G3VM-□C□/□F□/□CR/□FR

MOS FET Relays DIP 8-pin, Multi-contact-pair Type

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MOS FET Relays in DIP 8-pin packages with multiple contact pairs for a wide range of circuits

- **Contact form: 2b (DPST-NC), 1a1b (SPST-NO/SPST-NC)**
- **Load voltage: 350 V**



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

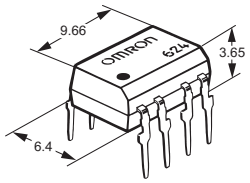
■Application Examples

- **Communication equipment**
- **Test & Measurement equipment**

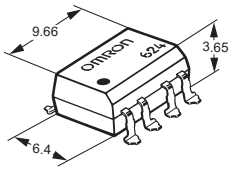
■Package (Unit : mm, Average)

DIP 8-pin

PCB Terminals



Surface-mounting Terminals



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
40 : 400 V

2. Contact form
4 : 2b (DPST-NC)
5 : 1a1b (SPST-NO/SPST-NC)

3. Package
C : DIP 8-pin with PCB terminals
F : DIP 8-pin with surface-mounting terminals

4. Additional functions
R: Low ON resistance

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

■Ordering Information

Package	Contact form	Load voltage (peak value) ✻	Continuous load current (peak value) ✻	Stick packaging			Tape packaging	
				Model		Minimum package quantity	Model	Minimum package quantity
				PCB Terminals	Surface-mounting Terminals		Surface-mounting Terminals	
DIP8	2b (DPST-NC)	350 V	150 mA	G3VM-354C	G3VM-354F	50 pcs.	G3VM-354F(TR)	1,500 pcs.
	1a1b (SPST-NO/ SPST-NC)		120 mA	G3VM-355CR	G3VM-355FR		G3VM-355FR(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)

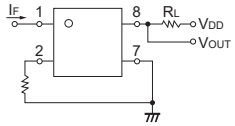
Item		Symbol	G3VM-354C G3VM-354F	G3VM-355CR G3VM-355FR	Unit	Measurement conditions
Input	LED forward current	I_F	50		mA	
	LED forward current reduction rate	ΔI_F/°C	-0.5		mA/°C	Ta ≥ 25°C
	LED reverse voltage	V_R	5		V	
	Connection temperature	T_J	125		°C	
Output	Load voltage (AC peak/DC)	V_{OFF}	350		V	
	Continuous load current (AC peak/DC)	I_O	150	120	mA	Connection A: AC peak/DC Connection B and C: DC
	ON current reduction rate	ΔI_O/°C	-1.5	-1.2	mA/°C	Ta ≥ 25°C
	Pulse ON current	Iop	450	360	mA	t=100 ms, Duty=1/10
	Connection temperature	T_J	125		°C	
Dielectric strength between I/O ✻1		V_{I-O}	2,500		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	
Soldering temperature		–	260		°C	10 s

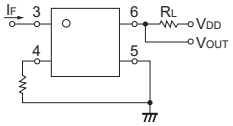
✻1. The dielectric strength between the input and output was checked by applying voltage between all pins as a group on the LED side and all pins as a group on the light-receiving side.

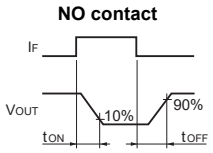
■Electrical Characteristics (Ta = 25°C)

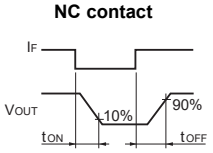
Item		Symbol		G3VM-354C G3VM-354F	G3VM-355CR G3VM-355FR	Unit	Measurement conditions
Input	LED forward voltage	V_F	Minimum	1.0		V	I_F=10 mA
			Typical	1.15			
			Maximum	1.3			
	Reverse current	I_R	Maximum	10		μA	V_R=5 V
	Capacitance between terminals	C_T	Typical	30		pF	V=0 V, f=1 MHz
	Trigger LED forward current	I_{FT} (I_{FC}) ✻2	Typical	1		mA	G3VM-354C/354F : I_{OFF}=10 μA G3VM-355CR/355FR : 1a : I_O=120 mA, 1b : I_{OFF}=10 μA
			Maximum	3			
	Release LED forward current	I_{FC} (I_{FT}) ✻2	Minimum	0.1		mA	G3VM-354C/354F : I_O=150 mA G3VM-355CR/355FR : 1a : I_{OFF}=10 μA, 1b : I_O=120 mA
Output	Maximum resistance with output ON	R_{ON}	Typical	15		Ω	G3VM-354C/354F : I_O=150 mA G3VM-355CR/355FR : 1a : I_F=5 mA, I_O=120 mA, 1b : I_F=0 mA, I_O=120 mA
			Maximum	25			
	Current leakage when the relay is open	I_{LEAK}	Maximum	1		μA	G3VM-354C/354F : I_F=5 mA, V_{OFF}=350 V G3VM-355CR/355FR : 1a : I_F=0 mA, V_{OFF}=350 V 1b : I_F=5 mA, V_{OFF}=350 V
	Capacitance between terminals	C_{OFF}	Typical	85	65	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	0.1	–	ms	I_F=5 mA, R_L=200 Ω, V_{DD}=20 V ✻1
			Maximum	1	1a : 1, 1b : 1		
Turn-OFF time		t_{OFF}	Typical	1	–		
			Maximum	3	1a : 1, 1b : 3		

