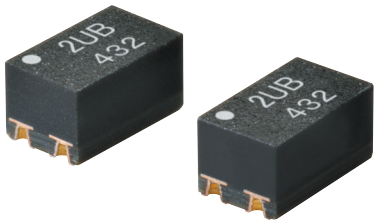
MOS FET Relays
G3VM-41UR10/51UR

World's Smallest New VSON Package with Low Output Capacitance and Low ON Resistance (Low C × R)

- RoHS Compliant



NEW

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

■ Application Examples

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

■ List of Models

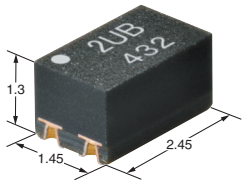
Package type	Contact form	Terminals	Load voltage (peak value)	Continuous Load Current (peak value)	Model	Minimum Packaging Quantity
VSON4	SPST-NO (1FormA)	Surface-mounting terminals	40 VAC or VDC	120 mA	**G3VM-41UR10**	---
					G3VM-41UR10(TR05)	500
			50 VAC or VDC	300 mA	**G3VM-51UR**	---
					G3VM-51UR(TR05)	500

Note: G3VM-41UR10 and G3VM-51UR, without "(TR05)", are provided as a Tape-cut versions, for sample purposes. Tape-cut VSON's are packaged without humidity resistance. Use manual soldering to mount them.

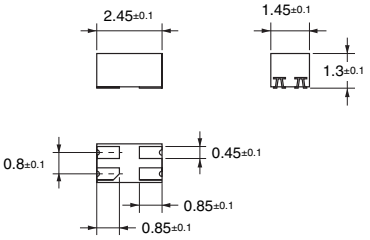
■ Dimensions

Note: All units are in millimeters unless otherwise indicated.

G3VM-41UR10
G3VM-51UR



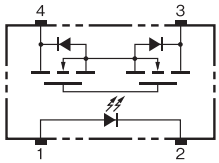
Note: The actual product is marked differently from the image shown here.



Weight: 0.01 g

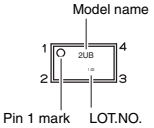
■ Terminal Arrangement/Internal Connections (Top View)

G3VM-41UR10
G3VM-51UR



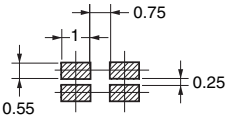
Note: The actual product is marked differently from the image shown here.

VSON (Very Small Outline Non-leaded)
VSON4



■ Actual Mounting Pad Dimensions (Recommended Value, Top View)

G3VM-41UR10
G3VM-51UR



■ Absolute Maximum Ratings (Ta = 25°C)

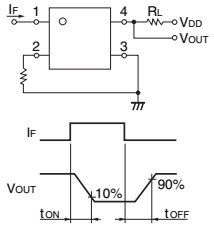
Item		Symbol	G3VM-41UR10	G3VM-51UR	Unit	Measurement Conditions
Input	LED forward current	I_F	30		mA	
	LED forward current reduction rate	ΔI_F/°C	−0.3		mA/°C	$T_a \geq 25$°C
	LED reverse voltage	V_R	5		V	
	Connection temperature	T_j	125		°C	
Output	Load voltage (AC peak/DC)	V_{OFF}	40	50	V	
	Continuous load current	I_O	120	300	mA	
	ON current reduction rate	ΔI_{ON}/°C	−1.2	−3	mA/°C	$T_a \geq 25$°C
	Pulse ON current	I_{OP}	360	900	mA	t=100ms, Duty=1/10
	Connection temperature	T_j	125		°C	
Dielectric strength between input and output (See note 1.)		V_{I-O}	300		V_{rms}	AC for 1 min
Ambient operating temperature		T_a	−40 to +85		°C	With no icing or condensation
Ambient storage temperature		T_{stg}	−40 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.

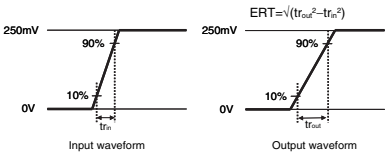
■ Electrical Characteristics (Ta = 25°C)

