

Introduction
General-purpose
High-voltage
Multi-voltage
High-current
Low-ON-resistance
Small and high-
inductive
High-dielectric
Current-limiting
Low-voltage
Small and high-
voltage
Certified models with
UL
DIP
SOP
SSOP
USOP
VSON

G3VM-□BR□/□ER□

MOS FET Relays DIP 6-pin, High-current and Low-ON-resistance Type

MOS FET Relays in DIP 6-pin packages that achieve the low ON resistance and high switching capacity of a mechanical relay

- Load voltage: 20 V, 40 V, 60 V, or 100 V
- 20-V Relay: Continuous load current of 4 A (8 A) max. *
- 40-V Relay: Continuous load current of 3.5 A (7 A) max. *
- 60-V G3VM-61BR/ER Relay: Continuous load current of 2.5 A max.
- 60-V G3VM-61BR1/ER1 Relay: Continuous load current of 3 A (6 A) max. *
- 100-V Relay: Continuous load current of 2 A (4 A) max. *

* Values in parentheses are for connection C.

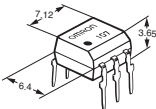
RoHS Compliant

Application Examples

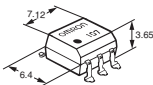
- Communication equipment
- Security equipment
- Power circuit
- Test & Measurement equipment
- Industrial equipment

Package (Unit : mm, Average)

DIP 6-pin
PCB Terminals



Surface-mounting Terminals



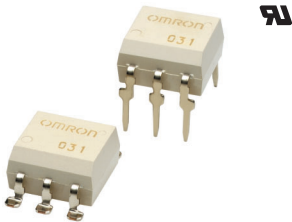
Note: The actual product is marked differently from the image shown here.

Ordering Information

Package	Contact form	Load voltage (peak value) *	Continuous load current (peak value) *		Stick packaging			Tape packaging	
					Model		Minimum package quantity	Model	
			Connection A, B	Connection C	PCB Terminals	Surface-mounting Terminals		Surface-mounting Terminals	Minimum package quantity
DIP6	1a (SPST-NO)	20 V	4 A	8 A	G3VM-21BR	G3VM-21ER	50 pcs.	G3VM-21ER(TR)	1,500 pcs.
		40 V	3.5 A	7 A	G3VM-41BR	G3VM-41ER		G3VM-41ER(TR)	
		60 V	2.5 A	—	G3VM-61BR	G3VM-61ER		G3VM-61ER(TR)	
			3 A	6 A	G3VM-61BR1	G3VM-61ER1		G3VM-61ER1(TR)	
		100 V	2 A	4 A	G3VM-101BR	G3VM-101ER		G3VM-101ER(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.



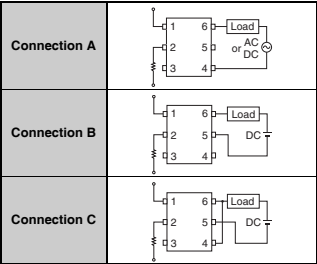
Note: The actual product is marked differently from the image shown here.

■Absolute Maximum Ratings (Ta = 25°C)

Item		Symbol	G3VM-21BR G3VM-21ER	G3VM-41BR G3VM-41ER	G3VM-61BR G3VM-61ER	G3VM-61BR1 G3VM-61ER1	G3VM-101BR G3VM-101ER	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}	20	40	60		100	V		
	Continuous load current	Connection A	I _o	4	3.5	2.5	3	2	A	Connection A: AC peak/DC Connection B and C: DC
		Connection B				—	6	4		
		Connection C				8	7	—		
	ON current reduction rate	Connection A	ΔI _o /°C	-40	-35	-22	-30	-20	mA/°C	Ta ≥ 25°C
		Connection B				—	-60	-40		
		Connection C				-80	-70	—		
	Pulse ON current	I _{op}	12	10.5	7.5	9	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}	2,500					V _{rms}	AC for 1 min	
Ambient operating temperature		T _a	-40 to +85		-20 to +85	-40 to +85		°C	With no icing or condensation	
Ambient storage temperature		T _{stg}	-55 to +125		-40 to +125	-55 to +125		°C		
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.

Connection Diagram



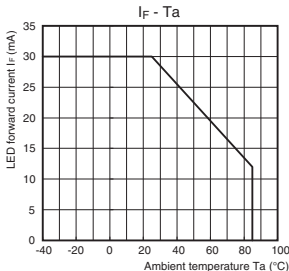
Note: Only connection A can be used for the G3VM-61BR/ER.

Engineering Data

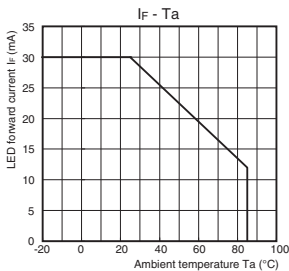
LED forward current vs.

Ambient temperature

G3VM-21BR/21ER/41BR/41ER/
61BR1/61ER1/101BR/101ER

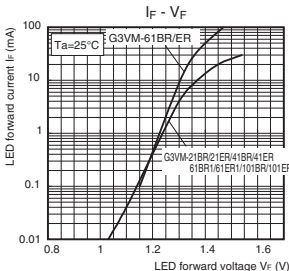


G3VM-61BR/61ER



LED forward current vs.

