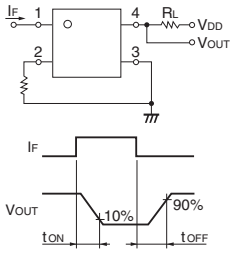
■Electrical Characteristics (Ta = 25°C)

Item		Symbol		G3VM-21GR	G3VM-21GR1	G3VM-41GR6	G3VM-41GR4	G3VM-41GR5	G3VM-81GR	G3VM-81GR1	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	15							pF	V=0, f=1 MHz
	Trigger LED forward current	I_{FT}	Maximum	4					3		mA	G3VM-21GR/21GR1/41GR4/41GR5/41GR6 : I_O=100 mA G3VM-81GR : I_O=40 mA G3VM-81GR1 : I_O=200 mA
	Release LED forward current	I_{FC}	Minimum	0.2					0.1		mA	I_{OFF}=10μA
Output	Maximum resistance with output ON	R_{ON}	Typical	5	1	10	2	1	16	5	Ω	G3VM-21GR/21GR1/41GR4/41GR5/41GR6 : I_F=5 mA, I_O=Continuous load current ratings, t<1s G3VM-81GR/81GR1 : I_F=5 mA, I_O=Continuous load current ratings
			Maximum	8	1.5	15	3	1.5	25	8		
	Current leakage when the relay is open	I_{LEAK}	Maximum	1							nA	G3VM-21GR/21GR1 : V_{OFF}=20 V, Ta=50°C G3VM-41GR4/41GR5/41GR6 : V_{OFF}=30 V, Ta=50°C G3VM-81GR : V_{OFF}=80 V, Ta=60°C G3VM-81GR1 : V_{OFF}=80 V, Ta=50°C
	Capacitance between terminals	C_{OFF}	Typical	1	5	1	5	10	2.5	6.5	pF	G3VM-21GR/21GR1/41GR4/41GR5/41GR6 : V=0, f=100 MHz, t<1 s G3VM-81GR/81GR1 : V=0, f=100 MHz, t<10 s
			Maximum	2.5	12	2	7	14	3.5	11		
Capacitance between I/O terminals		C_{I-O}	Typical	0.8					0.7		pF	f=1 MHz, V_S=0 V
Insulation resistance between I/O terminals		R_{I-O}	Minimum	1000							MΩ	V_{I-O}=500 VDC, RoH≤60%
			Typical	10^8								
Turn-ON time		t_{ON}	Typical	–					0.07	0.13	ms	G3VM-21GR/21GR1/41GR4/41GR5/41GR6 : I_F=10 mA, R_L=200 Ω, V_{DD}=20 V ✻ G3VM-81GR/81GR1 :I_F=5 mA, R_L=200 Ω, V_{DD}=10 V ✻
			Maximum	0.5								
Turn-OFF time		t_{OFF}	Typical	–					0.07	0.17		
			Maximum	0.5								

✻ 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.

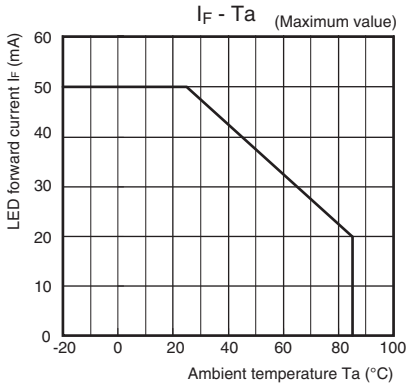
Item	Symbol		G3VM-21GR	G3VM-21GR1	G3VM-41GR6	G3VM-41GR4	G3VM-41GR5	G3VM-81GR	G3VM-81GR1	Unit
Load voltage (AC peak/DC)	V_{DD}	Maximum	20		32			64		V
Operating LED forward current	I_F	Minimum	7		10			5		mA
		Maximum	30							
Continuous load current (AC peak/DC)	I_O	Maximum	160	300	120	250	300	40	200	
Ambient operating temperature	Ta	Minimum	-20							°C
		Maximum	60							

