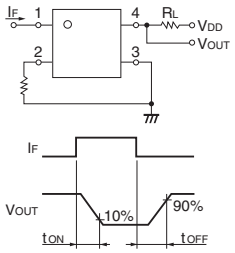
■Electrical Characteristics (Ta = 25°C)

Item		Symbol		G3VM-41GR8	G3VM-61GR1	G3VM-61VR	G3VM-61GR2	Unit	Measurement conditions
Input	LED forward voltage	V_F	Minimum	1.18	1.0	1.1	1.18	V	I_F=10 mA
			Typical	1.33	1.15	1.27	1.33		
			Maximum	1.48	1.3	1.4	1.48		
	Reverse current	I_R	Maximum	10				μA	V_R=5 V
	Capacitance between terminals	C_T	Typical	70	15	70		pF	V=0, f=1 MHz
	Trigger LED forward current	I_{FT}	Typical	1			0.6	mA	G3VM-41GR8/61GR1/61GR2: I_O=100 mA G3VM-61VR: I_O=1400 mA
			Maximum	3					
	Release LED forward current	I_{FC}	Minimum	0.1				mA	I_{OFF}=100 μA
Output	Maximum resistance with output ON	R_{ON}	Typical	0.1	0.25	0.13	0.08	Ω	G3VM-41GR8/61GR1/61VR: I_F=5mA, Io=Continuous load current ratings, G3VM-61GR2: I_F =5mA, Io=Continuous load current ratings, t<1s
			Maximum	0.13	0.7	0.25	0.13		
	Current leakage when the relay is open	I_{LEAK}	Typical	–	0.2	2	1	nA	G3VM-41GR8: V_{OFF}=30 V G3VM-61GR1/61VR/61GR2: V_{OFF}=60 V
			Maximum	1	100	1000	10		
	Capacitance between terminals	C_{OFF}	Typical	300	90	100	250	pF	V=0, f=1 MHz
Capacitance between I/O terminals		C_{I-O}	Typical	0.8				pF	f=1 MHz, V_S=0 V
Insulation resistance between I/O terminals		R_{I-O}	Minimum	1000				MΩ	V_{I-O}=500 VDC, RoH≤60%
			Typical	10^8					
Turn-ON time		t_{ON}	Typical	1.2	1.4	2	0.7	ms	I_F=5 mA, R_L=200 Ω, V_{DD}=20 V ✻
			Maximum	3					
Turn-OFF time		t_{OFF}	Typical	0.2	0.6	0.1	0.1		
			Maximum	0.5	1	1	0.5		

✻ 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.

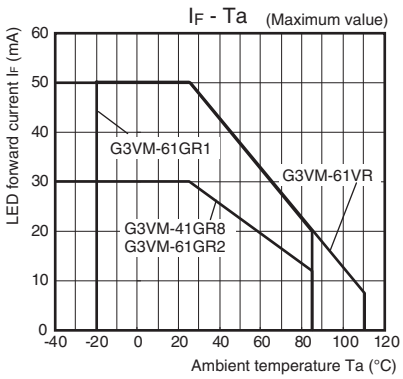
Item	Symbol		G3VM-41GR8	G3VM-61GR1	G3VM-61VR	G3VM-61GR2	Unit
Load voltage (AC peak/DC)	V_{DD}	Maximum	32	48			V
Operating LED forward current	I_F	Maximum	5				mA
		Typical	10		7.5	10	
		Maximum	20		25		
Continuous load current (AC peak/DC)	Io	Maximum	1000		1400	1300	
Ambient operating temperature	Ta	Minimum	-20				°C
		Maximum	60		100	65	

