MOS FET Relays M-601G

Ultrasensitive MOS FET Relays in 600 V Load series for electric power saving.

- 4-pin SOP package now included in the 600 V load series.
- Trigger LED forward current of 1 mA (maximum) facilitates power saving designs and prolonged battery life.
- · Continuous load current of 90 mA.
- RoHS Compliant
- Application Examples
- Broadband systems and Measurement devices
- Security systems and Industrial equipment
- · Battery powered equipment and Amusement machines

List of Models



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

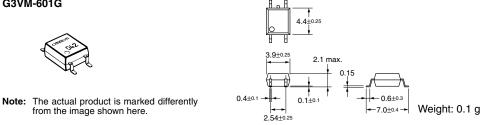
Contact form	Terminals	Load voltage (peak value) (See the note.)	Model	Number per stick	Number per tape
SPST-NO			G3VM-601G	100	
	minals		G3VM-601G(TR)		2,500

Note: The AC peak and DC value are given for the load voltage.

Dimensions

Note: All units are in millimeters unless otherwise indicated.

G3VM-601G



Terminal Arrangement/Internal Connections (Top View)

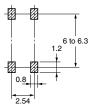
G3VM-601G



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

Actual Mounting Pad Dimensions (Recommended Value, Top View)

G3VM-601G



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Absolute Maximum Ratings ($T_a = 25^{\circ}C$ **)**

Item		Symbol	Rating	Unit	Measurement Conditions	
Input	LED forward current	I _F	50	mA		
	Repetitive peak LED forward current	I _{FP}	1	A	100 μs pulses, 100 pps	
	LED forward current reduction rate	$\Delta I_{F}^{\circ}C$	-0.5	mA/°C	$T_a \ge 25^{\circ}C$	
	LED reverse voltage	V _R	5	V		
	Connection temperature	T _j	125	°C		
Output	Load voltage (AC peak/DC)	V _{OFF}	600	V		
	Continuous load current (AC peak/DC)	I _o	90	mA		
	ON current reduction rate	$\Delta I_0 / °C$	-0.9	mA/°C	$T_a \ge 25^{\circ}C$	
	ic strength between input and See note 1.)	V _{I-O}	1,500	V _{rms}	AC for 1 min	
Operating temperature		T _a	-40 to +85	°C	With no icing or condensation	
Storage temperature		T _{stg}	-55 to +125	°C	With no icing or condensation	
Soldering temperature (10 s)			260	°C	10 s	

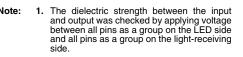
■ Electrical Characteristics (T_a = 25°C)

Item		Symbol	Mini- mum	Typical	Maxi- mum	Unit	Measurement conditions	
Input	LED forward voltage	V _F	1.0	1.15	1.3	V	l _F = 10 mA	Note:
	Reverse current	I _R			10	μA	V _R = 5 V	
	Capacity between terminals	C _T		30		pF	V = 0, f = 1 MHz	
	Trigger LED forward current	I _{FT}		0.4	1	mA	I ₀ = 90 mA	
Output	Maximum resistance with output ON	R _{ON}		45	60	Ω	I _F = 2 mA, I _O = 90 mA	
	Current leakage when the relay is open	I _{LEAK}		0.001	1.0	μA	V _{OFF} = 600 V	
	Capacity between terminals	COFF		75		pF	V = 0, f = 1MHz	
Capacit	ty between I/O terminals	C _{I-O}		0.8		pF	f = 1 MHz, V _s = 0 V	
Insulati	on resistance	R _{I-O}	1,000			MΩ	$\begin{array}{l} V_{I\text{-O}} = 500 \ \text{VDC}, \\ R_{\text{oH}} \leq 60\% \end{array}$	
Turn-ON time		t _{on}		2	8	ms	$I_{\rm F} = 2 \text{ mA}, R_{\rm L} = 200 \Omega,$	
Turn-OFF time		t _{OFF}		0.5	3	ms	$V_{DD} = 10 V$ (See note 2.)	

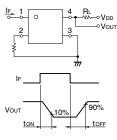
Recommended Operating Conditions

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

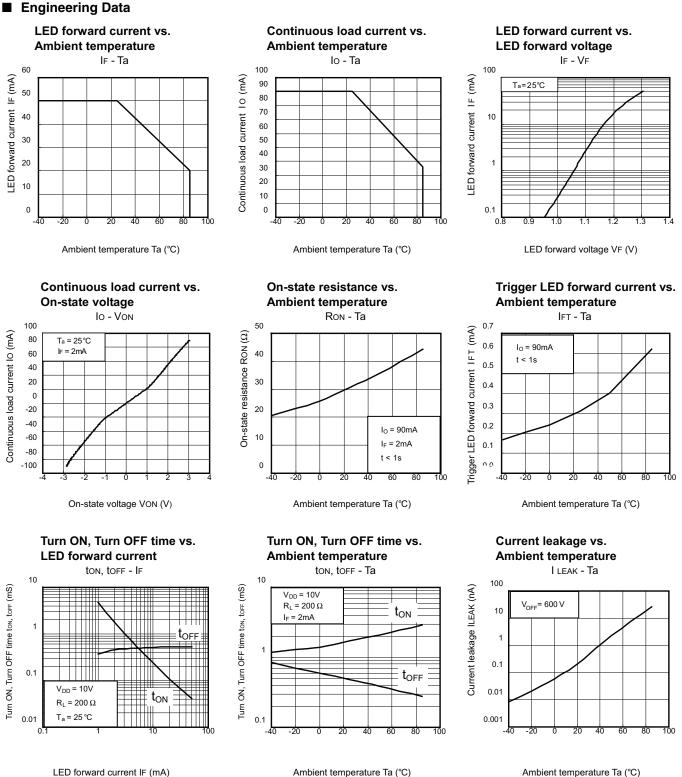
Item	Symbol	Minimum	Typical	Maximum	Unit
Load voltage (AC peak/DC)	V _{DD}			480	V
Operating LED forward current	I _F		2	25	mA
Continuous load current (AC peak/DC)	I _o			70	mA
Operating temperature	T _a	- 20		65	°C



2. Turn-ON and Turn-OFF Times



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Omron Electronic Components, LLC

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