✻1. Turn-ON and Turn-OFF Times









✻2. These values are for Relays with NC contacts

■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.

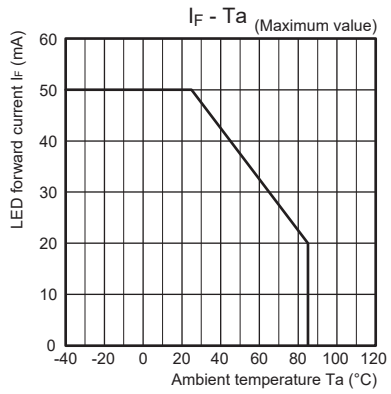
Item	Symbol		G3VM-354C G3VM-354F	G3VM-355CR G3VM-355FR	Unit
Load voltage (AC peak/DC)	V_{DD}	Maximum	280		V
Operating LED forward current	I_F	Minimum	5		mA
		Typical	–		
		Maximum	25		
Continuous load current (AC peak/DC)	I_O	Maximum	150	120	
Ambient operating temperature	Ta	Minimum	-20		°C
		Maximum	65		

■Spacing and Insulation

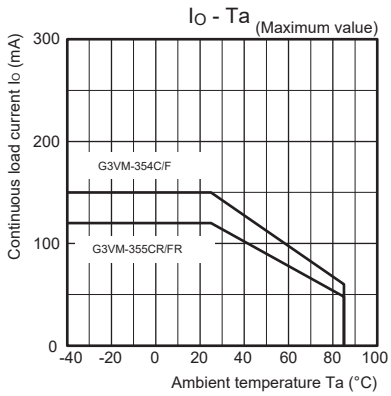
Item	Minimum	Unit
Creepage distances	7.0	mm
Clearance distances	7.0	
Internal isolation thickness	0.4	

■Engineering Data

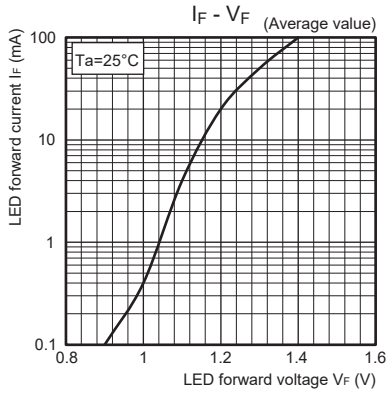
●LED forward current vs. Ambient temperature



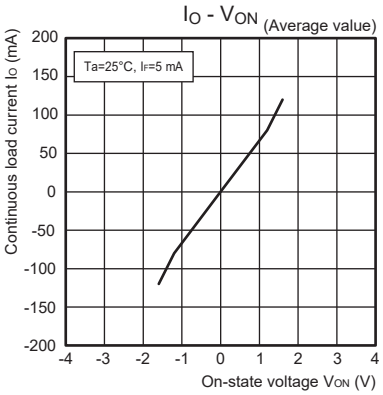
●Continuous load current vs. Ambient temperature



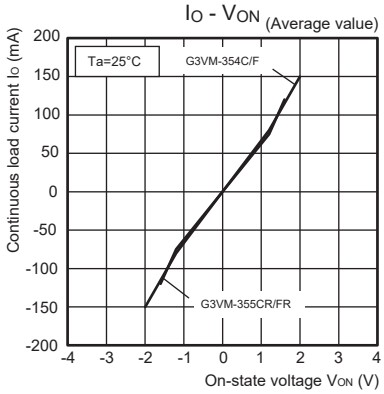
●LED forward current vs. LED forward voltage



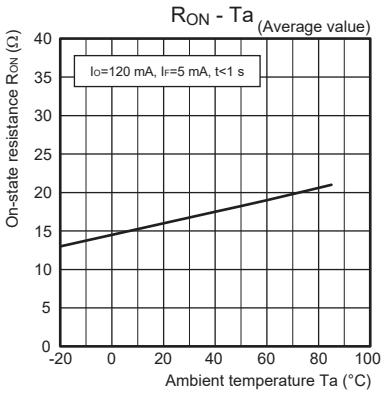
●Continuous load current vs. On-state voltage
G3VM-355CR/FR [SPST-NO Contacts]



