Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

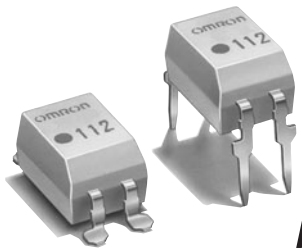
G3VM-61AR/DR

MOS FET Relays

Higher power, 2-A switching with a 60-V load voltage, DIP package. Low 80 mΩ ON Resistance.

- Continuous load current of 2 A.
- Switches minute analog signals.
- Dielectric strength of 2,500 Vrms between I/O.

RoHS compliant



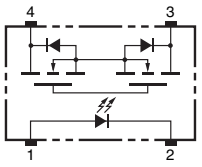
NEW

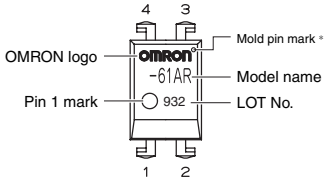
Note: The actual product is marked differently from the image shown here.

■ Application Examples

- Communication equipment
- Test & Measurement equipment
- Security equipment
- Factory Automation equipment
- Power circuit

■ 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

Package type	Contact form	Terminals	Load voltage (peak value) ✻	Model	Minimum package quantity	
					Number per stick	Number per tape and reel
DIP4	1a (SPST-NO)	PCB terminals	60 V	G3VM-61AR	100	---
		Surface-mounting terminals		G3VM-61DR		
				G3VM-61DR (TR)	---	1,500

✻ The AC peak and DC value are given for the load voltage.

■ Absolute Maximum Ratings (Ta = 25°C)

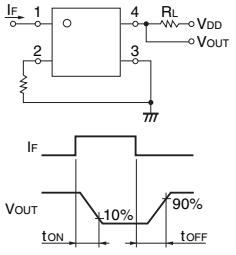
Item		Symbol	Rating	Unit	Measurement conditions
Input	LED forward current	I_F	30	mA	
	Repetitive peak LED forward current	I_{FP}	1	A	100 μs pulses, 100 pps
	LED forward current reduction rate	ΔI_F/°C	–0.3	mA/°C	Ta ≥ 25°C
	LED reverse voltage	V_R	5	V	
	Connection temperature	T_J	125	°C	
Output	Load voltage (AC peak/DC)	V_{OFF}	60	V	
	Continuous load current (AC peak/DC)	I_O	2	A	
	ON current reduction rate	ΔI_O/°C	–20	mA/°C	Ta ≥ 25°C
	Pulse ON current	Iop	6	A	t = 100 ms, Duty = 1/10
	Connection temperature	T_J	125	°C	
Dielectric strength between I/O (See note 1.)		V_{I-O}	2500	Vrms	AC for 1 min
Operating temperature		Ta	–40 to +85	°C	With no icing or condensation
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	V_F	1.18	1.33	1.48	V	I_F = 10 mA
	Reverse current	I_R	---	---	10	μA	V_R = 5 V
	Capacity between terminals	C_T	---	70	---	pF	V = 0, f = 1 MHz
	Trigger LED forward current	I_{FT}	---	0.5	3	mA	I_O = 1 A
Output	Maximum resistance with output ON	R_{ON}	---	80	200	mΩ	I_F = 5 mA, I_O = 2 A, t < 1s
	Current leakage when the relay is open	I_{LEAK}	---	---	1.0	μA	V_{OFF} = 60 V
	Capacity between terminals	C_{OFF}	---	250	---	pF	V = 0, f = 1 MHz
Capacity between I/O terminals		C_{I-O}	---	0.8	---	pF	f = 1 MHz, V_S = 0 V
Insulation resistance between I/O terminals		R_{I-O}	1000	---	---	MΩ	V_{I-O} = 500 VDC, RoH ≤ 60%
Turn-ON time		t_{ON}	---	0.8	5	ms	I_F = 5 mA, R_L = 200 Ω, V_{DD} = 20 V (See note 2.)
Turn-OFF time		t_{OFF}	---	0.3	1	ms	