Item		Symbol		G3VM-41UR10	G3VM-51UR	Unit	Measurement conditions
Input	LED forward voltage	V_F	Minimum	1.1		V	I_F = 10 mA
			Typical	1.27			
			Maximum	1.4			
	Reverse current	I_R	Maximum	10		μA	V_R = 5 V
	Capacity between terminals	C_T	Typical	30		pF	V = 0, f = 1 MHz
	Trigger LED forward current	I_{FT}	Maximum	3.0		mA	I_O = 100 mA
	Release LED forward current	I_{FC}	Minimum	0.1		mA	I_{OFF} = 10 μA
Output	Maximum resistance with output ON	R_{ON}	Typical	12	1	Ω	I_F = 5 mA, t < 1 s -41UR10 : I_O = 120 mA -51UR : I_O = 300 mA
			Maximum	14	1.5		
	Current leakage when the relay is open	I_{LEAK}	Maximum	1		nA	-41UR10 : V_{OFF} = 40 V -51UR : V_{OFF} = 50 V
	Capacity between terminals	C_{OFF}	Typical	0.45	12	pF	V = 0, f = 100 MHz, t < 1 s
			Maximum	0.8	20		
Capacity between I/O terminals		C_{I-O}	Typical	1		pF	f = 1 MHz, V_s = 0 V
Insulation resistance between I/O terminals		R_{I-O}	Typical	10^8		MΩ	V_{I-O} = 500 VDC, $R_{oH} \leq 60\%$
Turn-ON time		t_{ON}	Maximum	0.2	0.5	ms	I_F = 5 mA, R_L = 200 Ω, V_{DD} = 20 V (See note 2.)
Turn-OFF time		t_{OFF}	Maximum	0.3	0.4		
Equivalent rise time		ERT	Typical	- - -	40	ps	I_F = 5 mA, V_{DD} = 0.25 V Tr(in)=25ps (See note 3.)
			Maximum	- - -	90		

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



Note: 3. Equivalent Rise Time



■ Recommended Operating Conditions

For usage with high reliability, the Recommended Operating Conditions are measures that takes into account the derating of the Absolute Maximum ratings and the Electrical Characteristics. Each item on this list is an independent condition, not simultaneously satisfying several conditions.

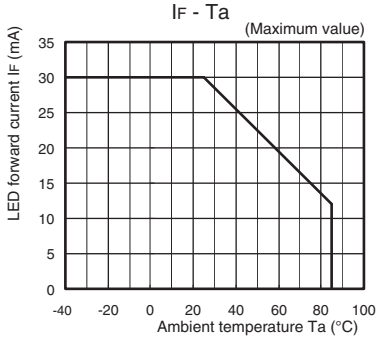
Item	Symbol		G3VM-41UR10	G3VM-51UR	Unit
Load voltage (AC peak/DC)	V_{DD}	Maximum	32	40	V
Operating LED forward current	I_F	Minimum	5		mA
		Typical	7.5		
		Maximum	20		
Continuous load current (AC peak/DC)	I_O	Maximum	120	300	
Ambient Operating temperature	T_a	Minimum	−20		°C
		Maximum	65		

■ Approved Standards

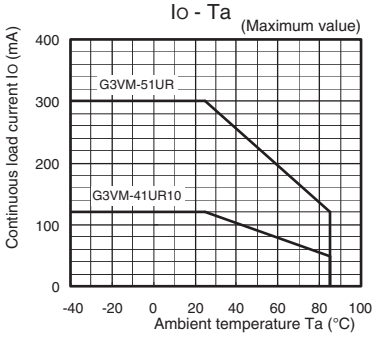
Applying for UL recognition

■ Engineering Data

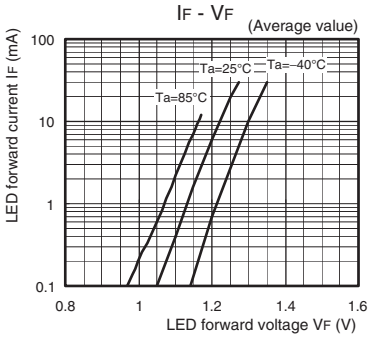
LED forward current vs. Ambient temperature



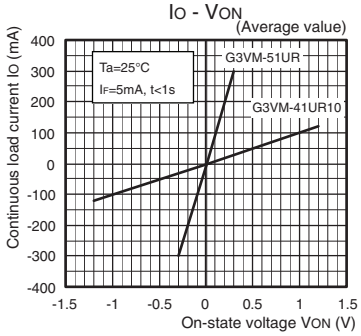
Continuous load current vs. Ambient temperature



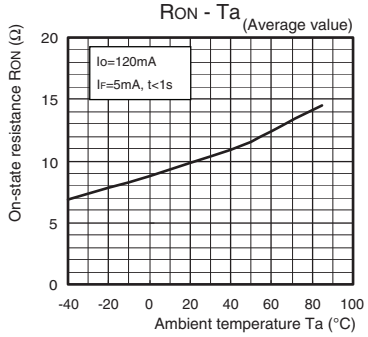
LED forward current vs. LED forward voltage



