

G3VM-201G□/S5

MOS FET Relays SOP 4-pin, General-purpose Type

General-purpose MOS FET Relays in SOP 4-pin packages for a wide range of applications

- Load voltage: 200 V



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

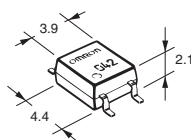
Application Examples

- Semiconductor test equipment
- Security equipment
- Amusement equipment
- Test & Measurement equipment
- Industrial equipment
- Communication equipment
- Power circuit

Package

(Unit : mm, Average)

SOP 4-pin



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

Model Number Legend

G3VM-□□□□
1 2 3 4

1. Load Voltage

20 : 200 V

2. Contact form

1 : 1a (SPST-NO)

3. Package

G : SOP 4-pin

4. Other informations

When specifications overlap, serial code is added in the recorded order.

Note: The model number legend for the G3VM-S5 is different from the above legend.

Ordering Information

Package	Contact form	Terminals	Load voltage (peak value) *	Continuous load current (peak value) *	Stick packaging		Tape packaging	
					Model	Minimum package quantity	Model	Minimum package quantity
SOP4	1a (SPST-NO)	Surface-mounting Terminals	200 V	50 mA	G3VM-201G	100 pcs.	G3VM-201G(TR)	2,500 pcs.
				200 mA	G3VM-201G1		G3VM-201G1(TR)	
					G3VM-201G2		G3VM-201G2(TR)	
					G3VM-S5		G3VM-S5(TR)	

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

Note: To order tape packaging for Relays with surface-mounting terminals, add "(TR)" to the end of the model number.

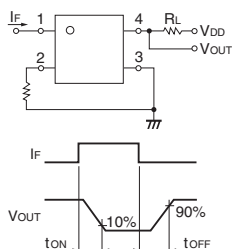
Absolute Maximum Ratings (Ta = 25°C)

Item		Symbol	G3VM-201G	G3VM-201G1	G3VM-201G2	G3VM-S5	Unit	Measurement conditions
Input	LED forward current	IF	50		30	50	mA	
	Repetitive peak LED forward current	IFP	1				A	100 μs pulses, 100 pps
	LED forward current reduction rate	ΔIF/°C	-0.5		-0.3	-0.5	mA/°C	Ta ≥ 25°C
	LED reverse voltage	VR	5				V	
	Connection temperature	TJ	125				°C	
Output	Load voltage (AC peak/DC)	VOFF	200				V	
	Continuous load current (AC peak/DC)	Io	50	200			mA	
	ON current reduction rate	ΔIo/°C	-0.5	-2			mA/°C	Ta ≥ 25°C
	Pulse ON current	Iop	150	600				

■Electrical Characteristics (Ta = 25°C)

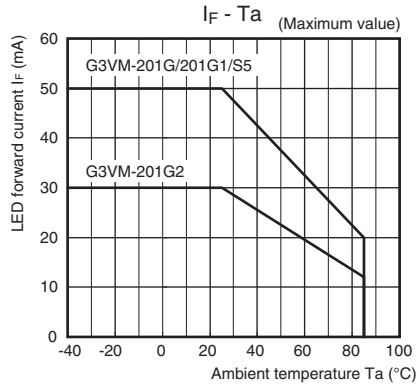
Item		Symbol		G3VM-201G	G3VM-201G1	G3VM-201G2	G3VM-S5	Unit	Measurement conditions	
Input	LED forward voltage	VF	Minimum	1.0		1.1	1.0	V	IF=10 mA	
			Typical	1.15		1.27	1.15			
			Maximum	1.3		1.4	1.3			
	Reverse current	IR	Maximum	10				μA	VR=5 V	
	Capacitance between terminals	CT	Typical	30				pF	V=0, f=1 MHz	
	Trigger LED forward current	IFT	Typical	1	0.4	—	1	mA	G3VM-201G : Io=50 mA G3VM-201G1/201G2/S5 : Io=200 mA	
Output			Maximum	3	1	0.2	3			
Release LED forward current	IFC	Minimum	0.1		—	0.1	mA	IOFF=100 μA		
		Typical	—		0.001	—				
Maximum resistance with output ON	RON	Typical	40	5		Ω		G3VM-201G/S5 : IF=5 mA, Io=Continuous load current ratings G3VM-201G1 : IF=2 mA, Io=200 mA G3VM-201G2 : IF=0.5 mA, Io=200 mA, t < 1s		
		Maximum	50	8						
Current leakage when the relay is open	ILEAK	Typical	—	1		—	nA	G3VM-201G : VOFF=160 V G3VM-201G1/201G2/S5 : VOFF=200 V		
					Maximum	1			1,000	
Capacitance between terminals	COFF	Typical	15	90		100	pF	G3VM-201G : V=0, f=1 MHz, t < 10s G3VM-201G1/201G2/S5 : V=0, f=1 MHz		
		Maximum	20	—						
Capacitance between I/O terminals	CI-O	Typical	0.8				pF	f=1 MHz, VS=0 V		
Insulation resistance between I/O terminals	RI-O	Minimum	1000				MΩ	VI-O=500 VDC, RoH≤60%		
		Typical	10 ⁸							
Turn-ON time	tON	Typical	—	3	3.5	0.6	ms		G3VM-201G/S5 : IF=5 mA, RL=200 Ω, VDD=20 V * G3VM-201G1 : IF=2 mA, RL=200 Ω, VDD=20 V * G3VM-201G2 : IF=0.5 mA, RL=200 Ω, VDD=20 V *	
		Maximum	0.5	8	10	1.5				
Turn-OFF time	tOFF	Typical	—	0.6	1	0.1				
		Maximum	0.2	3	5	1				

