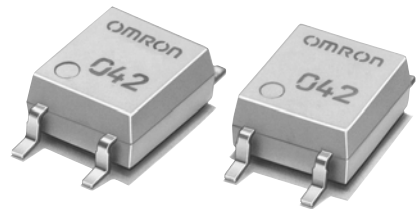


New MOS FET Relays with Low Output Capacitance and ON Resistance ($C_{xR} = 10\text{pF}\cdot\Omega$) in a 40-V Load Voltage Model.

- ON resistance of $2\ \Omega$ (typical) suppresses output signal attenuation.
- Leakage current of $1.0\ \text{nA}$ max. when output relay is open.
- RoHS compliant



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

■ Application Examples

- Semiconductor inspection tools
- Measurement devices
- Broadband systems
- Data loggers

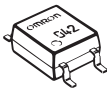
■ List of Models

Contact form	Terminals	Load voltage (peak value)	Model	Number per stick	Number per tape
SPST-NO	Surface-mounting terminals	40 VAC	G3VM-41GR4	100	
			G3VM-41GR4(TR)	–	2,500

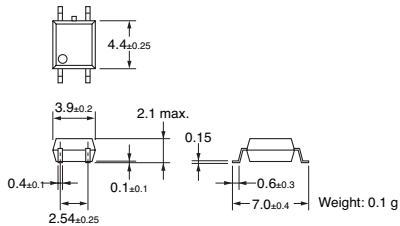
■ Dimensions

Note. All units are in millimeters unless otherwise indicated.

G3VM-41GR4

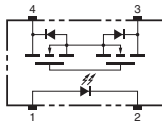


Note. The actual product is marked differently from the image shown here.



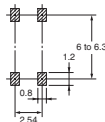
■ Terminal Arrangement/Internal Connections (Top View)

G3VM-41GR4



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

G3VM-41GR4



Absolute Maximum Ratings (Ta = 25°C)

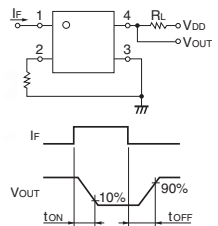
Item	Symbol	Rating	Unit	Measurement Conditions
Input	LED forward current	I_F	50	mA
	Repetitive peak LED forward current	I_{FP}	1	A
	LED forward current reduction rate	$\Delta I_F/^\circ\text{C}$	-0.5	mA/°C
	LED reverse voltage	V_R	5	V
	Connection temperature	T_J	125	°C
Output	Output dielectric strength	V_{OFF}	40	V
	Continuous load current	I_O	250	mA
	ON current reduction rate	$\Delta I_{ON}/^\circ\text{C}$	-2.5	mA/°C
	Connection temperature	T_J	125	°C
Dielectric strength between input and output (See note 1.)				V_{LO} 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} -55 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	$I_F = 10\text{ mA}$
	Reverse current	I_R	—	—	10	μA	$V_R = 5\text{ V}$
	Capacity between terminals	C_F	—	15	—	pF	$V = 0, f = 1\text{ MHz}$
	Trigger LED forward current	I_{FT}	—	—	4	mA	$I_O = 100\text{ mA}$
Output	Maximum resistance with output ON	R_{ON}	—	2.0	3.0	Ω	$I_F = 5\text{ mA},$ $I_O = 250\text{ mA}, 1 < 1\text{ s}$
	Current leakage when the relay is open	I_{LEAK}	—	—	1.0	nA	$V_{OFF} = 30\text{ V}$ $T_a = 50^\circ\text{C}$
	Capacity between terminals	C_{OFF}	—	5.0	7.0	pF	$V = 0, f = 100\text{ MHz},$ $1 < 1\text{ s}$
Capacity between I/O terminals		C_{LO}	—	0.8	—	pF	$f = 1\text{ MHz}, V_S = 0\text{ V}$
Insulation resistance		R_{LO}	1,000	—	—	M Ω	$V_{LO} = 500\text{ VDC},$ $R_{oH} \leq 50\%$
Turn-ON time		t_{ON}	—	0.5	—	ms	$I_F = 10\text{ mA}, R_L = 200\ \Omega,$ $V_{DD} = 20\text{ V}$ (See note 2.)
Turn-OFF time		t_{OFF}	—	0.5	—	ms	

Note 2. Turn-ON and Turn-OFF Times



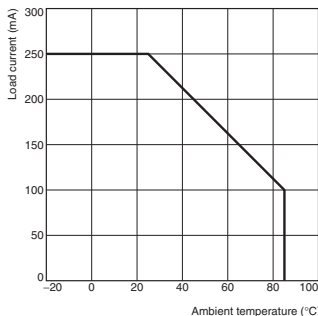
Recommended Operating Conditions

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}	---	---	32	V
Operating LED forward current	I_F	10	---	50	mA
Continuous load current	I_O	---	---	250	mA
Operating temperature	T_a	25	---	60	°C

Engineering Data

Load Current vs. Ambient Temperature
G3VM-21GR1



Safety Precautions

Refer to "Common Precautions" for all G3VM models.