



MOS FET Relays

G3VM-81HR

**New High-capacity MOS FET Relays
Allowing Switching of a 1.25-A
Continuous Load Current with a 80-V
Load Voltage.**

- Continuous load current of 1,250 mA.
- Dielectric strength of 1,500 Vrms between I/O.

**NEW**

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

■ Application Examples

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

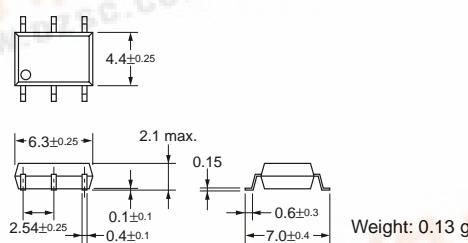
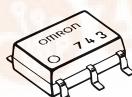
■ List of Models

Contact form	Terminals	Load voltage (peak value)	Model	Number per stick	Number per tape
SPST-NO	Surface-mounting terminals	80 VAC	G3VM-81HR	75	---
			G3VM-81HR(TR)	---	2,500

■ Dimensions

Note: All units are in millimeters unless otherwise indicated.

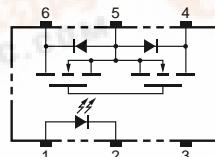
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Note: The actual product is marked differently from the image shown here.

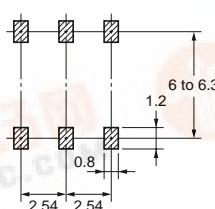
■ Terminal Arrangement/Internal Connections (Top View)

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

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■ Absolute Maximum Ratings (Ta = 25°C)

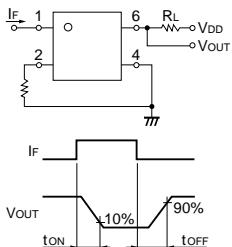
Item	Symbol	Rating	Unit	Measurement Conditions
Input	LED forward current	I _F	50	mA
	Repetitive peak LED forward current	I _{FP}	1	A
	LED forward current reduction rate	Δ I _F /°C	-0.5	mA/°C
	LED reverse voltage	V _R	5	V
	Connection temperature	T _j	125	°C
Output	Output dielectric strength	V _{OFF}	80	V
	Continuous load current	I _O	1,250	mA
	ON current reduction rate	Δ I _{ON} /°C	-12.5	mA/°C
	Connection temperature	T _j	125	°C
	Dielectric strength between input and output (See note 1.)	V _{I-O}	1,500	Vrms
	Operating temperature	T _a	-20 to +85	°C
	Storage temperature	T _{stg}	-40 to +125	°C
Soldering temperature (10 s)		---	260	°C
		---	10	s

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 I _F = 10 mA
	Reverse current	I _R	---	---	10	μA V _R = 5 V
	Capacity between terminals	C _T	---	15	---	pF V = 0, f = 1 MHz
	Trigger LED forward current	I _{FT}	---	2	5	mA I _O = 1,250 mA
Output	Maximum resistance with output ON	R _{ON}	---	0.11	0.15	Ω I _F = 5 mA, I _O = 1,250 mA
	Current leakage when the relay is open	I _{LEAK}	---	1.2	1.5	nA V _{OFF} = 20 V, Ta = 50°C
Capacity between I/O terminals		C _{I-O}	---	0.8	---	pF f = 1 MHz, Vs = 0 V
Insulation resistance		R _{I-O}	1,000	---	---	MΩ V _{I-O} = 500 VDC, RoH ≤ 60%
Turn-ON time		t _{ON}	---	2.0	3.0	ms I _F = 5 mA, R _L = 200 Ω, V _{DD} = 20 V (See note 2.)
Turn-OFF time		t _{OFF}	---	0.7	1.0	ms

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



■ Recommended Operating Conditions

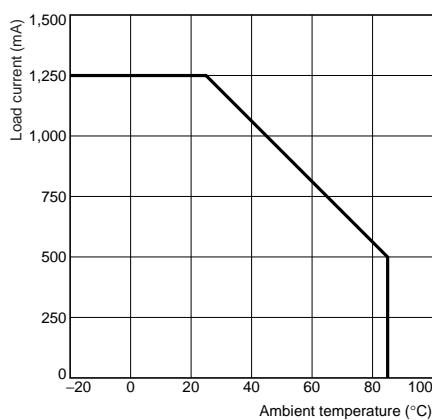
Use the G3VM under the following conditions so that the Relay will operate properly.

Item	Symbol	Minimum	Typical	Maximum	Unit
Output dielectric strength	V _{DD}	---	---	64	V
Operating LED forward current	I _F	5	---	30	mA
Continuous load current	I _O	---	---	1,250	mA
Operating temperature	T _a	25	---	60	°C

■ Engineering Data

Load Current vs. Ambient Temperature

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■ Safety Precautions

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