

MOS FET Relays

G3VM-21LR11

High-power, 0.9-A Switching with SSOP Package in a 20-V Load Voltage Model.

RoHS compliant

⚠ Refer to "Common Precautions".

Application Examples

- Semiconductor inspection tools
- Measurement devices
- Broadband systems
- Data loggers



NEW

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

List of Models (Ask your OMRON representative for delivery times.)

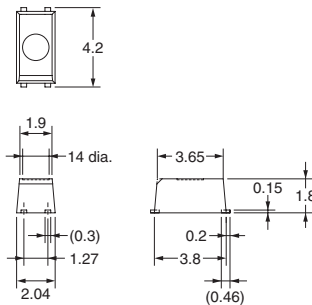
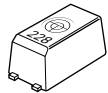
Contact form	Terminals	Load voltage (peak value) (See note.)	Model	Minimum packaging unit
				Number per tape
SPST-NO	Surface-mounting terminals	20 V	G3VM-21LR11	---
			G3VM-21LR11(TR)	1,500

- Note:**
1. Ask your OMRON representative for orders under 1,500 pcs.
 2. Tape-cut SSOPs are packaged without humidity resistance. Use manual soldering to mount them. Refer to *Common Precautions*.
 3. The AC peak and DC value is given for the load voltage.

Dimensions

Note: All units are in millimeters unless otherwise indicated.

G3VM-21LR11



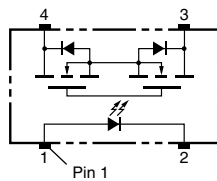
Note: The actual product is marked differently from the image shown here.

Note: A tolerance of ± 0.1 mm applies to all dimensions unless otherwise specified.

Weight: 0.03 g

Terminal Arrangement/Internal Connections (Top View)

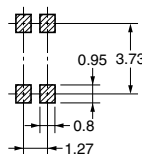
G3VM-21LR11



The actual product is marked differently from the image shown here.
Beveled side is input side.

Actual Mounting Pad Dimensions (Recommended Value, Top View)

G3VM-21LR11



Absolute Maximum Ratings (Ta = 25°C)

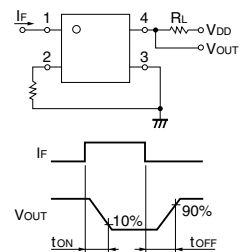
Item	Symbol	Rating	Unit	Measurement Conditions	
Input	LED forward current	I_F	50	mA	
	LED forward current reduction rate	$\Delta I_F/^\circ\text{C}$	-0.5	mA/°C	Ta ≥ 25°C
	LED reverse voltage	V_R	5	V	
	Connection temperature	T_j	125	°C	
Output	Load voltage (AC peak/DC)	V_{OFF}	20	V	
	Continuous load current (AC peak/DC)	I_O	900	mA	
	ON current reduction rate	$\Delta I_O/^\circ\text{C}$	-12	mA/°C	Ta ≥ 50°C
	Connection temperature	T_j	125	°C	
Dielectric strength between input and output (See note 1.)	V_{I-O}	1,500	Vrms	AC for 1 min	
Ambient operating temperature	T_a	-20 to +85	°C	With no icing or condensation	
Storage temperature	T_{stg}	-40 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	1.0	1.15	1.3	V	$I_F = 10 \text{ mA}$
	Reverse current	I_R	---	---	10	μA	$V_R = 5 \text{ V}$
	Capacity between terminals	C_T	---	15	---	pF	$V = 0, f = 1 \text{ MHz}$
	Trigger LED forward current	I_{FT}	---	---	3	mA	$I_O = 100 \text{ mA}$
Output	Maximum resistance with output ON	R_{ON}	---	0.18	0.22	Ω	$I_F = 5 \text{ mA}, I_O = 900 \text{ mA}, t < t_S$
	Current leakage when the relay is open	I_{LEAK}	---	---	1	nA	$V_{OFF} = 20 \text{ V}$
	Capacity between terminals	C_{OFF}	---	40	---	pF	$V = 0, f = 100 \text{ MHz}, t < 1 \text{ s}$
Capacity between I/O terminals	C_{I-O}	---	0.3	---	pF	$f = 1 \text{ MHz}, V_S = 0 \text{ V}$	
Insulation resistance between I/O terminals	R_{I-O}	1,000	---	---	MΩ	$V_{I-O} = 500 \text{ VDC}, R_{oH} \leq 60\%$	
Turn-ON time	t_{ON}	---	0.3	2	ms	$I_F = 5 \text{ mA}, R_L = 200 \Omega, V_{DD} = 10 \text{ V}$ (See note 2.)	
Turn-OFF time	t_{OFF}	---	0.2	1	ms		

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



Recommended Operating Conditions

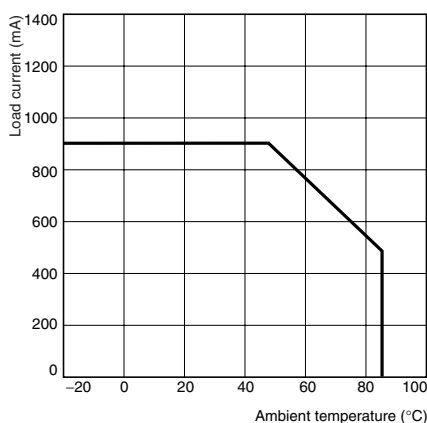
Use the G3VM under the following conditions so that the Relay will operate properly.

Item	Symbol	Minimum	Typical	Maximum	Unit
Load voltage (AC peak/DC)	V_{DD}	---	---	20	V
Operating LED forward current	I_F	---	---	20	mA
Continuous load current (AC peak/DC)	I_O	---	---	900	mA
Operating temperature	T_a	-20	---	65	°C

Engineering Data

Load Current vs. Ambient Temperature

G3VM-21LR11



Safety Precautions

Refer to "Common Precautions" for all G3VM models.