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



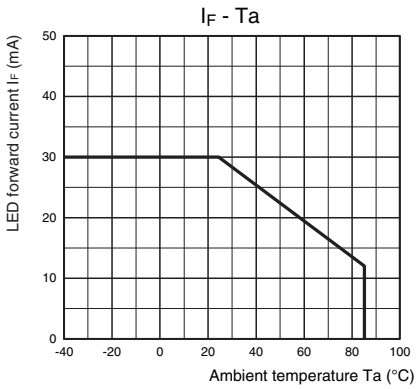
■ Recommended Operating Conditions

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

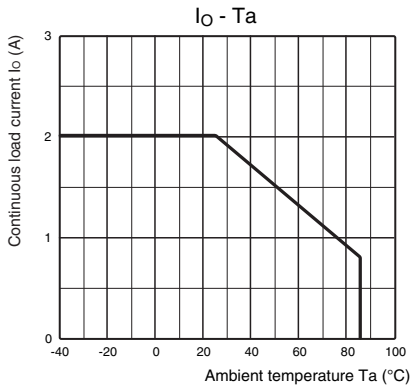
Item	Symbol	Minimum	Typical	Maximum	Unit
Load voltage (AC peak/DC)	V_{DD}	---	---	48	V
Operating LED forward current	I_F	5	10	25	mA
Continuous load current (AC peak/DC)	I_O	---	---	2	A
Operating temperature	Ta	–20	---	65	°C

■ Engineering Data

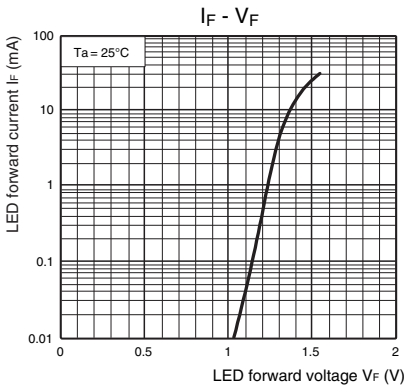
LED forward current vs. Ambient temperature



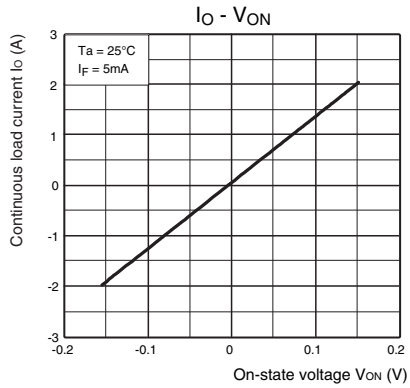
Continuous load current vs. Ambient temperature



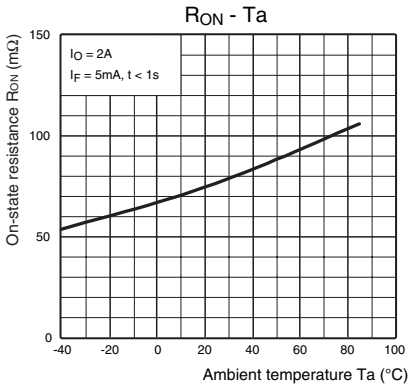
LED forward current vs. LED forward voltage



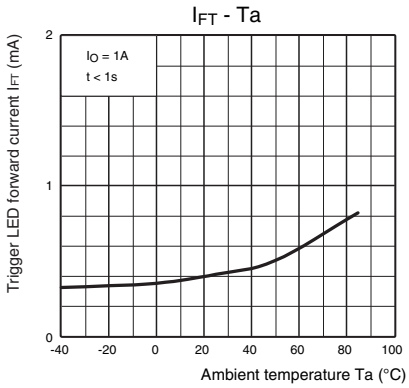
Continuous load current vs. On-state voltage



