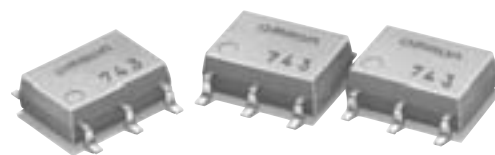


G3VM-61HR1

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)

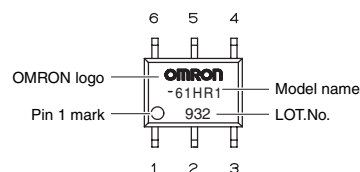
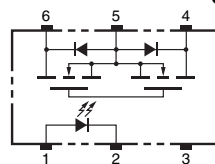
Note: The actual product is marked differently from the image shown here.

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

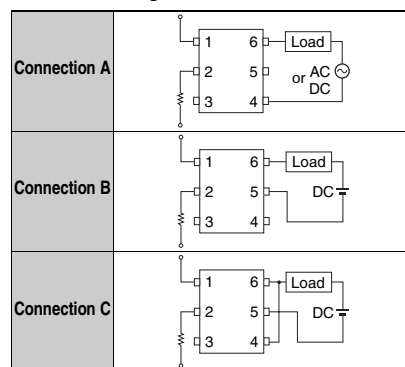
* The AC peak and DC value are given for the load voltage.

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rating	Unit	Measurement conditions
Input	LED forward current	IF	30	mA
	LED forward current reduction rate	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	Connection A	3.3	A
		Connection B	3.3	
		Connection C	6.6	
	ON current reduction rate	Connection A	-33	mA/°C
		Connection B	-33	
		Connection C	-66	
	Pulse ON current	Iop	10	A
	Connection temperature	TJ	125	°C
Dielectric strength between I/O (See note 1.)		VI-O	1500	Vrms
Ambient operating temperature		Ta	-40 to +85	°C
Ambient storage temperature		Tstg	-55 to +125	°C
Soldering temperature		-	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.

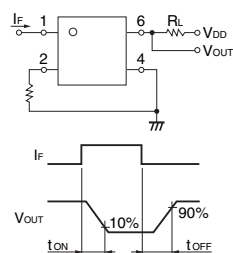
Connection Diagram



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
	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
	Turn-OFF LED forward current	IFC	0.1	-	-	mA
Output	Maximum resistance with output ON	RON	Connection A	30	60	mΩ
			Connection B	15	-	
			Connection C	8	-	
	Current leakage when the relay is open	Ileak	-	-	20	nA
	Capacity between terminals	Coff	-	700	1500	pF
	Capacity between I/O terminals	CI-O	-	0.8	-	pF
Insulation resistance between I/O terminals		RI-O	1000	10 ⁸	-	MΩ
Turn-ON time		ton	-	0.6	5	ms
Turn-OFF time		toff	-	0.2	1	ms

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



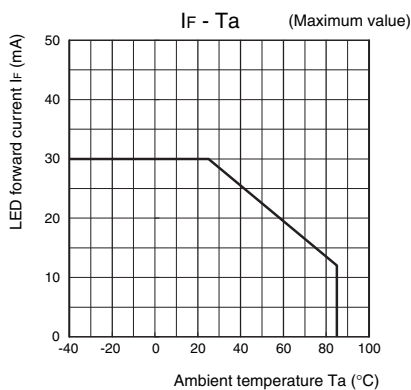
Recommended Operating Conditions

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.

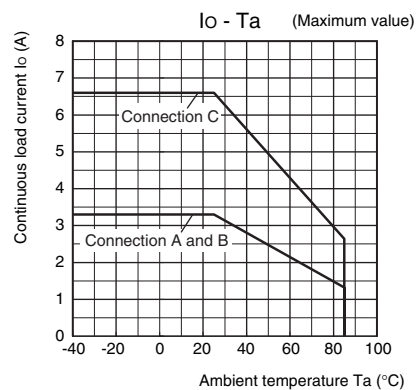
Item	Symbol	Minimum	Typical	Maximum	Unit
Load voltage (AC peak/DC)	V_{DD}	-	-	48	V
Operating LED forward current	I_F	5	10	25	mA
Continuous load current (AC peak/DC)	I_O	-	-	3.3	A
Ambient operating temperature	T_a	-20	-	65	°C

Engineering Data

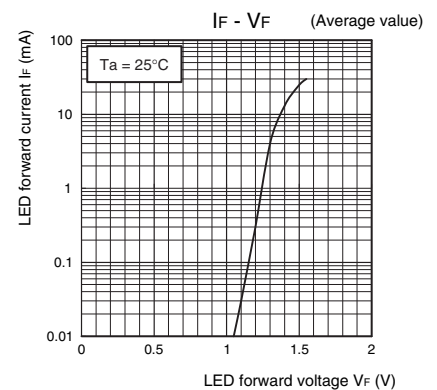
LED forward current vs. Ambient temperature