* Turn-ON and Turn-OFF Times

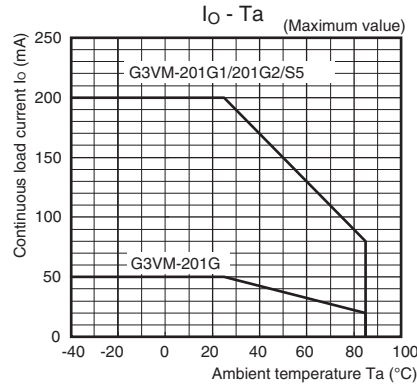


Engineering Data

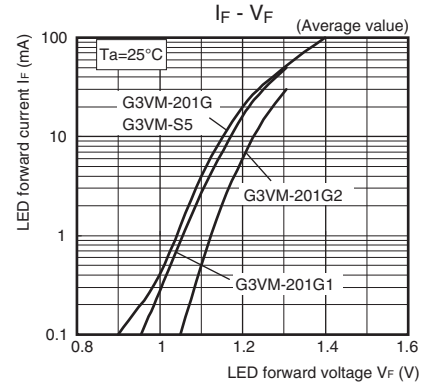
LED forward current vs. Ambient temperature



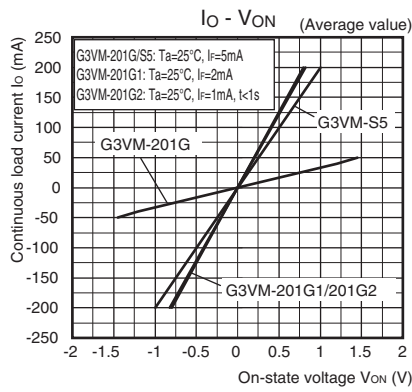
Continuous load current vs. Ambient temperature



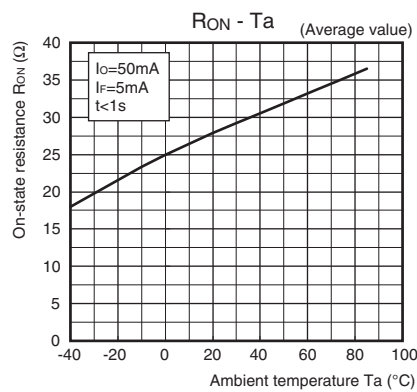
LED forward current vs. LED forward voltage



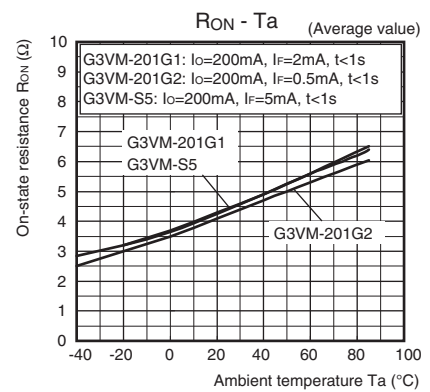
Continuous load current vs. On-state voltage



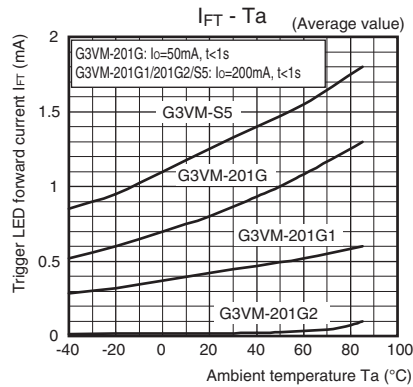
On-state resistance vs. Ambient temperature



