

MOS FET Relays

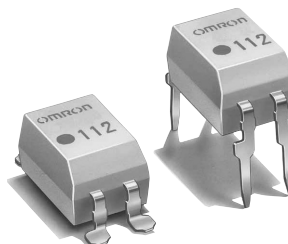
G3VM-101AR/DR

Compact, General-purpose, Analog-switching MOS FET Relays, with 1A Switching.

- Continuous load current of 1 A
- Switches minute analog signals
- Dielectric strength of 2,500 Vrms between I/O
- RoHS Compliant

■ Application Examples

- Communication equipment and Measurement devices
- Security systems and Power circuits
- Factory Automation equipment



NEW

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

■ List of Models

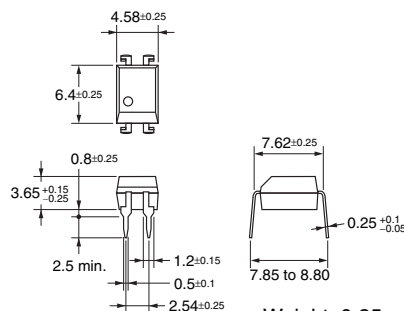
Package Type	Contact form	Terminals	Load voltage (peak value)	Model	Number per stick	Number per tape
DIP4	SPST-NO	PCB terminals	100 V	G3VM-101AR	100	---
		Surface-mounting terminals		G3VM-101DR		
				G3VM-101DR(TR)	---	1,500

Note: The AC peak and DC value are given for the load voltage.

■ Dimensions

Note: All units are in millimeters unless otherwise indicated.

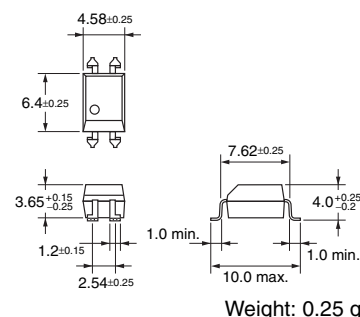
G3VM-101AR



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

Weight: 0.25 g

G3VM-101DR

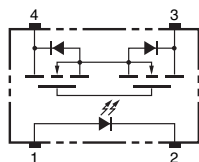


Note: The actual product is marked differently from the image shown here.

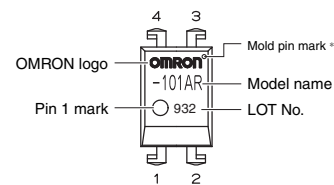
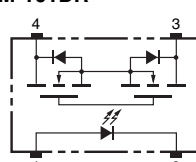
Weight: 0.25 g

■ Terminal Arrangement/Internal Connections (Top View)

G3VM-101AR



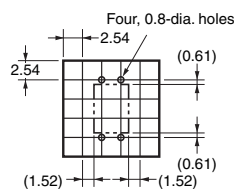
G3VM-101DR



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

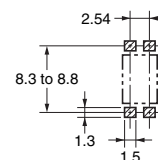
■ PCB Dimensions (Bottom View)

G3VM-101AR



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

G3VM-101DR



■ Absolute Maximum Ratings (Ta = 25°C)

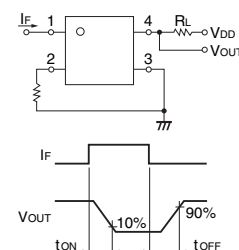
Item	Symbol	Rating	Unit	Measurement conditions
Input	LED forward current	I_F	30	mA
	Repetitive peak LED forward current	I_{FP}	1	A
	LED forward current reduction rate	$\Delta I_F/^\circ\text{C}$	-0.3	mA/°C
	LED reverse voltage	V_R	5	V
	Connection temperature	T_J	125	°C
Output	Load voltage (AC peak/DC)	V_{OFF}	100	V
	Continuous load current (AC peak/DC)	I_O	1	A
	ON current reduction rate	$\Delta I_{ON}/^\circ\text{C}$	-10	mA/°C
	Pulse ON current	I_{OP}	3	A
	Connection temperature	T_J	125	°C
Dielectric strength between input and output (See note 1.)		V_{I-O}	2,500	V_{rms}
Operating temperature		T_a	-40 to +85	°C
Storage temperature		T_{stg}	-55 to +125	°C
Soldering temperature (10 s)		---	260	°C