■Spacing and Insulation

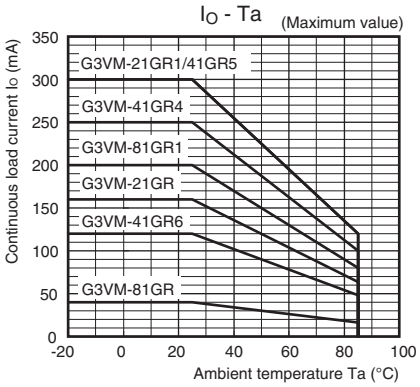
Item	Minimum	Unit
Creepage distances	4.0	mm
Clearance distances	4.0	
Internal isolation thickness	0.1	

■Engineering Data

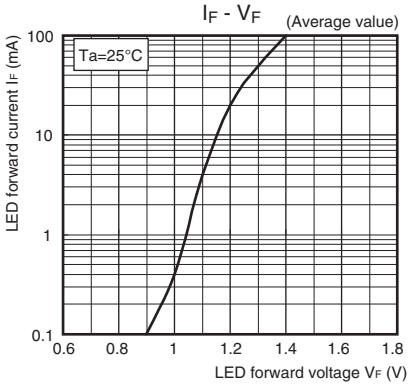
●LED forward current vs. Ambient temperature