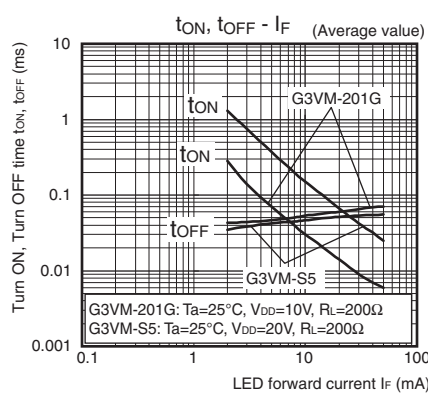
G3VM-201G1/201G2/S5



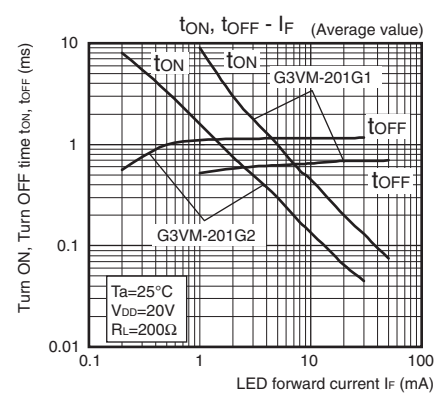
Trigger LED forward current vs. Ambient temperature



Turn ON, Turn OFF time vs. LED forward current

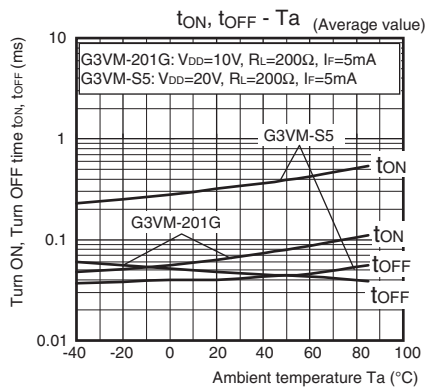


G3VM-201G1/201G2

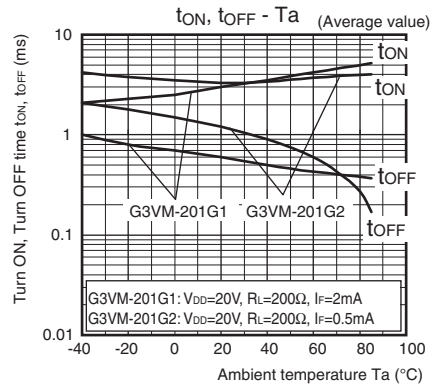


Engineering Data

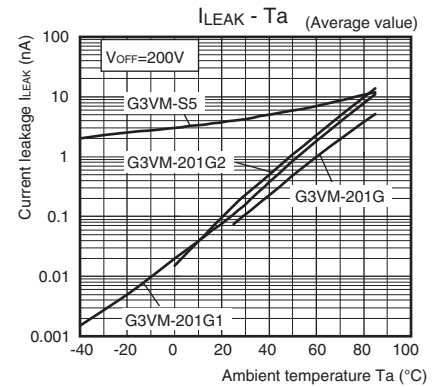
● Turn ON, Turn OFF time vs. Ambient temperature G3VM-201G/S5



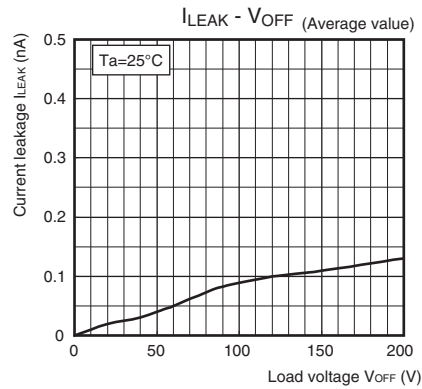
G3VM-201G1/201G2



● Current leakage vs. Ambient temperature



● Current leakage vs. Load voltage G3VM-201G2

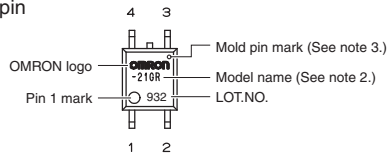


■Appearance / Terminal Arrangement / Internal Connections

●Appearance

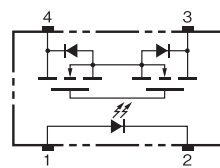
SOP (Small Outline Package)

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.

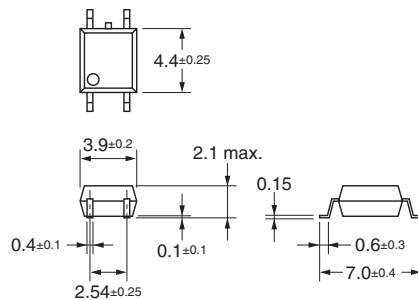
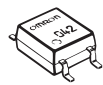
●Terminal Arrangement/Internal Connections
(Top View)



■Dimensions (Unit: mm)

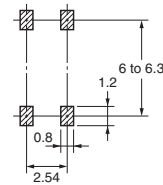
Surface-mounting Terminals

Weight: 0.1 g



Actual Mounting Pad Dimensions

(Recommended Value, Top View)



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

■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.

Please check each region's Terms & Conditions by region website.

OMRON Corporation

Device & Module Solutions Company

Regional Contact

Americas

<https://components.omron.com/us>

Asia-Pacific

<https://components.omron.com/ap>

Korea

<https://components.omron.com/kr>

Europe

<https://components.omron.com/eu>

China

<https://components.omron.com.cn>

Japan

<https://components.omron.com/jp>