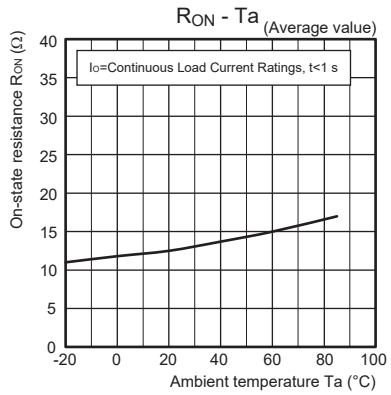
●Continuous load current vs. On-state voltage
G3VM-354C/F
G3VM-355CR/FR [SPST-NC Contacts]



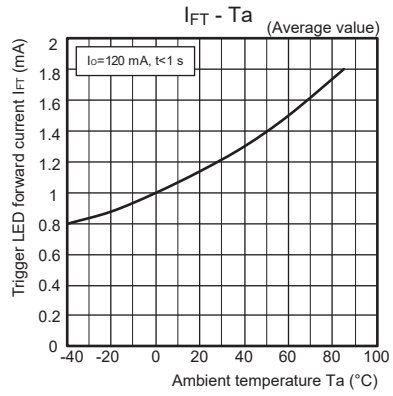
●On-state resistance vs. Ambient temperature
G3VM-355CR/FR [SPST-NO Contacts]



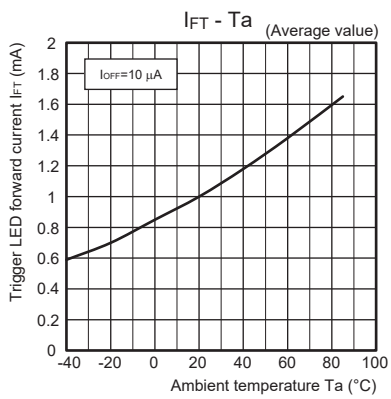
●On-state resistance vs. Ambient temperature
G3VM-354C/F
G3VM-355CR/FR [SPST-NC Contacts]



●Trigger LED forward current vs. Ambient temperature
G3VM-355CR/FR [SPST-NO Contacts]

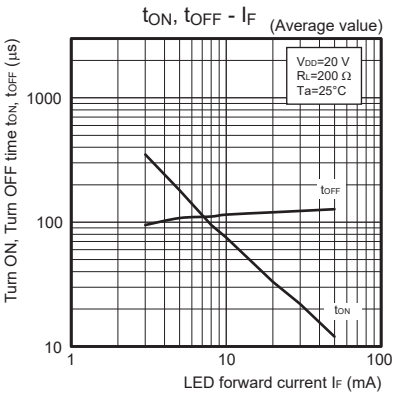


●Trigger LED forward current vs. Ambient temperature
G3VM-354C/F
G3VM-355CR/FR [SPST-NC Contacts]

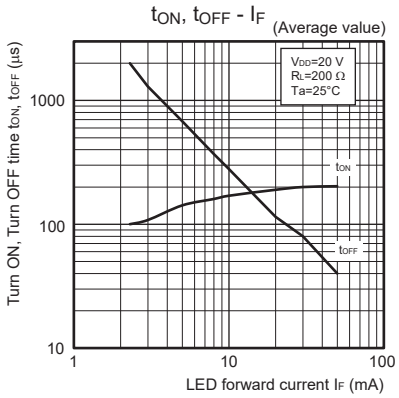


■Engineering Data

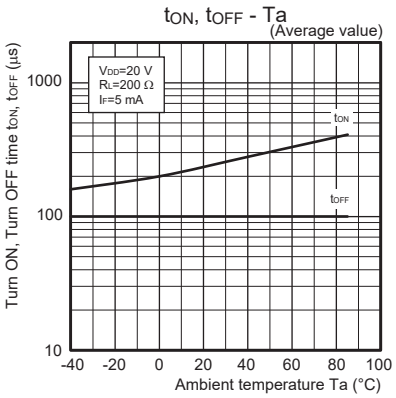
●Turn ON, Turn OFF time vs. LED forward current
G3VM-355CR/FR [SPST-NO Contacts]



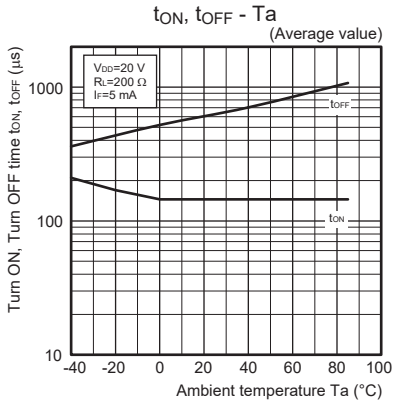
●Turn ON, Turn OFF time vs. LED forward current
G3VM-354C/F
G3VM-355CR/FR [SPST-NC Contacts]