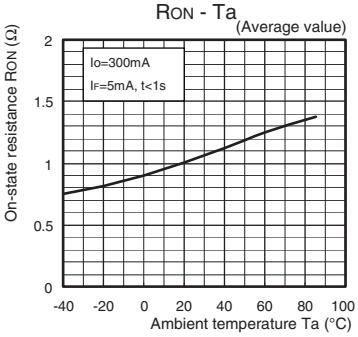
Continuous load current vs. On-state voltage



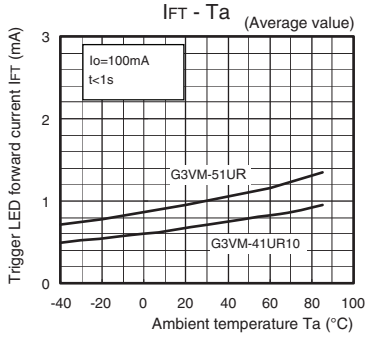
On-state resistance vs. Ambient temperature G3VM-41UR10



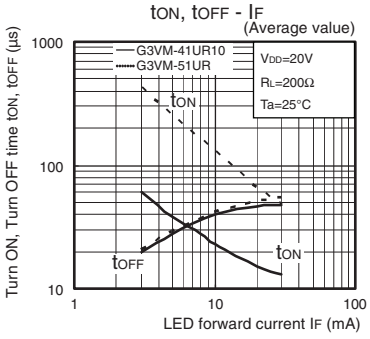
G3VM-51UR



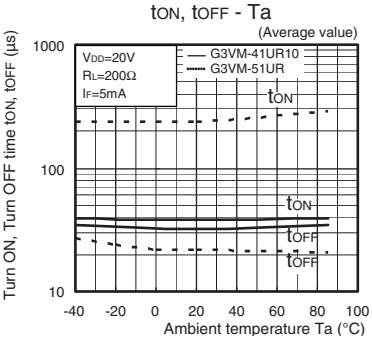
Trigger LED forward current vs. Ambient temperature



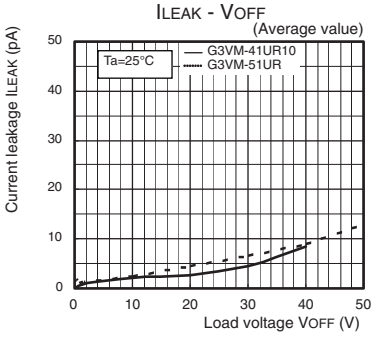
Turn ON, Turn OFF time vs. LED forward current



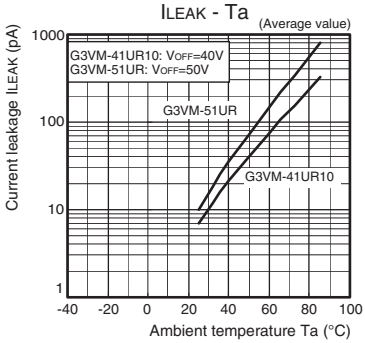
Turn ON, Turn OFF time vs. Ambient temperature



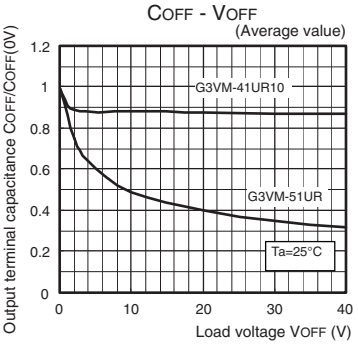
Current leakage vs. Load voltage



Current Leakage vs. Ambient Temperature



Output terminal capacitance vs. Load voltage



All sales are subject to Omron Electronic Components LLC standard terms and conditions of sale, which can be found at http://www.components.omron.com/components/web/webfiles.nsf/sales_terms.html

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

OMRON®
OMRON ELECTRONIC COMPONENTS LLC
847-882-2288

OMRON ON-LINE
Global - http://www.omron.com
USA - http://www.components.omron.com

Cat. No. K268-E-01 09/14 Specifications subject to change without notice Printed in USA

Общество с ограниченной ответственностью «МосЧип» ИНН 7719860671 / КПП 771901001
Адрес: 105318, г.Москва, ул.Щербаковская д.3, офис 1107

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

http://moschip.ru/get-element

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:
moschip.ru
moschip.ru_4
moschip.ru_6
moschip.ru_9