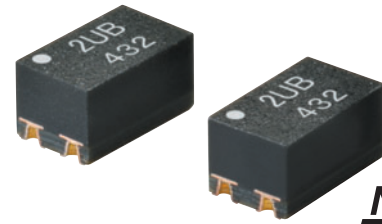


G3VM-21UR11

MOS FET Relays VSON package with Low Output Capacitance and ON Resistance type (Low C × R)

World's smallest New VSON Package with Low Output Capacitance and Low ON Resistance



NEW

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

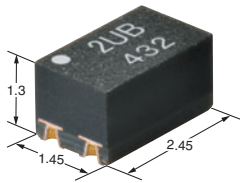
RoHS Compliant

⚠ Refer to "Common Precautions".

Application Examples

- Semiconductor test equipment
- Communication equipment
- Test & measurement equipment
- Data loggers

Package (Unit : mm, Average)



Model Number Legend

G3VM-

1 2 3 4 5

1. Load Voltage

2: 20V

2. Contact form

1: 1a (SPST-NO)

3. Package type

U: VSON 4 pin

4. Additional functions

R: Low On-resistance

5. Other informations

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

Ordering Information

Package type	Contact form	Terminals	Load voltage (peak value) *	Continuous load current (peak value) *	Packing/Tape cut		Packing/Tape & reel	
					Model	Minimum package quantity	Model	Minimum package quantity
VSON4	1a (SPST-NO)	Surface-mounting Terminals	20V	1,000mA	G3VM-21UR11	–	G3VM-21UR11(TR05)	500

Note: When ordering tape packing, add "(TR05)" to the model number.

Ask your OMRON representative for orders under 500 pcs. We can supply products with the tape already cut.

Tape-cut VSONs are packaged without humidity resistance. Use manual soldering to mount them.

Refer to common precautions.

* The AC peak and DC value are given for the load voltage and continuous load current.

Absolute Maximum Ratings (Ta = 25°C)

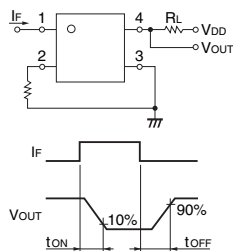
Item	Symbol	G3VM-21UR11	Unit	Measurement conditions	
Input	LED forward current	If	30	mA	
	LED forward current reduction rate	ΔIf/°C	-0.3	mA/°C	Ta≥25°C
	LED reverse voltage	V _R	5	V	
	Connection temperature	T _J	125	°C	
Output	Load voltage (AC peak/DC)	V _{OFF}	20	V	
	Continuous load current (AC peak/DC)	I _o	1,000	mA	
	ON current reduction rate	ΔI _o /°C	-10	mA/°C	Ta≥25°C
	Pulse ON current	I _{op}	3	A	t=100ms, Duty=1/10
Connection temperature	T _J	125	°C		
Dielectric strength between I/O (See note 1.)	V _{I-O}	300	V _{rms}	AC for 1 min	
Ambient operating temperature	T _a	-40~+85	°C	With no icing or condensation	
Ambient storage temperature	T _{stg}	-40~+125	°C		
Soldering temperature	–	260	°C	10s	

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		G3VM-21UR11	Unit	Measurement conditions	
Input	LED forward voltage	Minimum	1.1	V	If=10mA	
		Typical	1.27			
		Maximum	1.4			
	Reverse current	IR	Maximum	10	μA	VR=5V
	Capacity between terminals	CT	Typical	30	pF	V=0, f=1MHz
Output	Trigger LED forward current	IFT	Maximum	3.0	mA	Io=100mA
	Release LED forward current	IFC	Minimum	0.1	mA	Ioff=10μA
	Maximum resistance with output ON	RON	Typical	0.18	Ω	If=5mA, t<1s, Io=1,000mA
			Maximum	0.22		
	Current leakage when the relay is open	I _{LEAK}	Maximum	1	nA	V _{OFF} =20V
Capacity between terminals	C _{OFF}	Typical	40	pF	V=0, f=100MHz, t<1s	
Capacity between I/O terminals	C _{I-O}	Typical	1	pF	f=1MHz, Vs=0V	
Insulation resistance between I/O terminals	R _{I-O}	Typical	10 ⁸	MΩ	V _{I-O} =500VDC, RoH≤60%	
Turn-ON time	t _{ON}	Maximum	2	ms	If=5mA, RL=200Ω, VDD=10V (See note 2.)	
Turn-OFF time	t _{OFF}	Maximum	1			

