

# G3VM-61AR/DR

MOS FET Relays

**Higher power, 2-A switching with a 60-V**

**load voltage, DIP package.**

**Low 80 mΩ ON Resistance.**

DIP

G3VM-61AR/DR



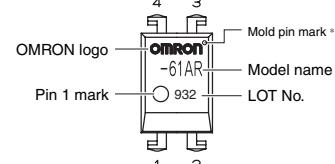
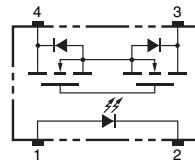
**Note:** The actual product is marked differently from the image shown here.

**RoHS compliant**

## ■ Application Examples

- Communication equipment
- Test & Measurement equipment
- Security equipment
- Factory Automation equipment
- Power circuit

## ■ Terminal Arrangement/Internal Connections



**Note:** The actual product is marked differently from the image shown here.  
\* The indentation in the corner diagonally opposite from the pin 1 mark is from a pin on the mold.

## ■ List of Models

Package type	Contact form	Terminals	Load voltage (peak value) *	Model	Minimum package quantity	
					Number per stick	Number per tape and reel
DIP4	1a (SPST-NO)	PCB terminals	60 V	G3VM-61AR	100	---
		Surface-mounting terminals		G3VM-61DR		
				G3VM-61DR (TR)	---	1,500

\* The AC peak and DC value are given for the load voltage.

## ■ Absolute Maximum Ratings (Ta = 25°C)

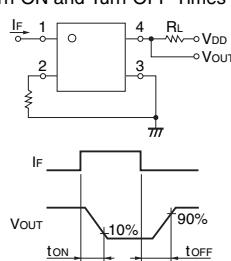
Item	Symbol	Rating	Unit	Measurement conditions
Input	LED forward current	If	30	mA
	Repetitive peak LED forward current	Ifp	1	A
	LED forward current reduction rate	ΔIf/°C	-0.3	mA/°C
	LED reverse voltage	Vr	5	V
	Connection temperature	Tj	125	°C
Output	Load voltage (AC peak/DC)	Voff	60	V
	Continuous load current (AC peak/DC)	Io	2	A
	ON current reduction rate	ΔIo/°C	-20	mA/°C
	Pulse ON current	Iop	6	A
	Connection temperature	Tj	125	°C
Dielectric strength between I/O (See note 1.)				
Operating temperature				
Storage temperature				
Soldering temperature				

**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	Vf	1.18	1.33	1.48	V If = 10 mA
	Reverse current	Ir	---	---	μA	Vr = 5 V
	Capacity between terminals	Ct	---	70	---	pF V = 0, f = 1 MHz
	Trigger LED forward current	IfT	---	0.5	3	mA Io = 1 A
	Maximum resistance with output ON	Ron	---	80	200	mΩ If = 5 mA, Io = 2 A, t < 1s
Output	Current leakage when the relay is open	Ileak	---	---	1.0	μA Voff = 60 V
	Capacity between terminals	Coff	---	250	---	pF V = 0, f = 1 MHz
	Capacity between I/O terminals	Ci-o	---	0.8	---	pF f = 1 MHz, Vs = 0 V
	Insulation resistance between I/O terminals	Ri-o	1000	---	---	MΩ Vi-o = 500 VDC, RoH ≤ 60%
	Turn-ON time	ton	---	0.8	5	ms If = 5 mA, RL = 200 Ω, Vdd = 20 V (See note 2.)
Turn-OFF time						
Note: 2. Turn-ON and Turn-OFF Times						

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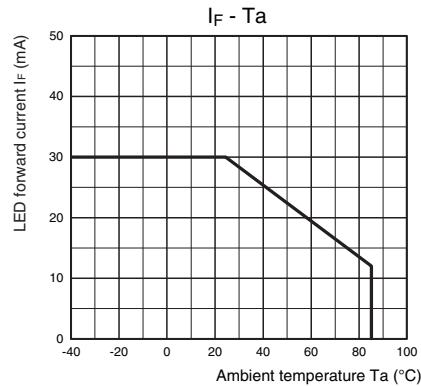
### ■ Recommended Operating Conditions