■Spacing and Insulation

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

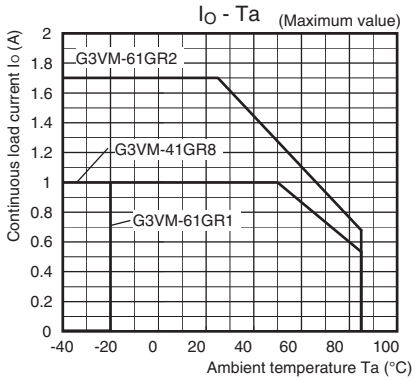
■Engineering Data

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

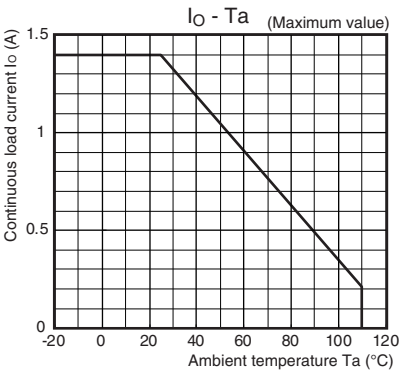


● **Continuous load current vs. Ambient temperature**

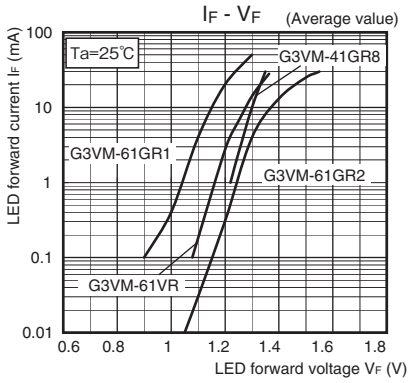
G3VM-41GR8/61GR1/61GR2



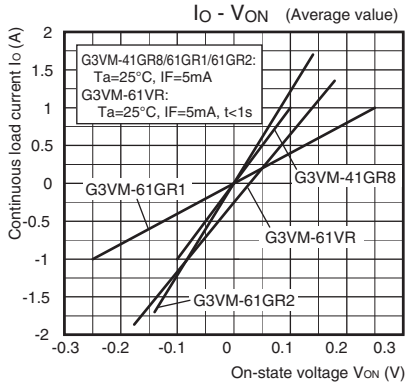
G3VM-61VR



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

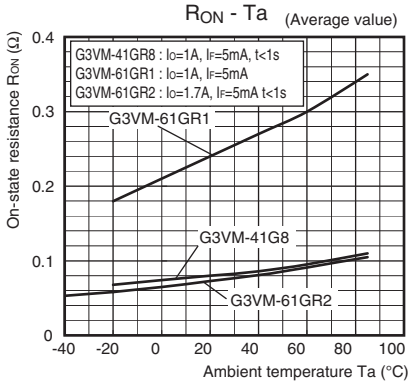


● **Continuous load current vs. On-state voltage**

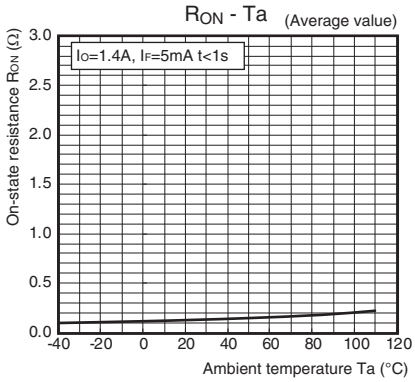


● **On-state resistance vs. Ambient temperature**

G3VM-41GR8/61GR1/61GR2



G3VM-61VR

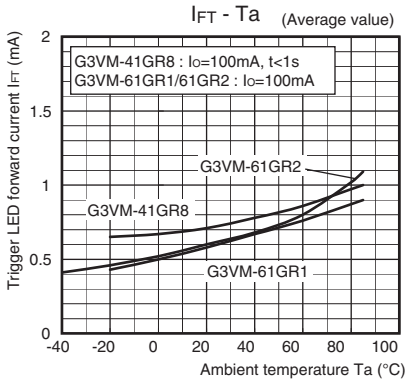


SOP

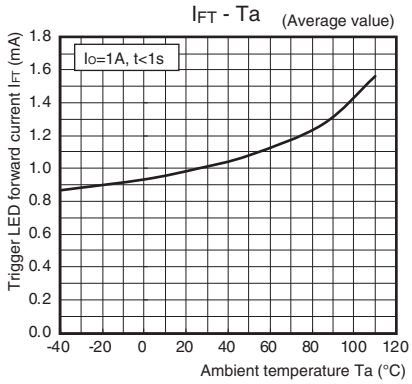
G3VM-41GR8/61GR□/61VR

●Trigger LED forward current vs. Ambient temperature

G3VM-41GR8/61GR1/61GR2

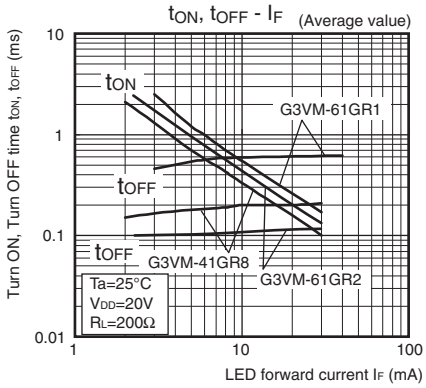


G3VM-61VR

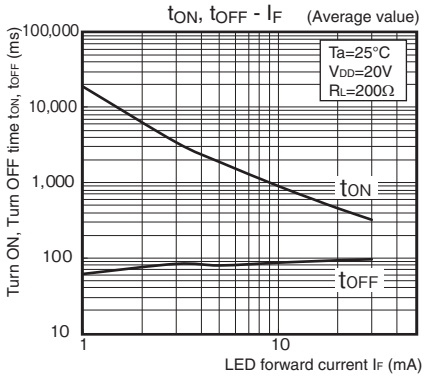


●Turn ON, Turn OFF time vs. LED forward current

G3VM-41GR8/61GR1/61GR2

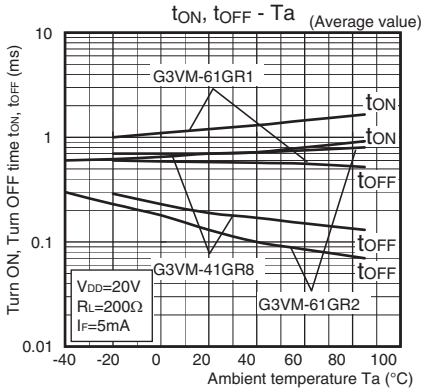


G3VM-61VR

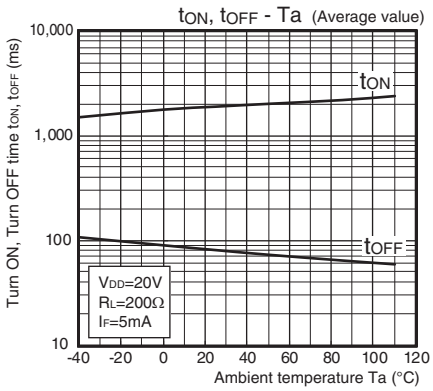


●Turn ON, Turn OFF time vs. Ambient temperature

G3VM-41GR8/61GR1/61GR2

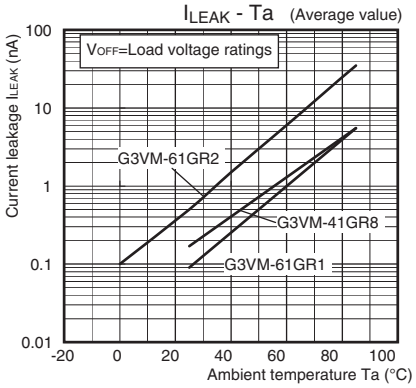


G3VM-61VR

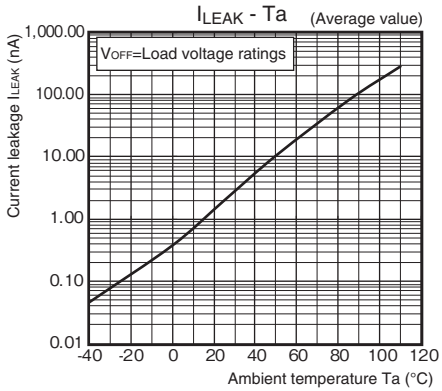


●Current leakage vs. Ambient temperature

G3VM-41GR8/61GR1/61GR2



G3VM-61VR

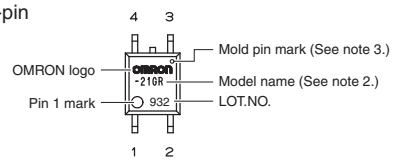


