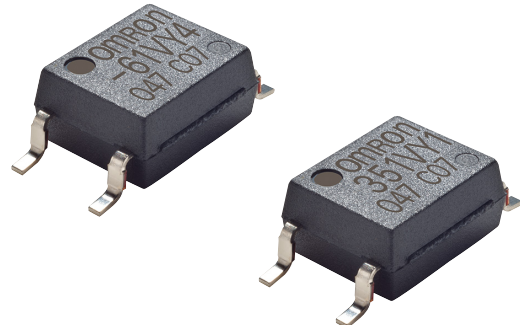


G3VM-61VY4/351VY1

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

High-sensitivity MOS FET relays
in SOP 4-pin packages
contribute to equipment power
consumption reduction

- Contact form: 1a (SPST-NO)
- Load voltage: 60/350 V
- High-sensitivity type * Driving current: 2.0 mA
(recommended condition)



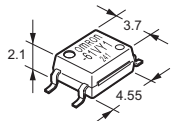
Note: The actual product is marked differently from the image shown here.

Application Examples

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

Package (Unit: mm, Average)

Special SOP 4-pin



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

Model Number Legend

G3VM-□ □ □ □ □
1 2 3 4 5

1. Load voltage

6 : 60 V
35 : 350 V

2. Contact form

1 : 1a (SPST-NO)

3. Package

V : Special SOP 4-pin

4. Additional functions

Y : Dielectric strength between I/O 3,750 V

5. Other informations

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

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
Special SOP 4-pin	1a (SPST-NO)	Surface mounting Terminals	60 V	700 mA	G3VM-61VY4	125 pcs.	G3VM-61VY4(TR05)	500 pcs.
			350 V	110 mA	G3VM-351VY1		G3VM-351VY1(TR05)	

* 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 "(TR05)" to the end of the model number.

G3VM-61VY4/351VY1

Absolute Maximum Ratings (Ta = 25°C)

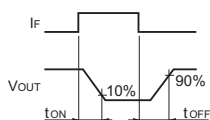
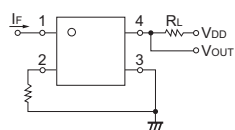
Item		Symbol	G3VM-61VY4	G3VM-351VY1	Unit	Measurement conditions
Input	LED forward current	I _F	30		mA	
	LED forward current reduction rate	ΔI _F /°C	-0.3		mA/°C	Ta≥25°C
	LED reverse voltage	V _R	6		V	
	Junction temperature	T _J	125		°C	
Output	Load voltage (AC peak/DC)	V _{OFF}	60	350	V	
	Continuous load current (AC peak/DC)	I _o	700	110	mA	
	ON current reduction rate	ΔI _o /°C	-8.3	-1.1	mA/°C	G3VM-61VY4 : Ta≥50°C G3VM-351VY1: Ta≥25°C
	Pulse ON current	I _{op}	2.1	0.33	A	t=100 ms, Duty=1/10
	Junction temperature	T _J	125		°C	
Dielectric strength between I/O *		V _{I-O}	3,750		V _{rms}	AC for 1 min
Ambient operating temperature		T _a	-40 to +85		°C	With no icing or condensation
Ambient storage temperature		T _{stg}	-55 to +125			
Soldering temperature		—	260			

* 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.

Electrical Characteristics (Ta = 25°C)

Item		Symbol	G3VM-61VY4		G3VM-351VY1		Unit	Measurement conditions
Input	LED forward voltage	V _F	Minimum	1.1		V	I _F =10 mA	
			Typical	1.27				
			Maximum	1.4				
	Reverse current	I _R	Maximum	10		μA	V _R =5 V	
	Capacitance between terminals	C _T	Typical	30		pF	V=0 V, f=1 MHz	
	Trigger LED forward current	I _{FT}	Typical	0.1	0.2	mA	I _o =Continuous load current rated value	
			Maximum	1				
Release LED forward current	I _{FC}	Minimum	0.01		mA	G3VM-61VY4 : I _{OFF} =10 μA G3VM-351VY1: I _{OFF} =100 μA		
Output	Maximum resistance with output ON	R _{ON}	Typical	0.15	28 (22)	Ω	I _F =2 mA, I _o =Continuous load current rated value () is a value within t < 1s.	
			Maximum	0.3	50 (35)			
	Current leakage when the relay is open	I _{LEAK}	Typical	2	1	nA	V _{OFF} =Load voltage rated value	
			Maximum	1,000				
	Capacitance between terminal	C _{OFF}	Typical	100	30	pF	V=0 V, f=1 MHz	
Capacitance between I/O terminals		C _{I-O}	Typical	0.8		pF	V _S =0 V, f=1 MHz	
Insulation resistance between I/O terminals		R _{I-O}	Minimum	1,000		MΩ	V _{I-O} =500 VDC, RoH≤60%	
			Typical	10 ⁸				
Turn-ON time	t _{ON}	Typical	3	1	ms	I _F =2 mA, R _L =200 Ω, V _{BD} =20 V *		
		Maximum	6	2				
Turn-OFF time	t _{OFF}	Typical	0.4	0.5				
		Maximum	1	1				