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

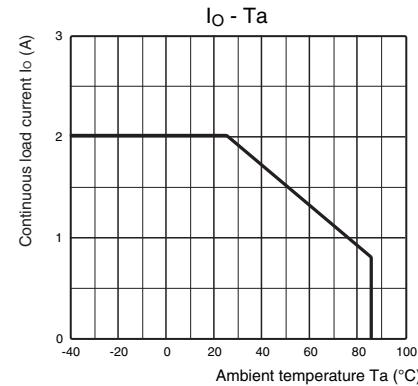
Item	Symbol	Minimum	Typical	Maximum	Unit
Load voltage (AC peak/DC)	V <sub>DD</sub>	---	---	48	V
Operating LED forward current	I <sub>F</sub>	5	10	25	mA
Continuous load current (AC peak/DC)	I <sub>O</sub>	---	---	2	A
Operating temperature	T <sub>a</sub>	-20	---	65	°C

### ■ Engineering Data

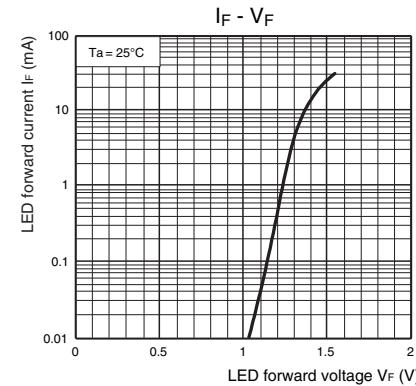
**LED forward current vs.  
Ambient temperature**



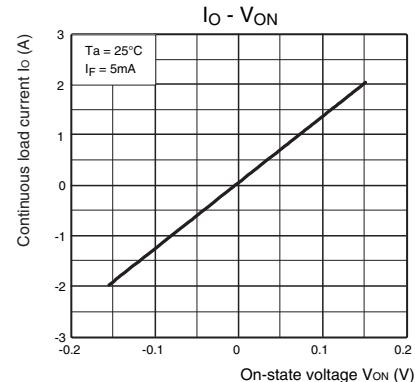
**Continuous load current vs.  
Ambient temperature**



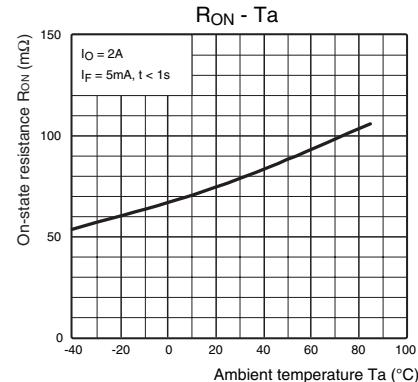
**LED forward current vs.  
LED forward voltage**



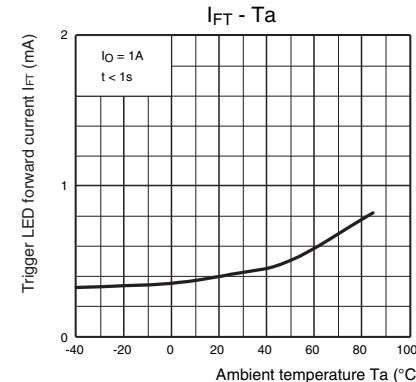
**Continuous load current vs.  
On-state voltage**



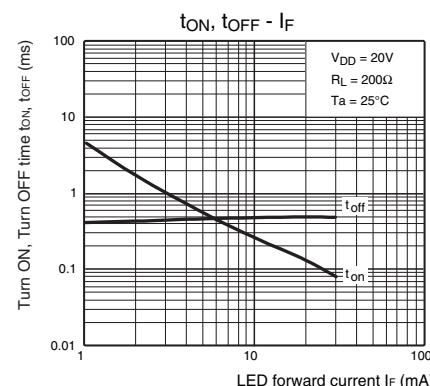
**On-state resistance vs.  
Ambient temperature**



