MOS FET Relays

G3VM-353H

Analog-switching MOS FET Relay with SPST-NC (Single-pole, Single-throw, Normally Closed) Contacts

- New models in 350-V load voltage series with SPST-NC contacts and a 6-pin SOP package.
- Continuous load current of 120 mA.
- Dielectric strength of 1,500 Vrms between I/O.

■Application Examples

- Broadband systems
- Measurement devices
- Data loggers
- Amusement machines

■ List of Models





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

Contact form	Terminals	Load voltage (peak value)	Model	Number per stick	Number per tape
SPST-NC	Surface-mounting	350 VAC	G3VM-353H	75	
terminals			G3VM-353H(TR)		2,500

■ Dimensions

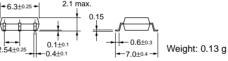
Note: All units are in millimeters unless otherwise indicated.

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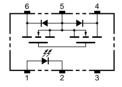
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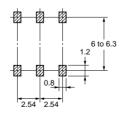
■ Terminal Arrangement/Internal Connections (Top View)

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

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■ Absolute Maximum Ratings (Ta = 25°C)

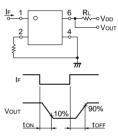
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Item			Symbol	Rating	Unit	Measurement Conditions	
Input	LED forward current		I _F	50	mA		
	Repetitive peak LED forward current		I _{FP}	1	Α	100 μs pulses, 100 pps	
	LED forward current reduction rate		Δ I _F /°C	-0.5	mA/°C	Ta ≥ 25°C	
	LED reverse voltage		V_R	5	V		
	Connection temperature		Tj	125	°C		
Output	Output dielectric strength		V _{OFF}	350	V		
	Continuous load current	Connection A	I _O	120	mA		
		Connection B		120			
		Connection C		240			
	ON current reduction rate	Connection A	Δ I _{ON} /°C	-1.2	mA/°C	Ta ≥ 25°C	
		Connection B		-1.2			
		Connection C		-2.4			
	Connection temperature		Tj	125	°C		
Dielectric strength between input and output (See note 1.)		V _{I-O}	1,500	Vrms	AC for 1 min		
Operating temperature		Ta	-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	

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)

ltem			Symbol	Mini- mum	Typical	Maxi- mum	Unit	Measurement conditions	
Input LED forward voltage			V_{F}	1.0	1.15	1.3	V	I _F = 10 mA	
	Reverse current		I _R			10	μА	V _R = 5 V	
	Capacity between terminals		C _T		30		pF	V = 0, f = 1 MHz	
	Trigger LED forward current		I _{FT}		1.0	3.0	mA	I _{OFF} = 10 μA	
Output	Maximum resistance with output ON	Connection A	R _{ON}		15	25	Ω	I _O = 120 mA	
		Connection B			8	14	Ω	I _O = 120 mA	
		Connection C			4		Ω	I _O = 240 mA	
	Current leakage when the relay is open		I _{LEAK}			1.0	μΑ	$V_{OFF} = 350 \text{ V}, I_F = 5 \text{ mA}$	
Capacity between I/O terminals			C _{I-O}		0.8		pF	f = 1 MHz, Vs = 0 V	
Insulation resistance			R _{I-O}	1,000			ΜΩ	V_{I-O} = 500 VDC, RoH \leq 60%	
Turn-ON time			tON			1.0	ms	$I_F = 5 \text{ mA}, R_L = 200 \Omega,$	
Turn-OFF time			tOFF			3.0	ms	$V_{DD} = 20 \text{ V}$ (See note 2.	

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



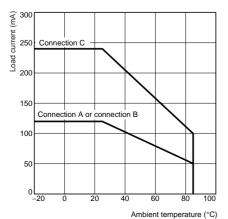
■ Recommended Operating Conditions

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

Item	Symbol	Minimum	Typical	Maximum	Unit
Output dielectric strength	V_{DD}			280	V
Operating LED forward current	I _F	5		25	mA
Continuous load current	I _O			120	mA
Operating temperature	Ta	- 20		65	°C

■ Engineering Data

Load Current vs. Ambient Temperature G3VM-353H



■ Safety Precautions

Refer to page 6 for precautions common to all G3VM models.