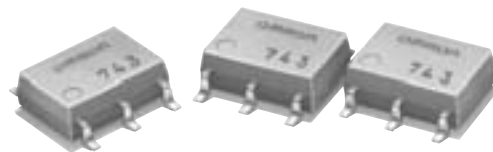


G3VM-61HR1

MOS FET Relays

Higher power, 3.3-A switching
with a 60-V load voltage,
SOP package. Low 30-mΩ
ON Resistance.



• Continuous load current of 3.3 A. (Connection C: 6.6 A)

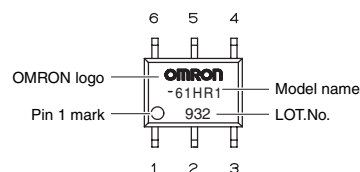
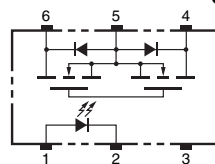
Note: The actual product is marked differently from the image shown here.

RoHS compliant

Application Examples

- Communication equipment
- Test & Measurement equipment
- Data loggers
- Industrial equipment

Terminal Arrangement/Internal Connections



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	Minimum package quantity	
					Number per tube	Number per tape and reel
SOP6	1a (SPST-NO)	Surface-mounting Terminals	60 V	G3VM-61HR1	75	-
				G3VM-61HR1 (TR05)	-	500

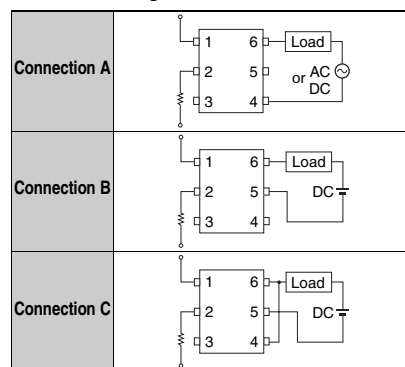
* The AC peak and DC value are given for the load voltage.

Absolute Maximum Ratings (Ta = 25°C)

Item		Symbol	Rating	Unit	Measurement conditions
Input	LED forward current	IF	30	mA	
	LED forward current reduction rate	$\Delta I_F / ^\circ C$	-0.3	mA/°C	Ta ≥ 25°C
	LED reverse voltage	VR	5	V	
	Connection temperature	TJ	125	°C	
Output	Load voltage (AC peak/DC)	VOFF	60	V	
	Continuous load current	Io	3.3	A	Connection A: AC peak/DC Connection B and C: DC
			3.3		
			6.6		
	ON current reduction rate	$\Delta I_o / ^\circ C$	-33	mA/°C	Ta ≥ 25°C
			-33		
			-66		
	Pulse ON current	Iop	10	A	t = 100 ms, Duty = 1/10
	Connection temperature	TJ	125	°C	
Dielectric strength between I/O (See note 1.)		VI-O	1500	Vrms	AC for 1 min
Ambient operating temperature		Ta	-40 to +85	°C	With no icing or condensation
Ambient storage temperature		Tstg	-55 to +125	°C	With no icing or condensation
Soldering temperature		-	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.

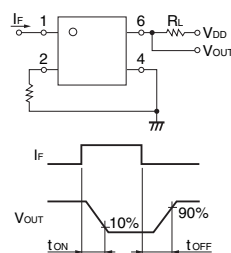
Connection Diagram



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	-	-	10	μA	VR = 5 V
	Capacity between terminals	CT	-	70	-	pF	V = 0, f = 1 MHz
	Trigger LED forward current	IFT	-	0.2	3	mA	Io = 2 A
	Turn-OFF LED forward current	IFC	0.1	-	-	mA	IOFF = 10 μA
Output	Maximum resistance with output ON	RON	-	30	60	mΩ	IF = 5 mA, Io = 2 A, t < 1 s
			-	15	-		IF = 5 mA, Io = 2 A, t < 1 s
			-	8	-		IF = 5 mA, Io = 4 A, t < 1 s
	Current leakage when the relay is open	ILEAK	-	-	20	nA	VOFF = 60 V
	Capacity between terminals	Coff	-	700	1500	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	10 ⁸	-	MΩ	VI-O = 500 VDC, RoH ≤ 60 %
Turn-ON time		ton	-	0.6	5	ms	IF = 5 mA, RL = 200 Ω, VDD = 20 V (See note 2.)
Turn-OFF time		toff	-	0.2	1	ms	