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	1.18	1.33	1.48	V	I _F = 10 mA
	Reverse current	I _R	---	---	10	μA	V _R = 5 V
	Capacity between terminals	C _T	---	70	---	pF	V = 0, f = 1 MHz
	Trigger LED forward current	I _{FT}	---	0.5	3	mA	I _O = 1 A
Output	Maximum resistance with output ON	R _{ON}	---	250	700	mΩ	I _F = 5 mA, I _O = 1 A, t < 1 s
	Current leakage when the relay is open	I _{LEAK}	---	---	1.0	μA	V _{OFF} = 100 V
	Capacity between terminals	C _{OFF}	---	200	---	pF	V = 0, f = 1MHz
Capacity between I/O terminals		C _{I-O}	---	0.8	---	pF	f = 1 MHz, V _s = 0 V
Insulation resistance between I/O terminals		R _{I-O}	1,000	---	---	MΩ	V _{I-O} = 500 VDC, R _{oH} ≤ 60%
Turn-ON time		t _{ON}	---	0.8	5.0	ms	I _F = 5 mA, R _L = 200 Ω, V _{DD} = 20 V (See note 2.)
Turn-OFF time		t _{OFF}	---	0.3	1.0	ms	

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

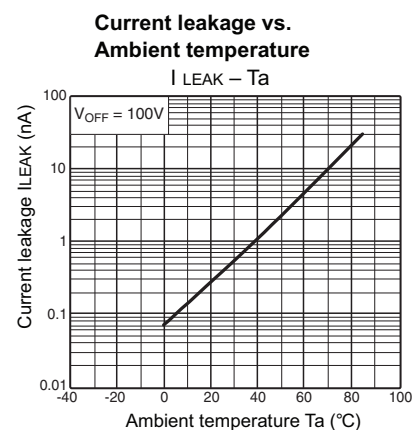
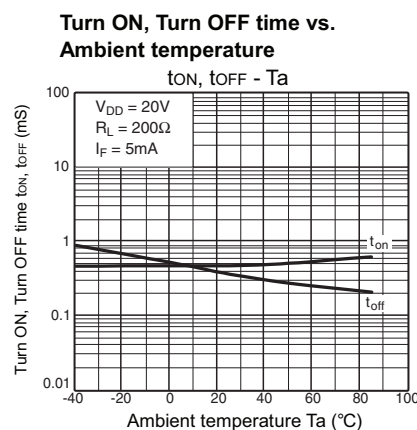