●Continuous load current vs. Ambient temperature

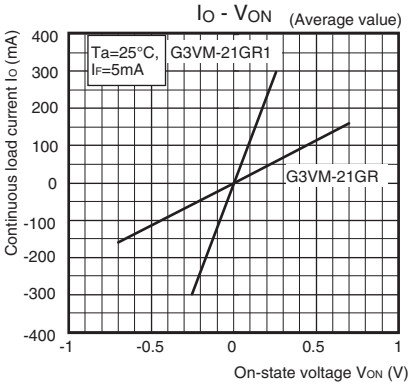


●LED forward current vs. LED forward voltage

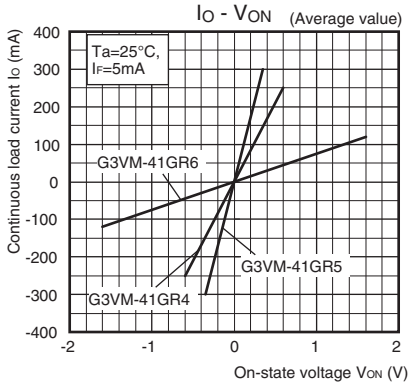


●Continuous load current vs. On-state voltage

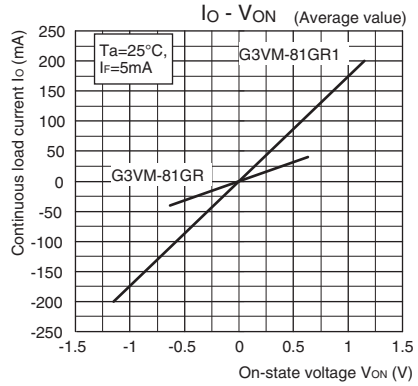
G3VM-21GR/21GR1



G3VM-41GR6/41GR4/41GR5

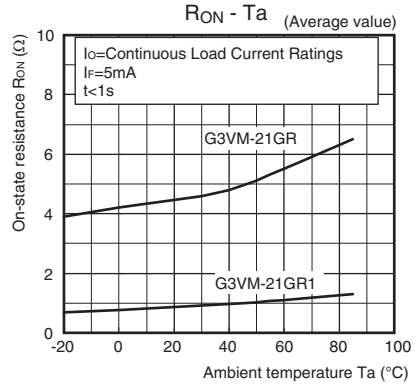


G3VM-81GR/81GR1

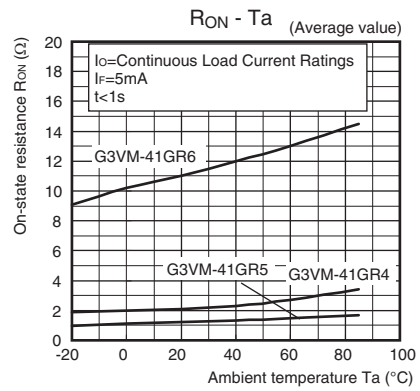


●On-state resistance vs. Ambient temperature

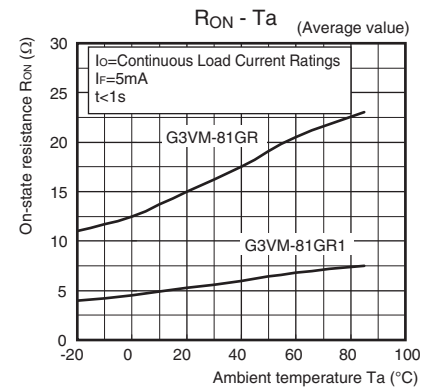
G3VM-21GR/21GR1



G3VM-41GR6/41GR4/41GR5

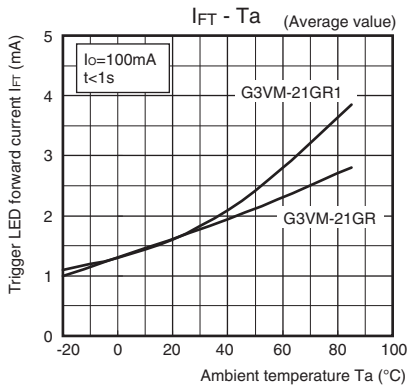


G3VM-81GR/81GR1

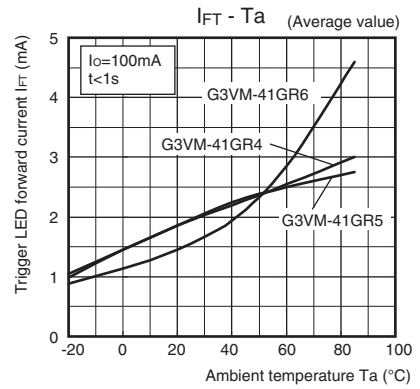


●Trigger LED forward current vs. Ambient temperature

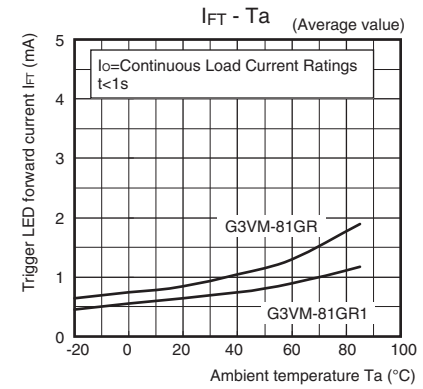
G3VM-21GR/21GR1



G3VM-41GR6/41GR4/41GR5



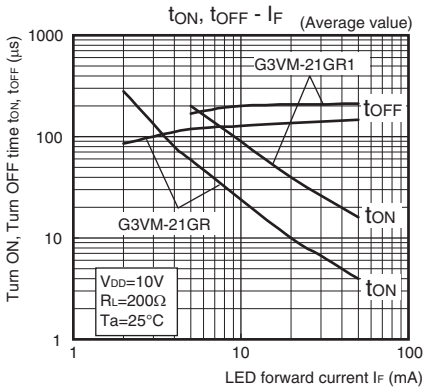
G3VM-81GR/81GR1