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



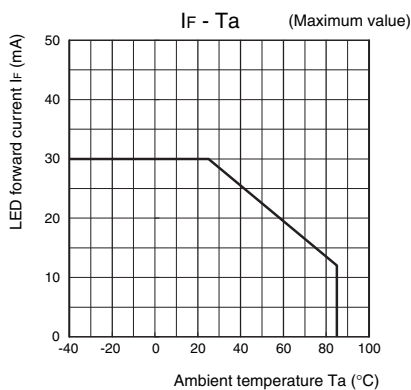
Recommended Operating Conditions

For usage with high reliability, Recommended Operation Conditions is a measure that takes into account the derating of Absolute Maximum Ratings and Electrical Characteristics. Each item on this list is an independent condition, so it is not simultaneously satisfy several conditions.

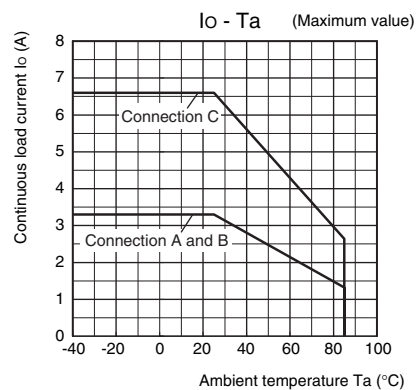
Item	Symbol	Minimum	Typical	Maximum	Unit
Load voltage (AC peak/DC)	V_{DD}	-	-	48	V
Operating LED forward current	I_F	5	10	25	mA
Continuous load current (AC peak/DC)	I_O	-	-	3.3	A
Ambient operating temperature	T_a	-20	-	65	°C

Engineering Data

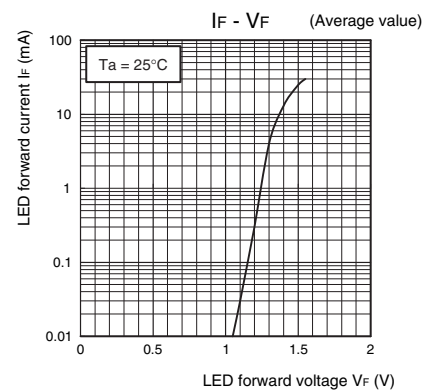
LED forward current vs. Ambient temperature



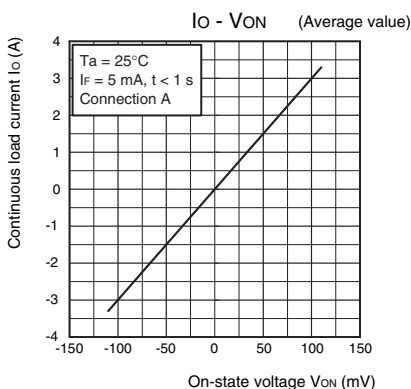
Continuous load current vs. Ambient temperature



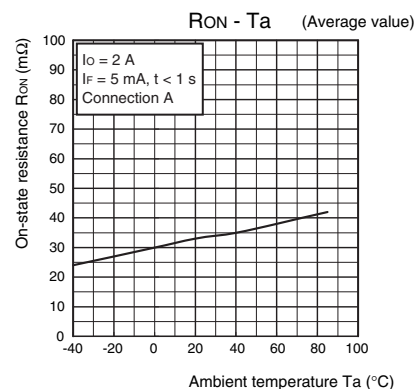
LED forward current vs. LED forward voltage