* 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-61VY4	G3VM-351VY1	Unit
Load voltage (AC peak/DC)	V _{DD}	Maximum	48	280	V
Operating LED forward current	I _F	Minimum	—		mA
		Typical	2		
		Maximum	25		
Continuous load current (AC peak/DC)	I _O	Maximum	700	110	
Ambient operating temperature	T _a	Minimum	-40		°C
		Maximum	85		

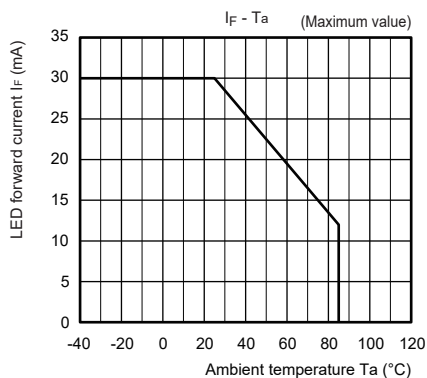
Spacing and Insulation

Item	G3VM-61VY4	G3VM-351VY1	Unit
	Minimum		
Creepage distances	5.0		mm
Clearance distances	5.0		
Internal isolation thickness	0.2		

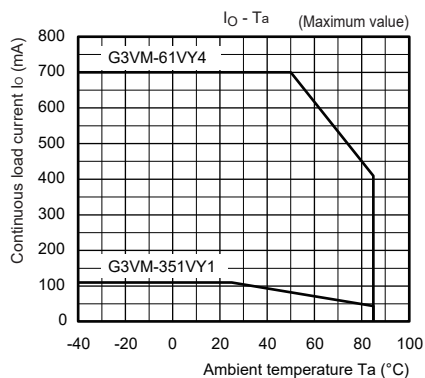
G3VM-61VY4/351VY1

Engineering Data

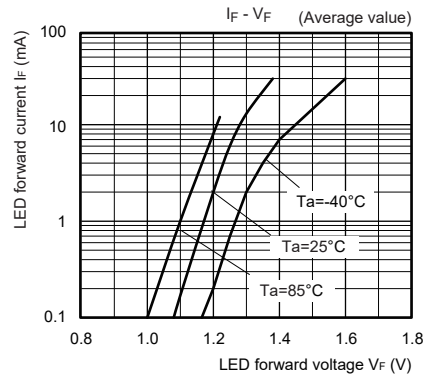
LED forward current vs. Ambient temperature



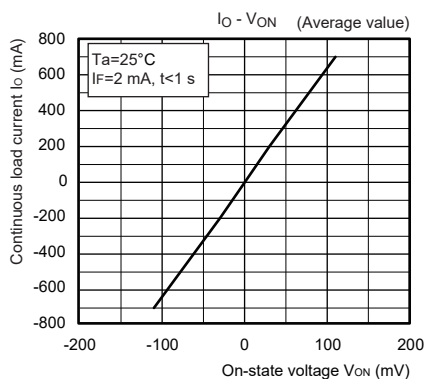
Continuous load current vs. Ambient temperature



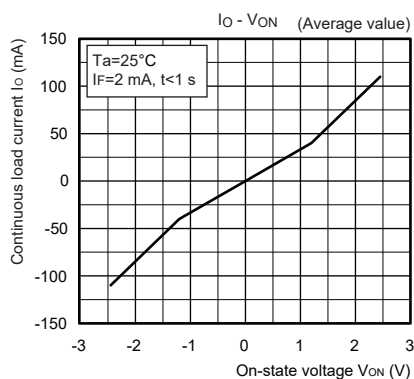
LED forward current vs. LED forward voltage



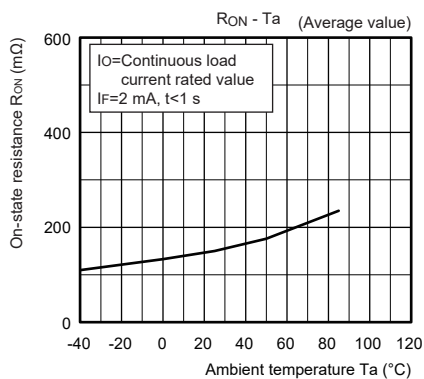
Continuous load current vs. On-state voltage
G3VM-61VY4