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



■Recommended Operating Conditions

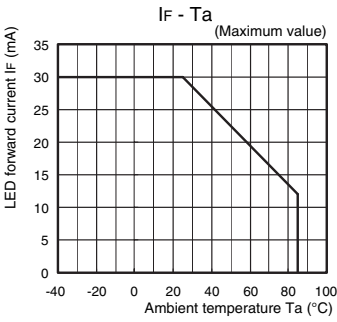
For usage with high reliability, Recommended Operation Conditions is a measure that takes into account the derating of Absolute Maximum Ratings and Electrical Characteristics.

Each item on this list is an independent condition, so it is not simultaneously satisfy several conditions.

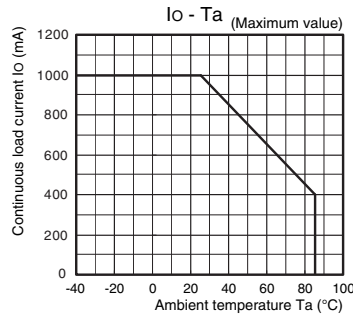
Item	Symbol		G3VM-21UR11	Unit
Load voltage (AC peak/DC)	VDD	Maximum	16	V
		Minimum	5	
Operating LED forward current	IF	Typical	7.5	mA
		Maximum	20	
		Maximum	20	
Continuous load current (AC peak/DC)	Io	Maximum	1,000	mA
		Maximum	1,000	
Ambient operating temperature	Ta	Minimum	-20	°C
		Maximum	65	

Engineering Data

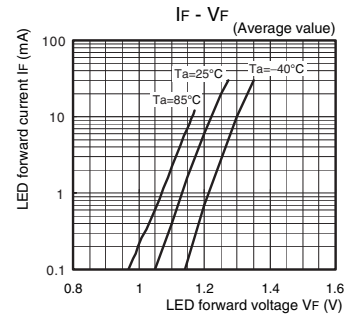
LED forward current vs. Ambient temperature



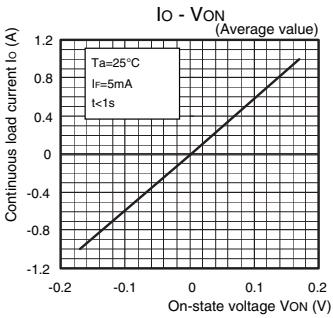
Continuous load current vs. Ambient temperature



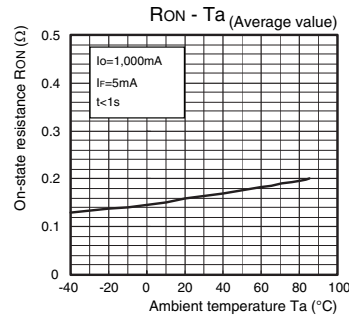
LED forward current vs. LED forward voltage



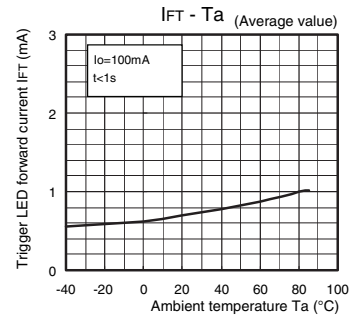
Continuous load current vs. On-state voltage



