

MOSFET RELAYS

G3VM product series

Main features

- Small size and weight
- Low power consumption
- Long endurance
- Reinforced insulation
- Excellent shock resistance
- High-speed switching
- Small leakage current
- Silent operation
- Clear signal transmission



Omron, the relay market leader, offers cutting-edge Mosfet relay technology and continually expands its range of products by providing top industry solutions from the smallest class package (S-VSON type), to high switching current types, or high dielectric strength version and high sensitivity models.

Packages and basic specifications

Product Series												
		G3VM										
Package	Type	DIP4 THT+SMT	SOP4 Special SOP4	SSOP	USOP	VSON	S-VSON	DIP6 THT+SMT	SOP6	DIP8 THT+SMT	SOP8	
	Dimensions	4.58 x 6.4 x 3.65	3.9 x 4.4 x 2.1 / 3.7 x 4.55 x 2.1	2.04 x 3.8 x 1.8	2.2 x 2.85 x 1.65	1.45 x 2.45 x 1.30	1.45 x 2.0 x 1.65	7.12 x 6.4 x 3.65	6.3 x 4.4 x 2.1	9.66 x 6.4 x 3.65	9.4 x 4.4 x 2.1	
Output	Load Voltage	20 - 600 V	20 - 600 V	20 - 100 V	20 - 100 V	20 - 100 V	30 - 100 V	20 - 600 V	20 - 400 V	60 - 600 V	60 - 400 V	
	Contact Form	1a, 1b	1a, 1b	1a	1a	1a	1a	1a, 1b	1a, 1b	1a1b, 1a, 2a, 2b	1a1b, 2a, 2b	
	Cont. load current (connection A)	90 - 3,000 mA	40 - 1,700 mA	80 - 900 mA	80 - 900 mA	100 - 1,000 mA	120 - 1,500 mA	100 - 4,000 mA	110 - 4,000 mA	120 - 5,000 mA	110 - 400 mA	
	ON resistance	Typical Max.	0.04 - 45 Ω 0.08 - 60 Ω	0.08 - 45 Ω 0.13 - 65 Ω	0.18 - 12 Ω 0.22 - 15 Ω	0.18 - 15 Ω 0.22 - 20 Ω	0.19 - 15 Ω 0.22 - 20 Ω	0.1 - 11 Ω 0.2 - 14 Ω	0.02 - 35 Ω 0.05 - 50 Ω	0.2 - 35 Ω 0.04 - 50 Ω	0.022 - 35 Ω 0.05 - 50 Ω	1 - 35 Ω 2 - 50 Ω
Input	Trigger LED Current	Typical Max.	0.3 - 1.6 mA 2 - 3 mA	0.2 - 4 mA 0.2 - 4 mA	1 - 2 mA 3 - 5 mA	0.5 - 1 mA 1.2 - 3 mA	0.6 - 1 mA 3 mA	0.6 - 1 mA 3 mA	0.5 - 1.6 mA 3 - 5 mA	0.2 - 2 mA 3 - 5 mA	0.2 - 1.6 mA 1 - 5 mA	1 - 1.6 mA 3 mA
	Switching	Turn on Time	Typical Max.	0.1 - 2 ms 1 - 5 ms	0.025 - 3.5 ms 0.5 - 10 ms	0.026 - 0.3 ms 0.2 - 2 ms	0.03 - 0.5 ms 0.2 - 2 ms	0.05 - 0.17 ms 0.2 - 2 ms	0.08 - 0.8 ms 0.5 - 2 ms	0.1 - 2.5 ms 1 - 5 ms	0.15 - 2 ms 1 - 5 ms	0.1 - 2.5 ms 1 - 5 ms
	Turn off Time	Typical Max.	0.1 - 1 ms 0.5 - 3 ms	0.07 - 1 ms 0.2 - 5 ms	0.045 - 0.2 ms 0.2 - 1 ms	0.1 - 0.3 ms 0.2 - 1 ms	0.015 - 0.03 ms 0.2 - 1 ms	0.04 - 0.05 ms 0.3 - 1 ms	0.1 - 1 ms 0.4 - 3 ms	0.1 - 0.7 ms 0.5 - 3 ms	0.07 - 1 ms 0.5 - 3 ms	0.1 - 0.7 ms 0.5 - 3 ms
Dielectric strength between I/O		2,500 - 5,000 VAC	1,500 - 3,750 VAC	1,500 VAC	500 VAC	500 VAC	500 VAC	2,500 - 5,000 VAC	1,500 VAC	2,500 VAC	1,500 VAC	



Features and benefits

- **Small size and weight:** from standard SOP or DIP packages to latest S-VSON type, Mosfet relays contribute to downsizing of equipment.
- **Small leakage current:** developments in solid state technology reduce leakage current flowing in OFF state, product series such G3VM-GR/-LR/-PR feature by only 0.2 nA (max).
- **Reinforced Insulation:** product range offers standard models with 2,500 Vrms I/O isolation, newest models at 3,750 Vrms or High dielectric strength models featuring 5,000 Vrms.
- **Long endurance:** using light signals instead of moveable contacts, mosfet relays avoid any contact wear and substantially increase operating life.
- **Low power consumption:** driving current at 2-15 mA is standard, for ultrasensitive models are the trigger currents as low as 0.2 mA (max).
- **Excellent shock resistance:** with no movable parts it has excellent shock and vibration resistance.
- **High-speed switching:** response time from SSOP, USOP or VSON types reaches just 0.2 ms which makes them much faster comparing to electromechanical relays.
- **Silent operation:** the structure of mosfet relays allows complete elimination of switching noise in the applications.
- **Clear signal transmission:** analog and low-level signals do not suffer by distortion and low CxR models meet requirements for signal integrity in RF circuits.

Applicable for



Factory automation



Test & measurement



Building automation & security



Energy



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