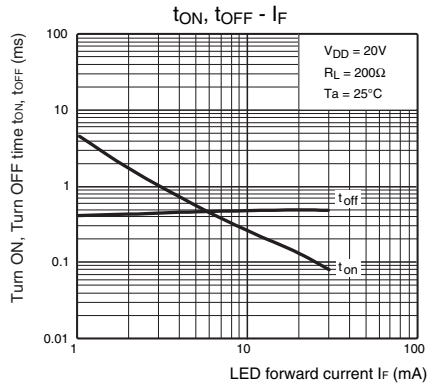
On-state resistance vs. Ambient temperature



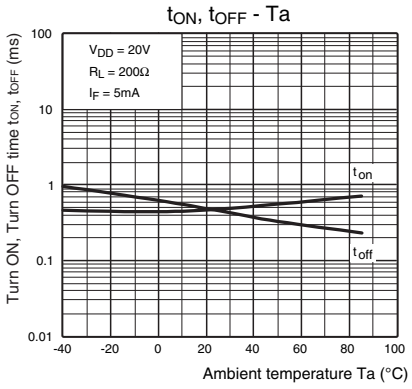
Trigger LED forward current vs. Ambient temperature



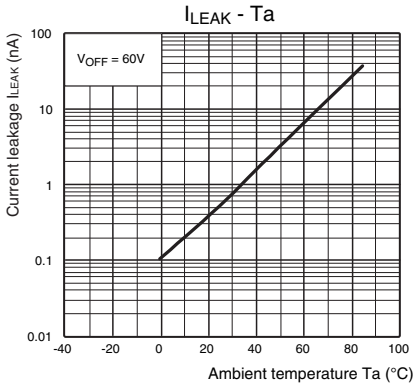
Turn ON, Turn OFF time vs. LED forward current



Turn ON, Turn OFF time vs. Ambient temperature



Current leakage vs. Ambient temperature



■ Safety Precautions

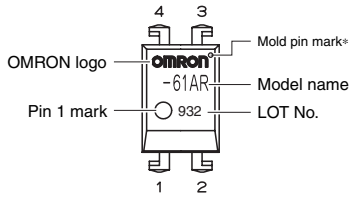
• Refer to **"Common Precautions"** for all G3VM models.

Appearance/Dimensions DIP4

■ Appearance

DIP (Dual Inline Package)

DIP4



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

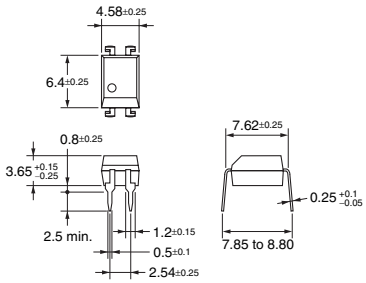
* The indentation in the corner diagonally opposite from the pin 1 mark is from a pin on the mold.

■ Dimensions

(Unit: mm)

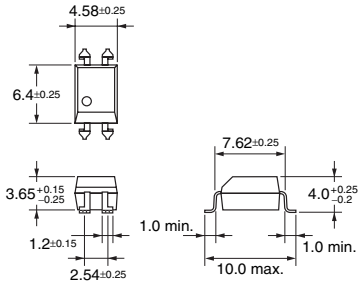
PCB Terminals

Weight: 0.25 g



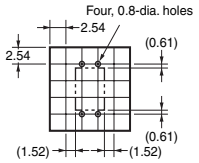
Surface-mounting Terminals

Weight: 0.25 g



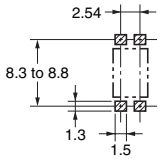
Note: The actual product is marked differently from the image shown here.

PCB Dimensions (Bottom View)



Actual Mounting Pad Dimensions

(Recommended Value, Top View)



OMRON Corporation

ELECTRONIC AND MECHANICAL COMPONENTS COMPANY **Contact: www.omron.com/ecb**

Cat. No. K139-E1-02

0412(0412)(O)