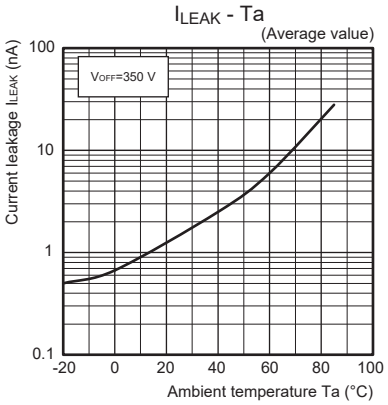
●Turn ON, Turn OFF time vs. Ambient temperature
G3VM-355CR/FR [SPST-NO Contacts]



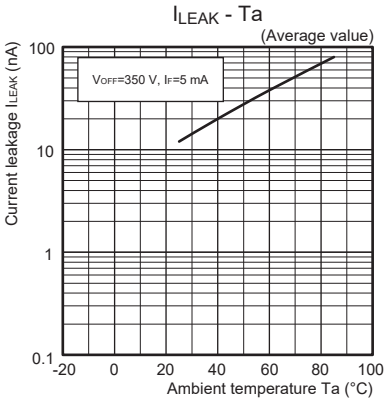
●Turn ON, Turn OFF time vs. Ambient temperature
G3VM-354C/F
G3VM-355CR/FR [SPST-NC Contacts]



●Current leakage vs. Ambient temperature
G3VM-355CR/FR [SPST-NO Contacts]



G3VM-354C/F
G3VM-355CR/FR [SPST-NC Contacts]

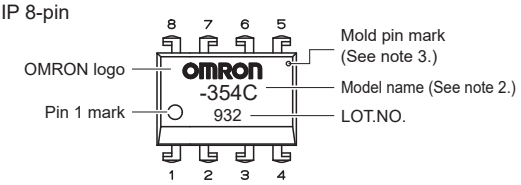


■Appearance / Terminal Arrangement / Internal Connections

●Appearance

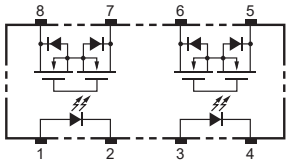
DIP (Dual Inline Package)

DIP 8-pin

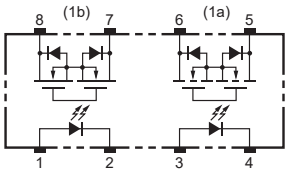


●Terminal Arrangement/Internal Connections (Top View)

G3VM-354C/354F



G3VM-355CR/355FR



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.

■Dimensions

CAD Data marked products, 2D drawings and 3D CAD models are available.
For CAD information, please visit our website, which is noted on the last page.

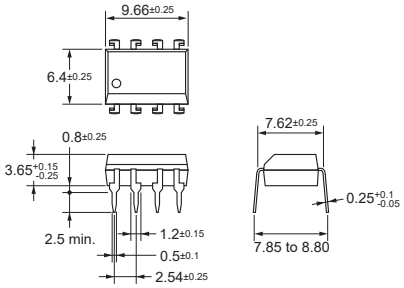
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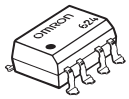
DIP 8-pin



PCB Terminals

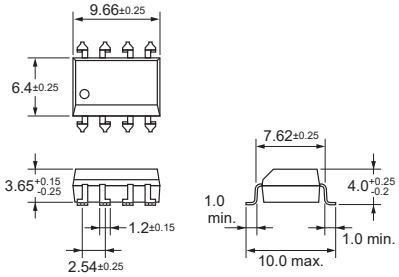
Weight: 0.54 g



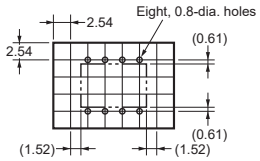


Surface-mounting Terminals

Weight: 0.54 g

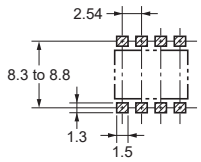


PCB Dimensions (BOTTOM VIEW)



Actual Mounting Pad Dimensions

(Recommended Value, Top View)



CAD Data

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

■Approved Standards

UL recognized

Model	Approved Standards	Contact form	File No.
G3VM-354C G3VM-354F	UL (recognized)	2b (DPST-NC)	E80555
G3VM-355CR G3VM-355FR		1a1b (SPST-NO/SPST-NC)	

■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.

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