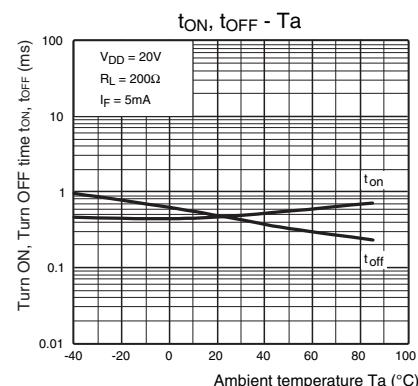
**Trigger LED forward current vs.  
Ambient temperature**



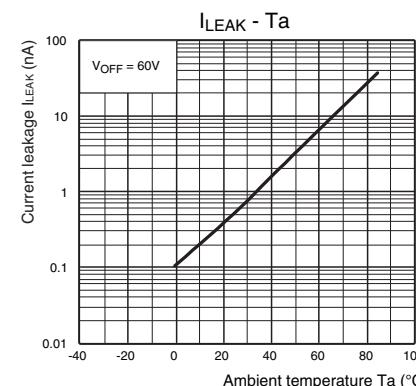
**Turn ON, Turn OFF time vs.  
LED forward current**



**Turn ON, Turn OFF time vs.  
Ambient temperature**



**Current leakage vs.  
Ambient temperature**



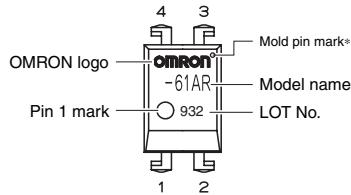
### ■ Safety Precautions

- Refer to "Common Precautions" for all G3VM models.

## ■ Appearance

### DIP (Dual Inline Package)

DIP4



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

\* The indentation in the corner diagonally opposite from the pin 1 mark is from a pin on the mold.

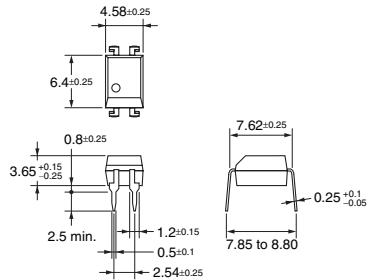
## ■ Dimensions

(Unit: mm)



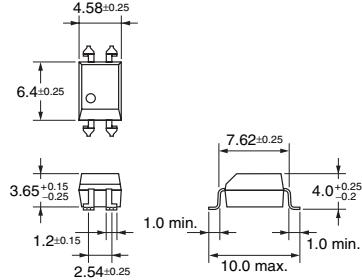
**PCB Terminals**

Weight: 0.25 g

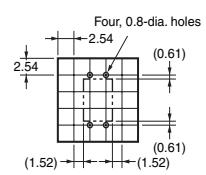


**Surface-mounting Terminals**

Weight: 0.25 g

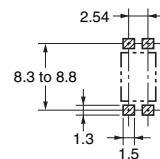


**PCB Dimensions (Bottom View)**



**Actual Mounting Pad Dimensions**

(Recommended Value, Top View)



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- Application examples provided in this document are for reference only. In actual applications, confirm equipment functions and safety before using the product.
- Consult your OMRON representative before using the product under conditions which are not described in the manual or applying the product to nuclear control systems, railroad systems, aviation systems, vehicles, combustion systems, medical equipment, amusement machines, safety equipment, and other systems or equipment that may have a serious influence on lives and property if used improperly. Make sure that the ratings and performance characteristics of the product provide a margin of safety for the system or equipment, and be sure to provide the system or equipment with double safety mechanisms.

**Note: Do not use this document to operate the Unit.**

**OMRON Corporation**

ELECTRONIC AND MECHANICAL COMPONENTS COMPANY

Contact: [www.omron.com/ecb](http://www.omron.com/ecb)

Cat. No. K139-E1-02  
0412(0412)(O)



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- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
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- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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