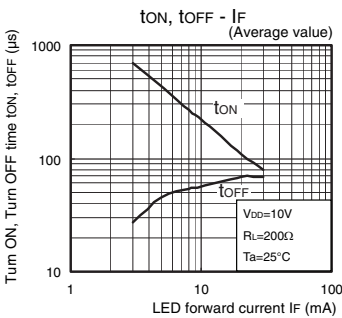
On-state resistance vs. Ambient temperature



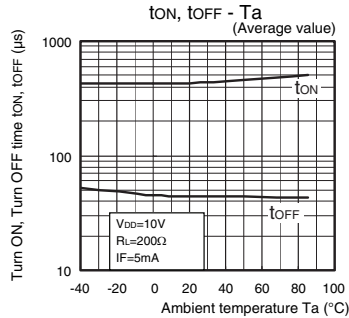
Trigger LED forward current vs. Ambient temperature



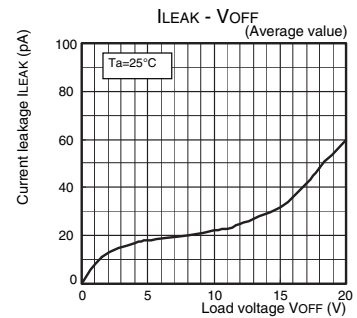
Turn ON, Turn OFF time vs. LED forward current



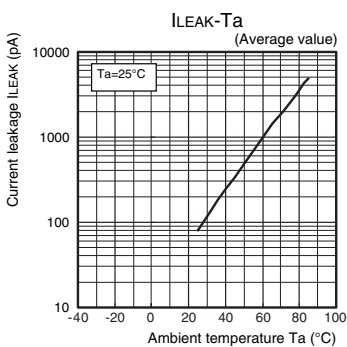
Turn ON, Turn OFF time vs. Ambient temperature



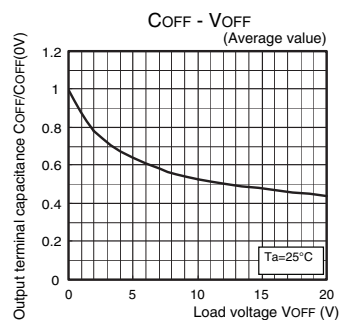
Current leakage vs. Load voltage



Current leakage vs. Ambient temperature



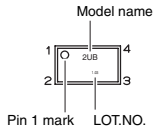
Output terminal capacitance vs. Load voltage



■Appearance/Terminal Arrangement/Internal Connections

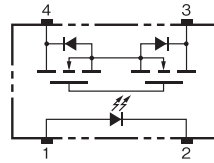
■Appearance

VSON (Very Small Outline Non-leaded)
VSON4



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

■Terminal Arrangement/Internal Connections (Top View)



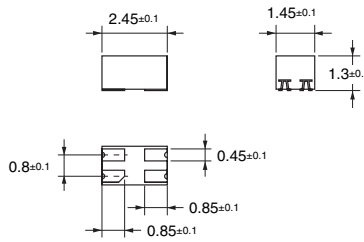
■Dimensions

(Unit: mm)



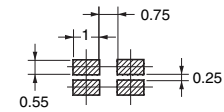
Surface-mounting Terminals

Weight: 0.01g



Actual Mounting Pad Dimensions

(Recommended Value, Top View)



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

■Approved Standards

Applying for UL recognition

■Safety Precautions

- Refer to "Common Precautions" for all G3VM models.

• Application examples provided in this document are for reference only. In actual applications, confirm equipment functions and safety before using the product.
• Consult your OMRON representative before using the product under conditions which are not described in the manual or applying the product to nuclear control systems, railroad systems, aviation systems, vehicles, combustion systems, medical equipment, amusement machines, safety equipment, and other systems or equipment that may have a serious influence on lives and property if used improperly. Make sure that the ratings and performance characteristics of the product provide a margin of safety for the system or equipment, and be sure to provide the system or equipment with double safety mechanisms.

Note: Do not use this document to operate the Unit.

OMRON Corporation

Electronic and Mechanical Components Company

Contact: www.omron.com/ecb

Cat. No. K267-E1-01
0814(0814)(O)

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ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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