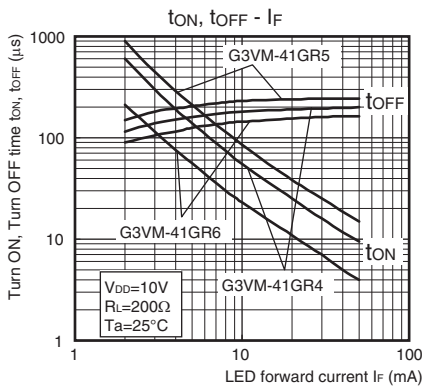
■Engineering Data

●Turn ON, Turn OFF time vs. LED forward current

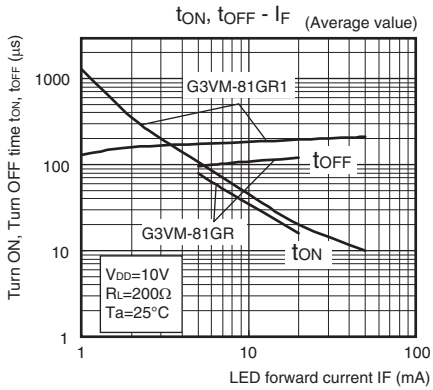
G3VM-21GR/21GR1



G3VM-41GR6/41GR4/41GR5

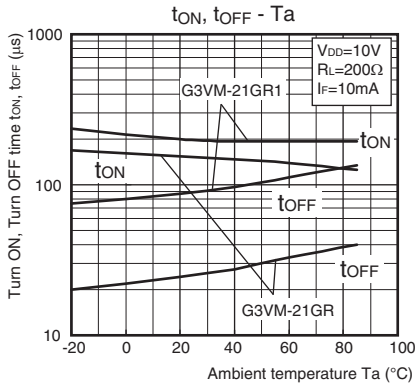


G3VM-81GR/81GR1

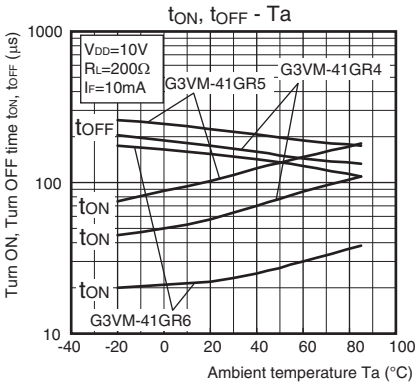


●Turn ON, Turn OFF time vs. Ambient temperature

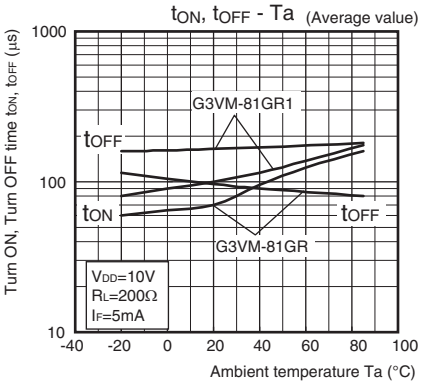
G3VM-21GR/21GR1



G3VM-41GR6/41GR4/41GR5

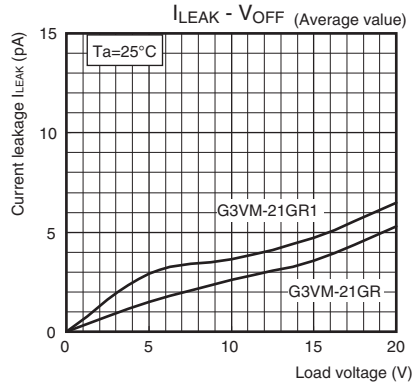


G3VM-81GR/81GR1

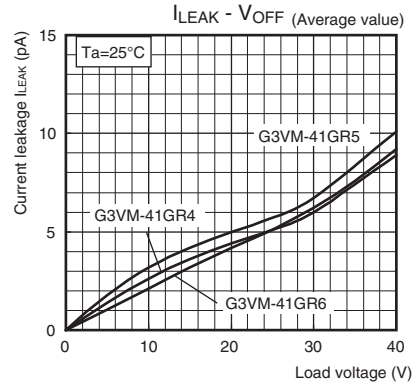


●Current leakage vs. Load voltage

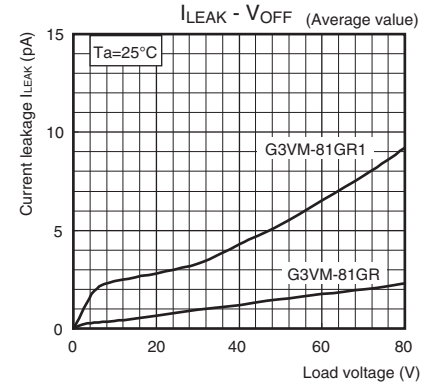
G3VM-21GR/21GR1



G3VM-41GR6/41GR4/41GR5

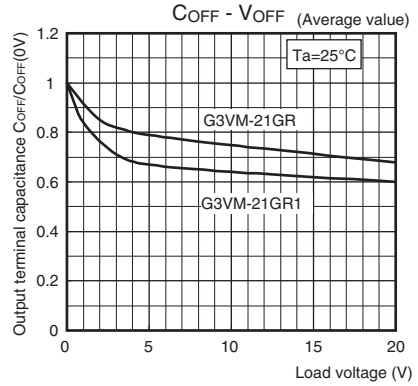


G3VM-81GR/81GR1

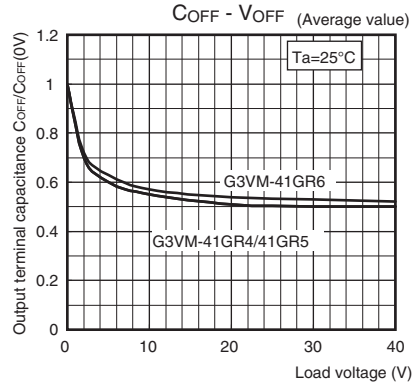


●Output terminal capacitance vs. Load voltage

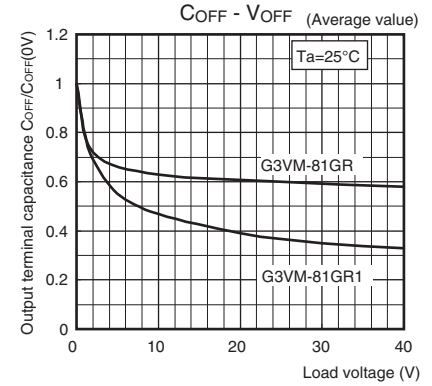
G3VM-21GR/21GR1



