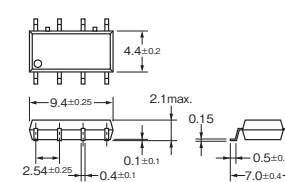
■SOP4 weight : 0.1g



■SOP6 weight : 0.13g



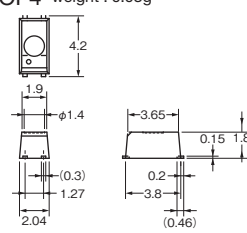
■SOP8 weight : 0.2g



SSOP (Shrink Small Outline Package)

Surface-mounting Terminals

■SSOP4 weight : 0.03g

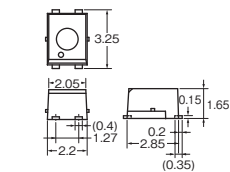


Unless otherwise specified, the dimensional tolerance is ± 0.1 mm.

USOP (Ultra Small Outline Package)

Surface-mounting Terminals

■USOP4 weight : 0.03g

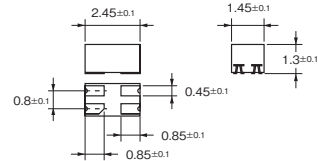


Unless otherwise specified, the dimensional tolerance is ± 0.2 mm.

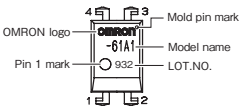
VSON (Very Small Outline Non-leaded)

Surface-mounting Terminals

■VSON4 weight : 0.01g

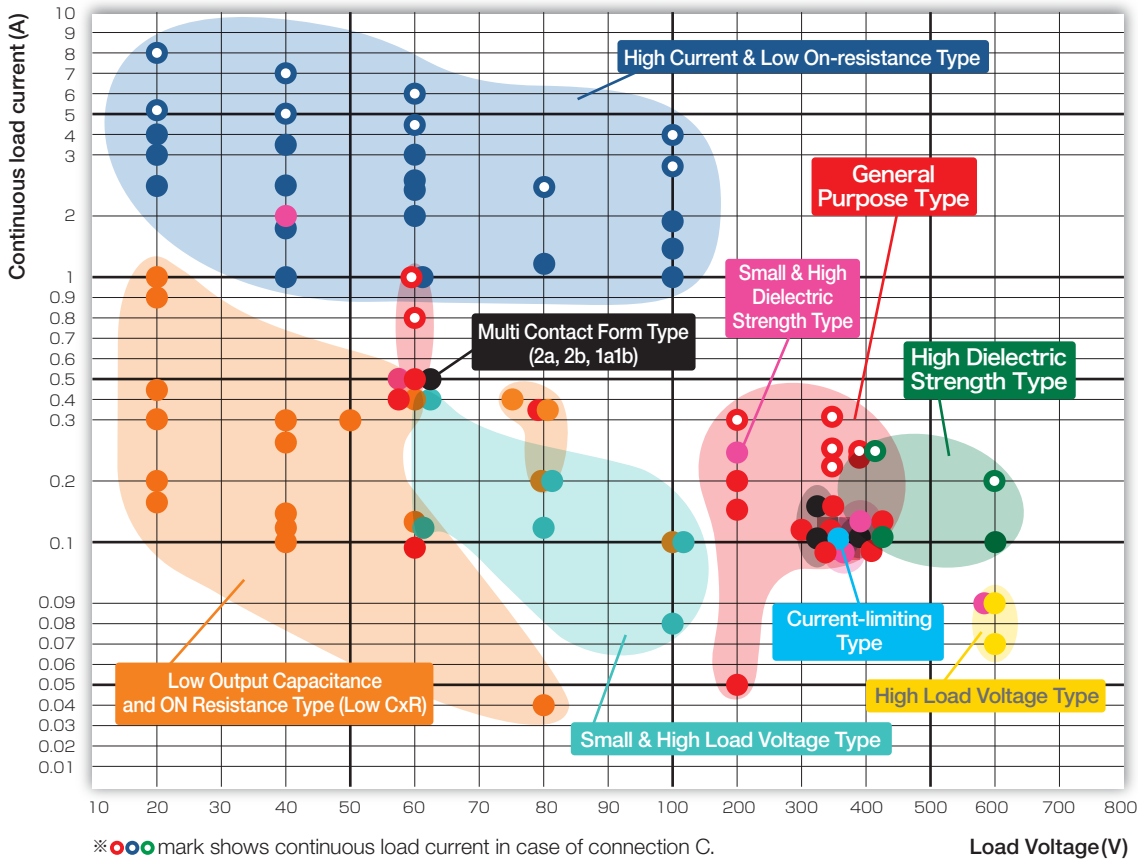


Appearance Example



1.The actual product is marked differently from the image shown here.
2."G3VM" is not marked on the package.
*The indentation may appear in the corner diagonally opposite from the pin 1 mark due to extrusion by metal casting.

Product Map by features



MOS FET Relay Application Examples

FA/Industrial Equipment

- Machine tool/ Customized power supply
Factory autoation (PLC/Thermostat/Timer)



Function	Features	Recommended products
Status output Signal output	General purpose	G3VM-61G1 G3VM-61VY1 G3VM-351G G3VM-351A/D
Switching power supply of small solenoid valve, small motor External output	High current High dielectric strength	G3VM-41GR8/61GR1 G3VM-□BR/DR G3VM-□HR G3VM-□AY/DY/AY1/DY1

Test & Measurement Equipment

- Semi-conductor test equipment (ATE)/
Semi-conductor test equipment Interface board/
Oscilloscope/Data logger/ I/O board



Function	Features	Recommended products
Switching test signal	Low CxR	G3VM-□GR□ G3VM-□LR□/□PR□/□JUR□
Switching power supply	High current	G3VM-41GR8/61GR1 G3VM-21LR11/21PR11/21UR11

Security Equipment

- Smoke detector/Home security panel/PIR/
Video intercom systems



Function	Features	Recommended products
Status output Signal output	General purpose Ultrasensitive b contact	G3VM-61G1/G2/G3 (Ultrasensitive) G3VM-61VY1 (General purpose) G3VM-351G/G1/G2 (Ultrasensitive) G3VM-353G (b contact)
Switching power supply of small solenoid valve, small light External output	High current High dielectric strength	G3VM-41GR8/61GR1 G3VM-□BR/DR G3VM-□HR G3VM-□AY/DY/AY1/DY1

Amusement Equipment

- Currency Sensing Modules
Coin dispenser / Information system



Function	Features	Recommended products
Status output Signal output	General purpose b contact	G3VM-61A1/D1 G3VM-61VY1 G3VM-351A/D G3VM-351G G3VM-353G (b contact)

There are many other usages beyond the above applications.

Medical Equipment

Office automation/AV Equipment

Broadcasting Equipment

Communication Equipment

For more detailed information, please contact your local OMRON Representative.

- Application examples provided in this document are for reference only. In actual applications, confirm equipment functions and safety before using the product.
- Consult your OMRON representative before using the product under conditions which are not described in the manual or applying the product to nuclear control systems, railroad systems, aviation systems, vehicles, combustion systems, medical equipment, amusement machines, safety equipment, and other systems or equipment that may have a serious influence on lives and property if used improperly. Make sure that the ratings and performance characteristics of the product provide a margin of safety for the system or equipment, and be sure to provide the system or equipment with double safety mechanisms.

Note: Do not use this document to operate the Unit.

OMRON Corporation
Electronic and Mechanical Components Company

Contact: www.omron.com/ecb

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