# G3VM-353A/D

**MOS FET Relays** 

# DIP 4-pin package, Analog-switching MOS FET Relays with SPST-NC Contact.

**RoHS** compliant



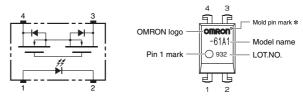
47

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

### **■** Application Examples

- Communication equipment
- Security systems
- FA systems
- Test & Measurement equipment

### **■** Terminal Arrangement/Internal Connections



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

\* The indentation in the corner diagonally opposite from the pin 1 mark is from a pin on the mold.

#### **■ List of Models**

Dookogo typo	Contact form	Terminals	Load voltage	Model	Minimum package quantity	
Package type	Contact form		(peak value) *	Wodel	Number per tube	Number per tape and reel
	1b (SPST-NC)	PCB Terminals		G3VM-353A	100	-
DIP4		Surface-mounting Terminals	350 V	G3VM-353D	100	
	(6, 51-10)			G3VM-353D (TR)	-	1,500

<sup>\*</sup> The AC peak and DC value are given for the load voltage.

### ■ Absolute Maximum Ratings (Ta = 25°C)

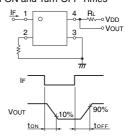
Item		Symbol	Rating	Unit	Measurement conditions
	LED forward current	l <sub>F</sub>	50	mA	
۱	Repetitive peak LED forward current	IFP	1	A	100 μs pulses, 100 pps
nput	LED forward current reduction rate	ΔIF/°C	-0.5	mA/°C	Ta ≥ 25°C
드	LED reverse voltage	VR	5	V	
	Connection temperature	TJ	125	°C	
	Load voltage (AC peak/DC)	Voff	350	V	
Output	Continuous load current (AC peak/DC)	lo	150	mA	
ort	ON current reduction rate	∆lo/°C	-1.5	mA/°C	Ta ≥ 25°C
J	Connection temperature	TJ	125	°C	
Dielectric strength between I/O (See note 1.)		V <sub>I</sub> -O	2500	Vrms	AC for 1 min
Ambient operating temperature		Ta	-40 to +85	°C	With no icing or condensation
Ambient storage temperature		Tstg	-55 to +125	°C	With no icing or condensation
Soldering temperature		-	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.

### **■ Electrical Characteristics** (Ta = 25°C)

Item		Symbol	Minimum	Typical	Maximum	Unit	Measurement conditions
Input	LED forward voltage	VF	1.0	1.15	1.3	V	IF = 10 mA
	Reverse current	lr	-	-	10	μА	VR = 5 V
	Capacity between terminals	Ст	-	30	-	pF	V = 0, f = 1 MHz
	Trigger LED forward current	IFC	-	1	3	mΑ	Ioff = 10 μA
Output	Maximum resistance with output ON	Ron	-	15	25	Ω	lo = 150 mA
	Current leakage when the relay is open	ILEAK	-	-	1.0	μΑ	IF = 5 mA, Voff = 350 V
	Capacity between terminals	Coff	-	85	-	pF	V = 0, $f = 1$ MHz, $IF = 5$ mA
Capacity between I/O terminals		Cı-o	-	0.8	-	pF	f = 1 MHz, Vs = 0 V
Insulation resistance between I/O terminals		Rı-o	1000	-	-	$M\Omega$	V <sub>I</sub> -o = 500 VDC, RoH ≤ 60%
Turn-ON time		ton	-	0.1	1.0	ms	IF = 5 mA, RL = 200 $\Omega$ ,
Turn-OFF time		toff	-	1.0	3.0	ms	V <sub>DD</sub> = 20 V(See note 2.)

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



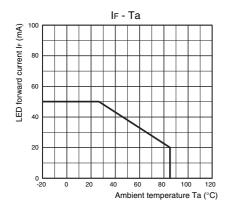
### **■** Recommended Operating Conditions

Use the G3VM under the following conditions so that the Relay will operate properly.

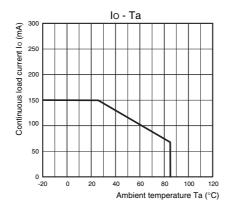
Item	Symbol	Minimum	Typical	Maximum	Unit
Load voltage (AC peak/DC)	V <sub>DD</sub>	-	-	280	V
Operating LED forward current	lF	5	1	25	mA
Continuous load current (AC peak/DC)	lo	-	-	150	mA
Ambient operating temperature	Та	-20	-	65	°C

### **■** Engineering Data

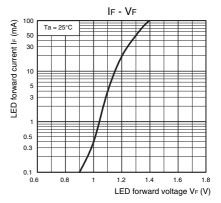
### LED forward current vs. Ambient temperature



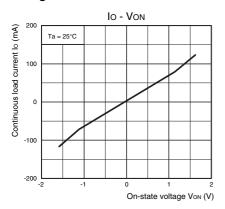
### Continuous load current vs. Ambient temperature



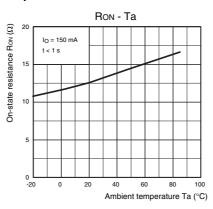
### LED forward current vs. LED forward voltage



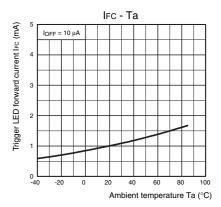
### Continuous load current vs. On-state voltage



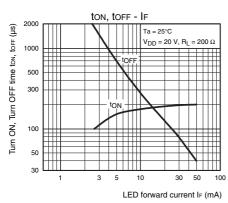
On-state resistance vs. Ambient temperature



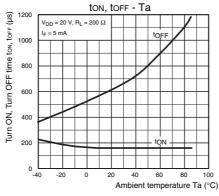
Trigger LED forward current vs. Ambient temperature



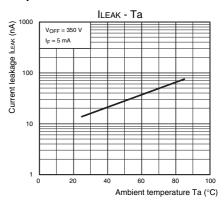
Turn ON, Turn OFF time vs. LED forward current



Turn ON, Turn OFF time vs. Ambient temperature



Current leakage vs. Ambient temperature



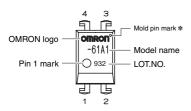
### ■ Safety Precautions

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

### ■ Appearance

#### DIP (Dual Inline Package)

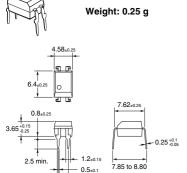
DIP4



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

\* The indentation in the corner diagonally opposite from the pin 1 mark is from a pin on the mold.

**■** Dimensions (Unit: mm)



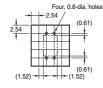
## **PCB Terminals**



#### **Surface-mounting Terminals**

PCB Dimensions (BOTTOM VIEW)

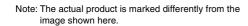
Weight: 0.25 g



#### **Actual Mounting Pad Dimensions**

(Recommended Value, TOP VIEW)





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

Contact: www.omron.com/ecb

<sup>•</sup> Application examples provided in this document are for reference only. In actual applications, confirm equipment functions and safety before using the product.

<sup>•</sup> 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 improperty. 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.