G3VM-41GR6/41GR4/41GR5



G3VM-81GR/81GR1

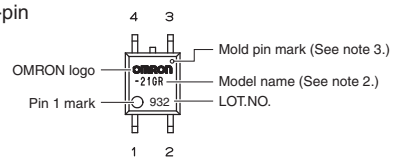


■Appearance / Terminal Arrangement / Internal Connections

●Appearance

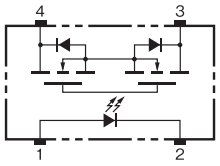
SOP (Small Outline Package)

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.

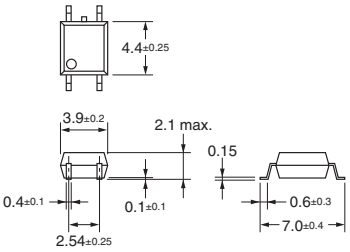
●Terminal Arrangement/Internal Connections (Top View)



■Dimensions (Unit: mm)

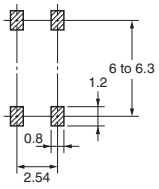
Surface-mounting Terminals

Weight: 0.1 g



Actual Mounting Pad Dimensions

(Recommended Value, TOP VIEW)



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

■Approved Standards

UL recognized

Approved Standards	Contact form	File No.
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.

Please check each region's Terms & Conditions by region website.

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