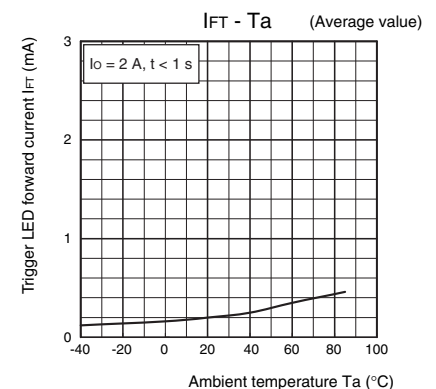
Continuous load current vs. On-state voltage



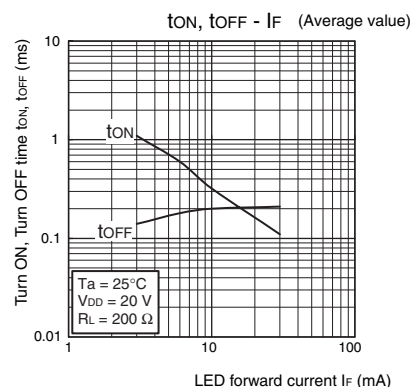
On-state resistance vs. Ambient temperature



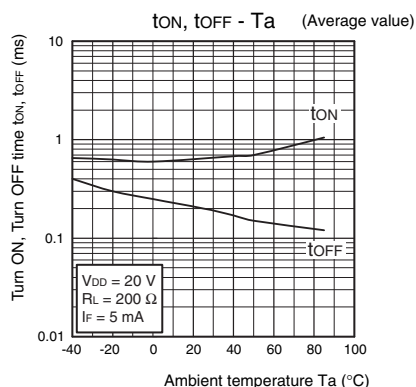
Trigger LED forward current vs. Ambient temperature



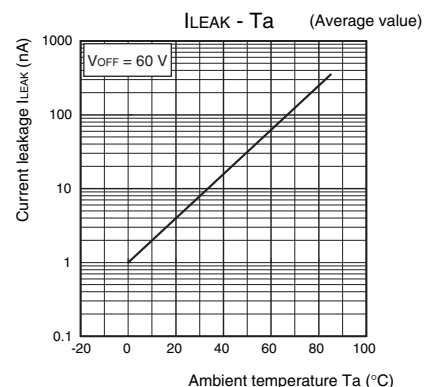
Turn ON, Turn OFF time vs. LED forward current



Turn ON, Turn OFF time vs. Ambient temperature



Current leakage vs. Ambient temperature

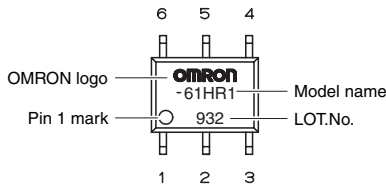


Safety Precautions

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

■ Appearance

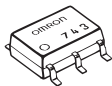
SOP (Small Outline Package)
SOP6



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

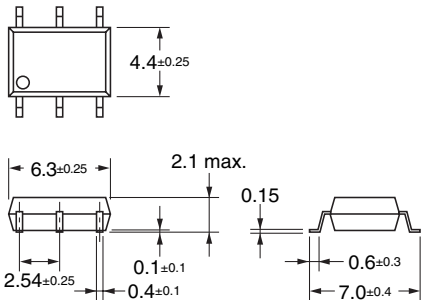
■ Dimensions

(Unit: mm)



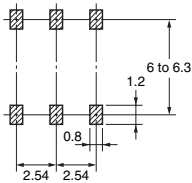
Surface-mounting Terminals

Weight: 0.13 g



Actual Mounting Pad Dimensions

(Recommended Value, TOP VIEW)



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

- 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.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Omron:

[G3VM-61HR1](#) [G3VM-61HR1\(TR05\)](#)

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

moschip.ru_6

moschip.ru_9