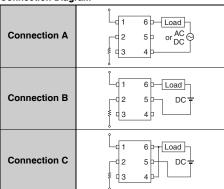
■Absolute Maximum Ratings (Ta = 25°C)

	Item	n	Symbol	G3VM-21HR	G3VM-31HR	G3VM-41HR	G3VM-61HR	G3VM-61HR1	Unit	Measurement conditions
	LED forward current		lF		30					
Input	LED forward current reduction rate		ΔIF/°C			mA/°C	Ta ≥ 25°C			
=	LED reverse vo	ltage	VR	1			V			
	Connection tem	nperature	TJ	1		°C				
	Load voltage (A	AC peak/DC)	Voff	20	30	40	60		V	
		Connection A		2500	4000	2500	2300	3300		Connection A:
	Continuous load current	Connection B	lo	2000	4000	2500	2300	3300	mA	AC peak/DC Connection B and C:
tn		Connection C	į į	5000	8000	5000	4600	6600		DC
Output	ONI surmont	Connection A		-33.3	-40	20.0	-30.7	-33		G3VM-31HR/61HR1:
U	ON current reduction rate	Connection B	∆lo/°C	-00.0 	-40	-40 -33.3 -30.7	-30.7	-33	mA/°C	
	reduction rate	Connection C		-66.7	-80	-66.7	-61.3	-66		Others: Ta ≥ 50°C
	Pulse ON current		lop	7.5	12	7.5	7	10	Α	t=100 ms, Duty=1/10
	Connection tem	nperature	TJ	1		125		.4	°C	
	ielectric strength bee note 1.)	between I/O	V _I -o			Vrms	AC for 1 min			
An	mbient operating t	temperature	Ta	1	•	°C	With no icing or			
An	mbient storage ter	mperature	Tstg	-55 to +125						condensation
Sc	oldering temperate	ture	-	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.

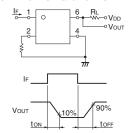
Connection Diagram



■Electrical Characteristics (Ta = 25°C)

Item		Symbol		G3VM-21HR	G3VM-31HR	G3VM-41HR	G3VM-61HR	G3VM-61HR1	Unit	Measurement conditions			
		LED forward voltage		Minimum	1.18					٧	IF=10 mA		
	LED forward			Typical	1.33								
				Maximum	1.48								
=	Reverse current		IR	Maximum	10					μΑ	V _R =5 V		
Input	Capacitance between terminals Trigger LED forward current Release LED forward current		Ст	Typical	70					pF	V=0, f=1 MHz		
			IFT	Typical	_	0.3	0.4 0.2			mA	G3VM-61HR1 : lo=2000 mA		
			IFI	Maximum	3					IIIA	Others : Io=100 mA		
			IFC	Minimum		0.1				mA	Ioff=10 μA		
		Connection A			0.02	0.02	0.03	0.04	0.03	Ω	G3VM-31HR:		
	Maximum	Connection B		Typical	0.01	800.0	0.015	0.02	0.015		I _F =5 mA I _O =4 A (Connection A, B)		
	resistance	Connection C	.		0.005	0.004	0.008	0.01	0.008		Io=8 A (C connections), t<1s Others:		
		Connection A	Ron	Maximum	0.05	0.04	0.06	0.07	0.06				
Output		Connection B			0.025	0.02	0.03	0.04	-		I _F =5 mA I _O =2 A (Connection A, B)		
Our		Connection C			_	0.01		_			lo=4 A (C connections), t<1s		
	Current leakage when the relay is open			Typical		_				- A	V 1 1 1 1		
			ILEAK	Maximum	10	1000	10 20			nA	Voff= Load voltage ratings		
	Capacitance I	Capacitance between		apacitance between Coff		Typical	1000	1100	1000 700			pF	V O f 1 MH-
	terminals		COFF Maximum – 1500		1500	þΓ	V=0, f=1 MHz						
	Capacitance between I/O terminals		Cı-o	Typical	0.8				pF	f=1 MHz, Vs=0 V			
Ir	sulation resista	ion resistance between I/O RI-O Minimum			1000					ΜΩ	Vi a F00 VDC Dall<609/		
te	terminals		ni-0	Typical 10 ⁸						IVISZ	V _I -o=500 VDC, RoH≤60%		
	Turn-ON time		Typical		1.5	1.1	1.0 0.6		0.6		G3VM-21HR:		
'			ton	Maximum	5					ms	I _F =5 mA, R _L =200 Ω , V _{DD} =10 V (See note 2.) Others : I _F =5 mA, R _L =200 Ω ,		
т	Turn-OFF time		-OFF time Typical		0.1	0.1 0.1 0.15 0.2			0.2				
1			IOFF	Maximum	1						V _{DD} =20 V (See note 2.)		

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.