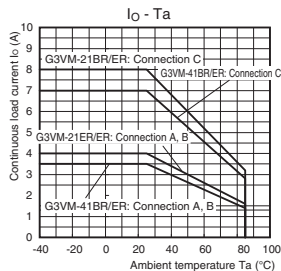
LED forward voltage



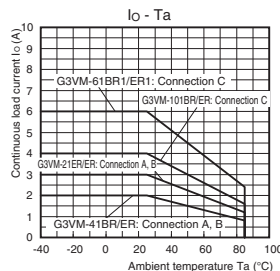
Continuous load current vs.

Ambient temperature

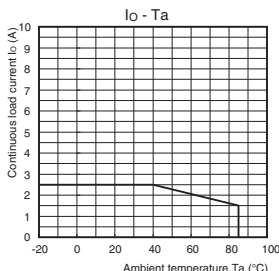
G3VM-21BR/21ER/41BR/41ER



G3VM-61BR1/61ER1/101BR/101ER

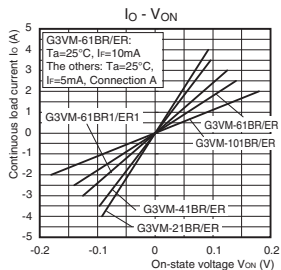


G3VM-61BR/61ER



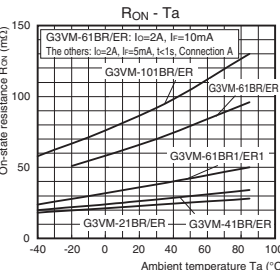
Continuous load current vs.

On-state voltage



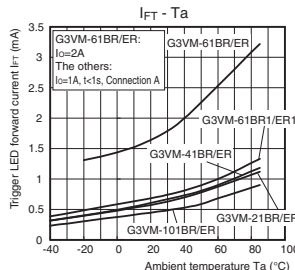
On-state resistance vs.

Ambient temperature



Trigger LED forward current vs.

Ambient temperature



Introduction
General purpose
High-voltage
Multi-contact pair
High-current and low-voltage
Small and high-strength
High-dielectric strength
Current-limiting
Low-voltage-resistance
Small and high-voltage
Certified models with standard certification
DIP
SOP
SSOP
USOP
VSON

G3VM-□BR□/□ER□

G3VM-□BR□/□ER□

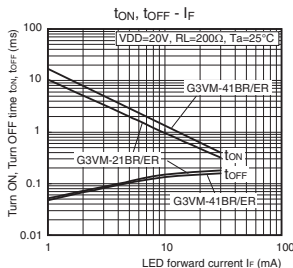
MOS FET Relays

Engineering Data

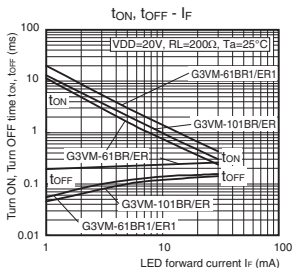
● Turn ON, Turn OFF time vs.

LED forward current

G3VM-21BR/21ER/41BR/41ER



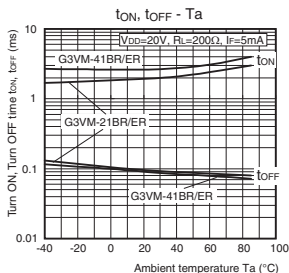
G3VM-61BR/61ER/61BR1/61ER1/101BR/101ER



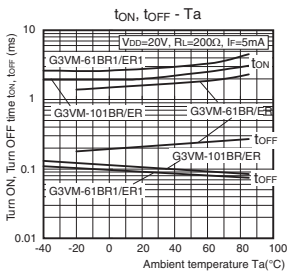
● Turn ON, Turn OFF time vs.

Ambient temperature

G3VM-21BR/21ER/41BR/41ER

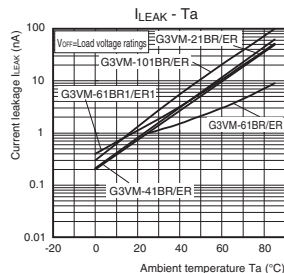


G3VM-61BR/61ER/61BR1/61ER1/101BR/101ER



● Current leakage vs.

Ambient temperature



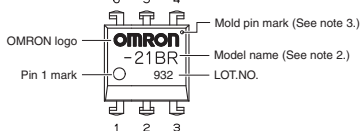
Appearance / Terminal Arrangement / Internal Connections

● Appearance

DIP (Dual Inline Package)

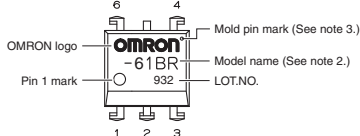
DIP 6-pin

G3VM-21BR/ER, -41BR/ER, -61BR1/ER1, -101BR/ER



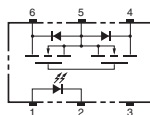
Special DIP 6-pin *

G3VM-61BR/ER

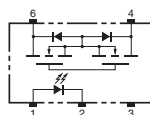


● Terminal Arrangement/Internal Connections (Top View)

G3VM-21BR/ER, -41BR/ER, -61BR1/ER1, -101BR/ER



G3VM-61BR/ER



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.

* The external dimensions of the standard DIP 6-pin are the same, but the number of terminals is different.

■Dimensions (Unit: mm)