■Appearance / Terminal Arrangement / Internal Connections

●Appearance

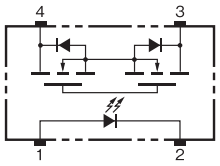
SOP (Small Outline Package)

SOP 4-pin



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)



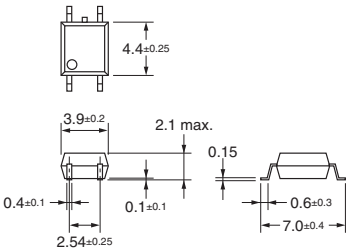
■Dimensions (Unit: mm)

SOP (Small Outline Package)

SOP 4-pin

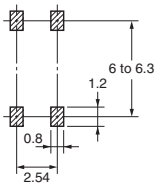
Surface-mounting Terminals

Weight: 0.1 g



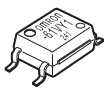
Actual Mounting Pad Dimensions

(Recommended Value, Top View)



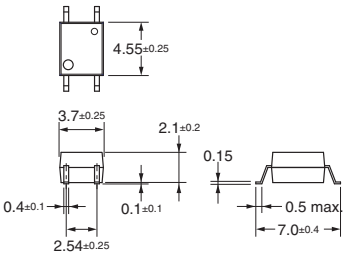
Note: The actual product is marked differently from the image shown here.

Special SOP 4-pin ✻ (G3VM-61VR)



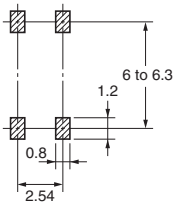
Surface-mounting Terminals

Weight: 0.1 g



Actual Mounting Pad Dimensions

(Recommended Value, Top View)



✻ The external dimensions are different from those of the standard SOP 4-pin, but the mounting pad dimensions are the same.
Note: The actual product is marked differently from the image shown here.

■Approved Standards

UL recognized

Model	Approved Standards	Contact form	File No.
G3VM-41GR8 G3VM-61GR1 G3VM-61GR2	UL (recognized)	1a (SPST-NO)	E80555
G3VM-61VR	In progress application for UL certification		

■Safety Precautions

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

OMRON Corporation
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Contact: www.omron.com/ecb
Cat. No. K304-E1-01
0318(0318)(O)