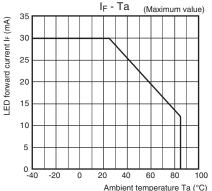
Item	Symbol		G3VM-21HR	G3VM-31HR	G3VM-41HR	G3VM-61HR	G3VM-61HR1	Unit
Load voltage (AC peak/DC)	VDD	Maximum	20	24	40	60	48	V
		Minimum			5			
Operating LED forward current	lF	Typical	10		7.5		10	mA
		Maximum	20	25	20		25	"
Continuous load current (AC peak/DC)	lo	Maximum	2000	4000	2000	1800	3300	
Ambient operating temperature	Та	Minimum	-20					
Ambient operating temperature		Maximum	65					- °C

■Spacing and Insulation

Item	Minimum	Unit
Creepage distances	4.0	
Clearance distances	4.0	mm
Internal isolation thickness	0.1	

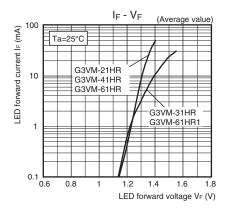
■Engineering Data

LED forward current vs.Ambient temperature

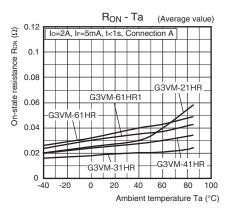


-40 -20 0 20 40 0 Ambient ter • LED forward current vs.

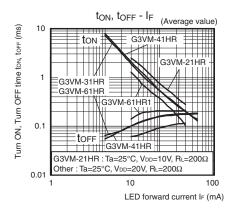
LED forward voltage



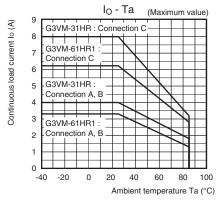
On-state resistance vs. Ambient temperature



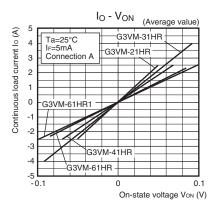
Turn ON, Turn OFF time vs. LED forward current



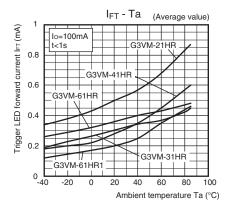
Continuous load current vs. Ambient temperature G3VM-31HR/61HR1



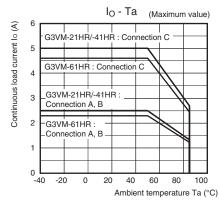
Continuous load current vs. On-state voltage



Trigger LED forward current vs. Ambient temperature

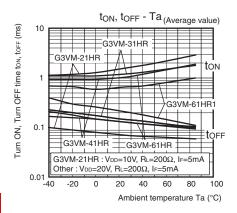


G3VM-21HR/41HR/61HR



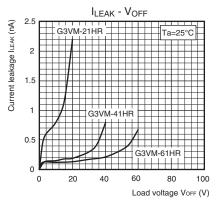
■Engineering Data

Turn ON, Turn OFF time vs. Ambient temperature

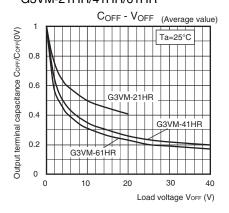


Current leakage vs. Load voltage

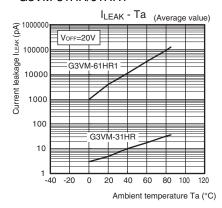
G3VM-21HR/41HR/61HR



Output terminal capacitance vs. Load voltage G3VM-21HR/41HR/61HR



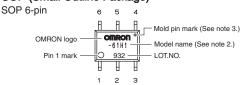
Current leakage vs. Ambient temperature G3VM-31HR/61HR1



■Appearance / Terminal Arrangement / Internal Connections

Appearance

SOP (Small Outline Package)

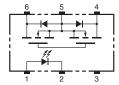


Note: 1. The actual product is marked differently from the image shown here.

Note: 2. "G3VM" does not appear in the model number on the Relay.

Note: 3. The indentation in the corner diagonally opposite from the pin 1 mark is from a pin on the mold.

●Terminal Arrangement/Internal Connections (Top View)

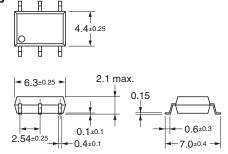


■Dimensions (Unit: mm)



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.

■Approved Standards

UL recognized 🔊

Approved Standards	Contact form	File No.		
UL (recognized)	1a (SPST-NO)	E80555		

■Safety Precautions

• Refer to the Common Precautions for All MOS FET Relays for precautions that apply to all MOS FET Relays.

Contact: www.omron.com/ecb

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

OMRON Corporation

Electronic and Mechanical Components Company

Cat. No. K288-E1-02 0317(0217)(O)

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.