

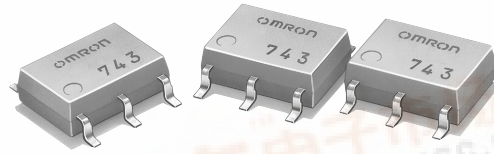
OMRON

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

■ Application Examples

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

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

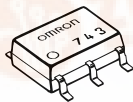
■ List of Models

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

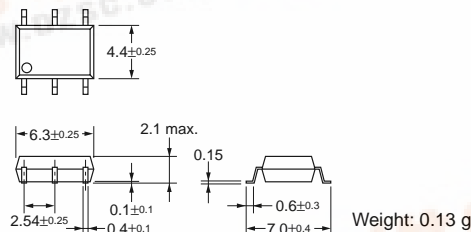
■ Dimensions

Note: All units are in millimeters unless otherwise indicated.

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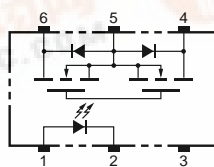


Note: The actual product is marked differently from the image shown here.



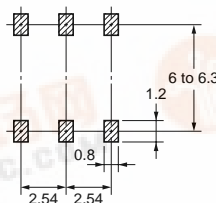
■ Terminal Arrangement/Internal Connections (Top View)

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

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Absolute Maximum Ratings (Ta = 25°C)

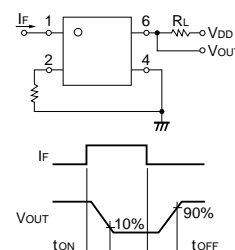
Item		Symbol	Rating	Unit	Measurement Conditions
Input	LED forward current	I _F	50	mA	
	Repetitive peak LED forward current	I _{FP}	1	A	100 μs pulses, 100 pps
	LED forward current reduction rate	Δ I _F /°C	-0.5	mA/°C	T _a ≥ 25°C
	LED reverse voltage	V _R	5	V	
	Connection temperature	T _J	125	°C	
Output	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	T _a ≥ 25°C
	Connection temperature	T _J	125	°C	
Dielectric strength between input and output (See note 1.)		V _{I-O}	1,500	V _{rms}	AC for 1 min
Operating temperature		T _a	-20 to +85	°C	With no icing or condensation
Storage temperature		T _{stg}	-40 to +125	°C	With no icing or condensation
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
	Reverse current	I _R	---	---	10	μA
	Capacity between terminals	C _T	---	15	---	pF
	Trigger LED forward current	I _{FT}	---	2	5	mA
Output	Maximum resistance with output ON	R _{ON}	---	0.11	0.15	Ω
	Current leakage when the relay is open	I _{LEAK}	---	1.2	1.5	nA
Capacity between I/O terminals		C _{I-O}	---	0.8	---	pF
Insulation resistance		R _{I-O}	1,000	---	---	MΩ
Turn-ON time		t _{ON}	---	2.0	3.0	ms
Turn-OFF time		t _{OFF}	---	0.7	1.0	ms

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



Recommended Operating Conditions

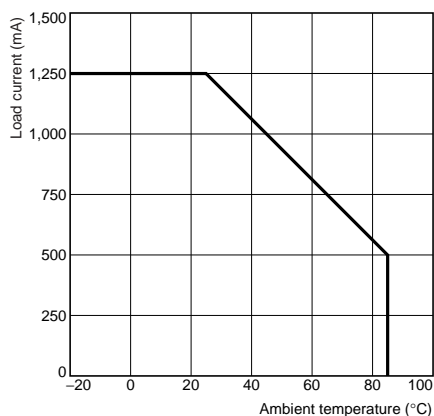
Use the G3VM under the following conditions so that the Relay will operate properly.

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

G3VM-81HR



Safety Precautions

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