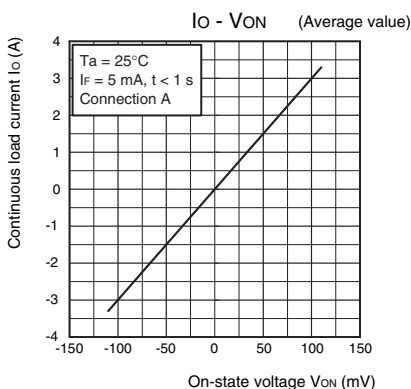
Continuous load current vs. Ambient temperature



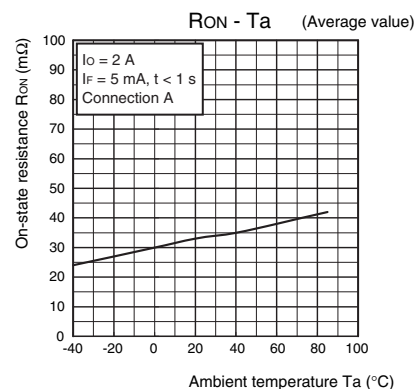
LED forward current vs. LED forward voltage



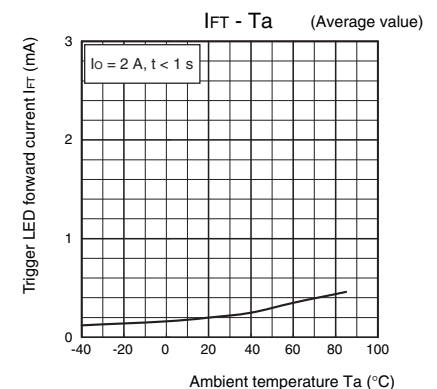
Continuous load current vs. On-state voltage



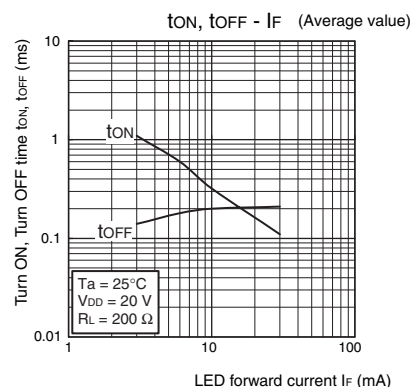
On-state resistance vs. Ambient temperature



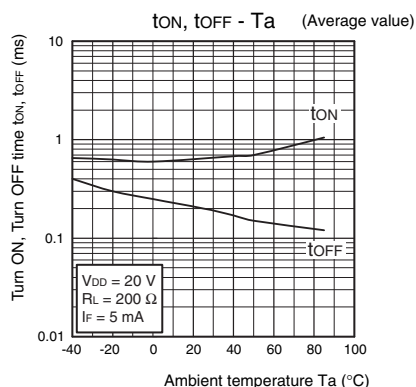
Trigger LED forward current vs. Ambient temperature



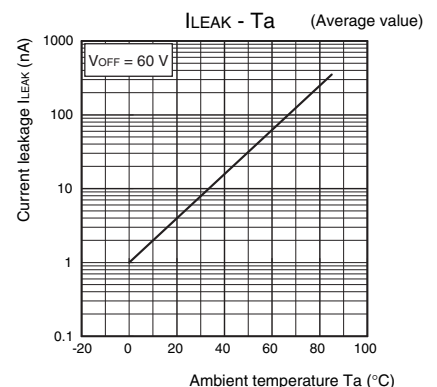
Turn ON, Turn OFF time vs. LED forward current



Turn ON, Turn OFF time vs. Ambient temperature



Current leakage vs. Ambient temperature

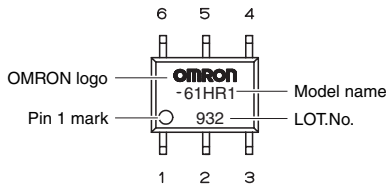


Safety Precautions

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

■ Appearance

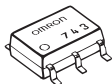
SOP (Small Outline Package)
SOP6



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

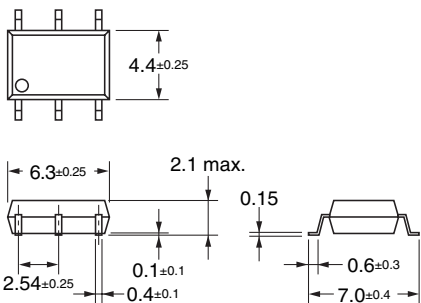
■ Dimensions

(Unit: mm)



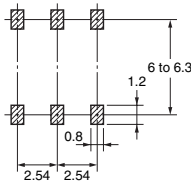
Surface-mounting Terminals

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.