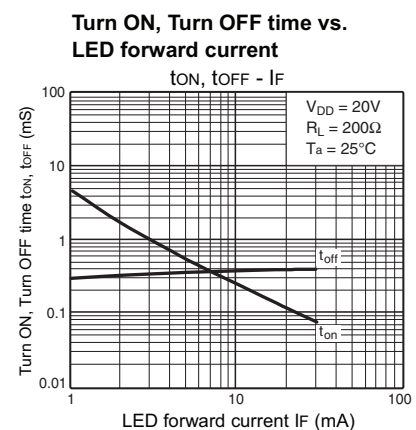
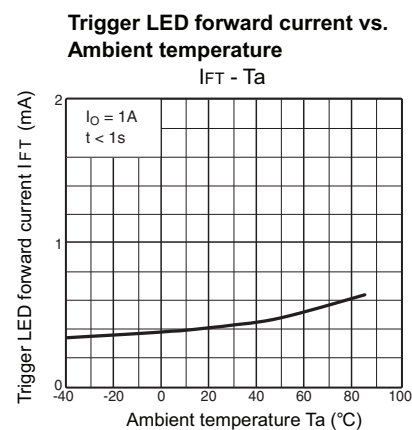
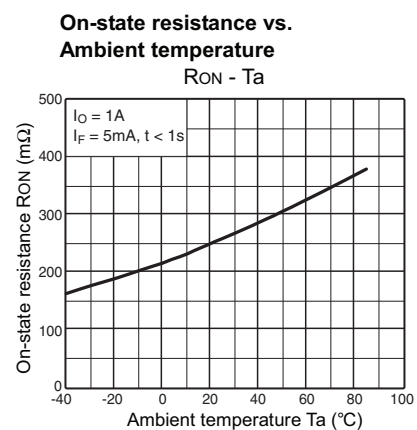
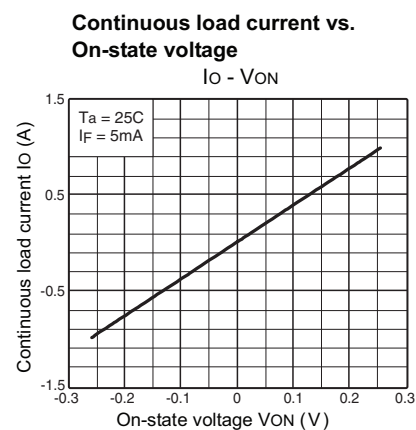
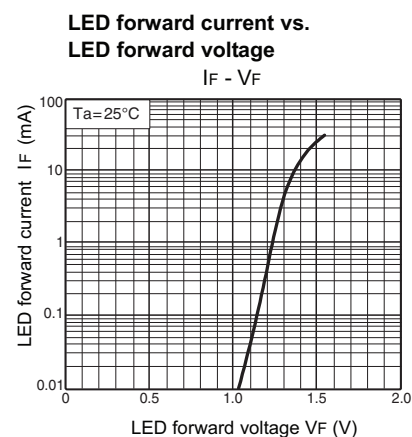
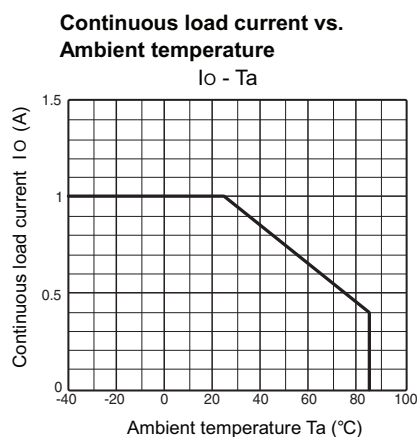
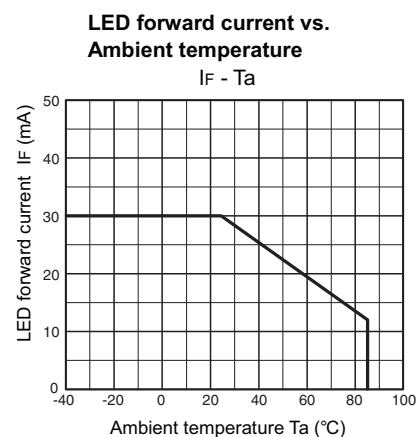


■ Recommended Operating Conditions

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

Item	Symbol	Minimum	Typical	Maximum	Unit
Load voltage (AC peak/DC)	V_{DD}	---	---	80	V
Operating LED forward current	I_F	5	10	25	mA
Continuous load current (AC peak/DC)	I_O	---	---	1	A
Operating temperature	T_a	-20	---	65	°C

Engineering Data



Precautions

Be sure to read the precautions and information common to all G3VM MOS FET relays, contained in the Technical User's Guide, "MOSFET Relays, Technical Information" for correct use.

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ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

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