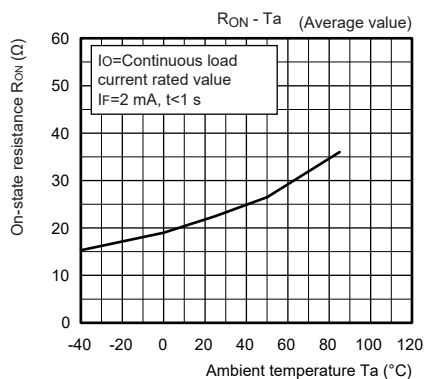
G3VM-351VY1



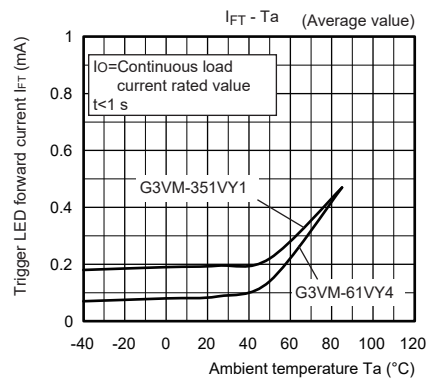
On-state resistance vs. Ambient temperature
G3VM-61VY4



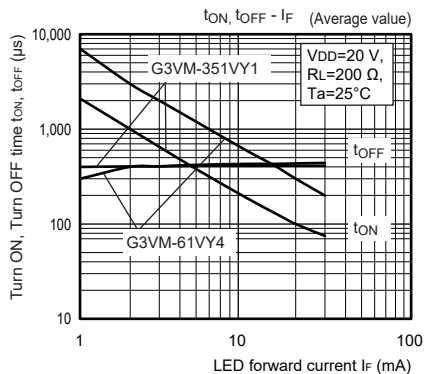
G3VM-351VY1



Trigger LED forward current vs. Ambient temperature

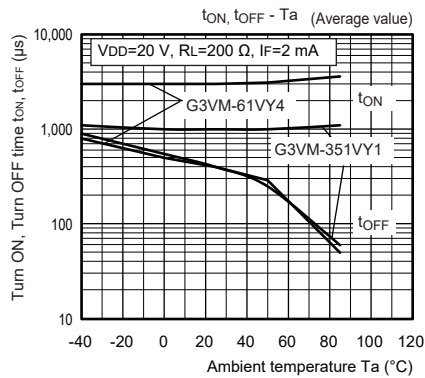


Turn ON, Turn OFF time vs. LED forward current

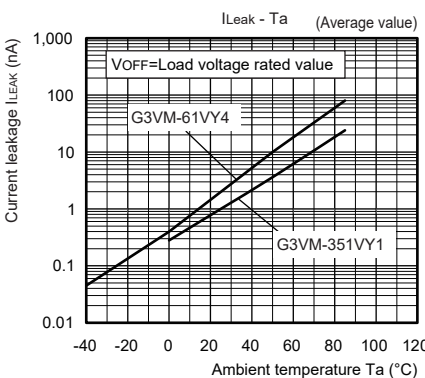


Engineering Data

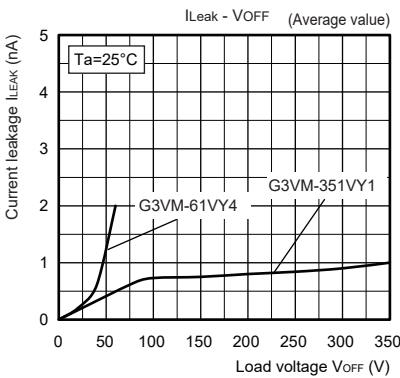
Turn ON, Turn OFF time vs.
Ambient temperature



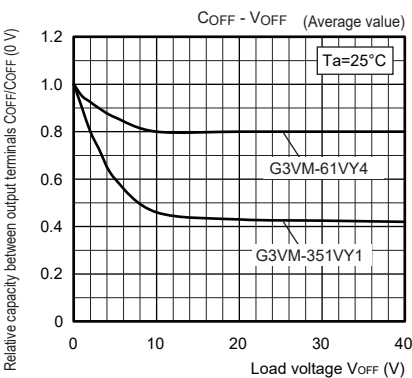
Current leakage vs.
Ambient temperature



Current leakage vs.
Load voltage



Relative capacity between output terminals vs.
Load voltage

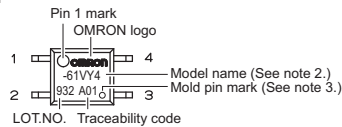


G3VM-61VY4/351VY1

Appearance/Terminal Arrangement/Internal Connections

Appearance

Special SOP 4-pin

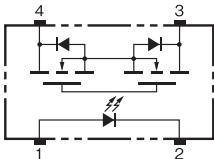


Note: 1. The actual product is marked differently from the image shown here.

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.

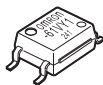
Terminal Arrangement/Internal Connections (Top View)



Dimensions

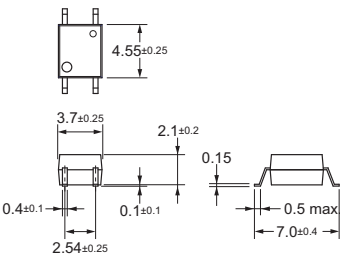
(Unit: mm)

Special SOP 4-pin *



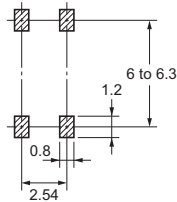
Surface-mounting Terminals

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-61VY4 G3VM-351VY1	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.

[illegible]

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