

Six-pin Analog-switching MOS FET Relays with SPST-NC Contact. General-purpose Models Added.

- Switches minute analog signals.
- Switching AC and DC.
- General-purpose models (models with high ON resistance) added to the series.

RoHS compliant

⚠ Refer to "Common Precautions".

Application Examples

- Electronic automatic exchange systems
- Security systems
- Datacom (modem) systems
- FA systems
- Measurement devices

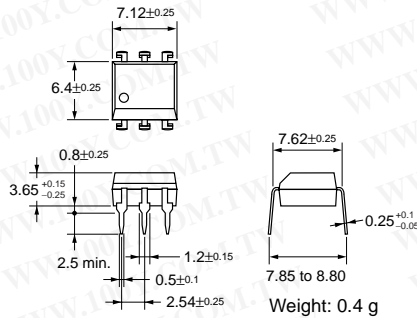
List of Models

Contact form	Terminals	Load voltage (peak value)	Model	Number per stick	Number per tape	
SPST-NC	PCB terminals	350 VAC	G3VM-353B	50	---	
			G3VM-353B1			
			G3VM-353E			
			G3VM-353E1			
	Surface-mounting terminals		G3VM-353E(TR)	---		1,500
			G3VM-353E1(TR)			

Dimensions

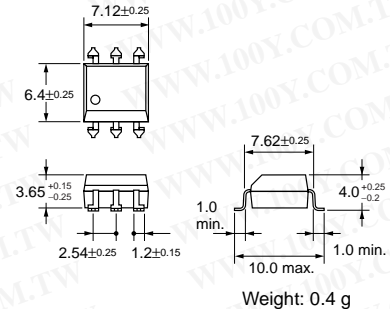
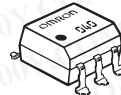
Note: All units are in millimeters unless otherwise indicated.

G3VM-353B/B1



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

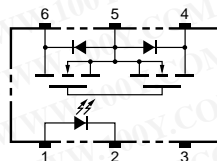
G3VM-353E/E1



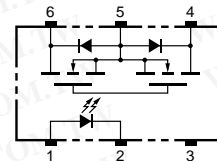
Note: The actual product is marked differently from the image shown here.

Terminal Arrangement/Internal Connections (Top View)

G3VM-353B/B1

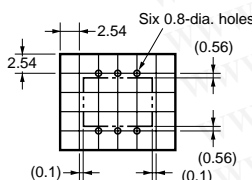


G3VM-353E/E1



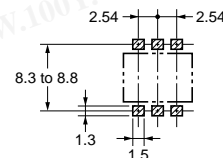
PCB Dimensions (Bottom View)

G3VM-353B/B1



Actual Mounting Pad Dimensions (Recommended Value, Top View)

G3VM-353E/E1



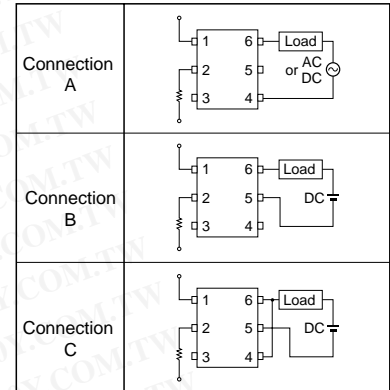
Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rating	Unit	Measurement Conditions	
Input	LED forward current	I_F	50	mA	
	Repetitive peak LED forward current	I_{FP}	1	A	
	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	Output dielectric strength	V_{OFF}	350	V	
	Continuous load current	Connection A	I_O	150 (100)	mA
		Connection B		150 (100)	
		Connection C		300 (200)	
	ON current reduction rate	Connection A	$\Delta I_{ON}/^\circ\text{C}$	-1.5 (-1)	mA/°C
Connection B			-1.5 (-1)		
Connection C			-3.0 (-2)		
Connection temperature	T_j	125	°C		
Dielectric strength between input and output (See note 1.)		V_{I-O}	2,500	Vrms	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

Values in parentheses are for the G3VM-353B1/E1.

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.

Connection Diagram

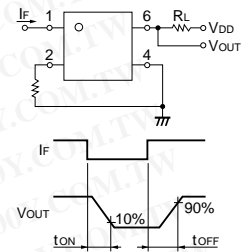


Electrical Characteristics (Ta = 25°C)

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	---	30	---	pF	$V = 0, f = 1 \text{ MHz}$	
	Trigger LED forward current	I_{FT}	---	1	3	mA	$I_{OFF} = 10 \text{ μA}$	
Output	Maximum resistance with output ON	Connection A	R_{ON}	---	15 (27)	25 (50)	Ω	$I_O = 150 \text{ mA (100 mA)}$
		Connection B		---	8 (20)	14 (43)	Ω	$I_O = 150 \text{ mA (100 mA)}$
		Connection C		---	4 (10)	7 (---)	Ω	$I_O = 300 \text{ mA (200 mA)}$
Current leakage when the relay is open	I_{LEAK}	---	---	1.0	μA	$I_F = 5 \text{ mA}, V_{OFF} = 350 \text{ V}$		
Capacity between I/O terminals		C_{I-O}	---	0.8	---	pF	$f = 1 \text{ MHz}, V_s = 0 \text{ V}$	
Insulation resistance		R_{I-O}	1,000	---	---	MΩ	$V_{I-O} = 500 \text{ VDC}, R_{oH} \leq 60\%$	
Turn-ON time		t_{ON}	---	0.1 (0.25)	1.0 (0.5)	ms	$I_F = 5 \text{ mA}, R_L = 200 \text{ Ω}, V_{DD} = 20 \text{ V (See note 2.)}$	
Turn-OFF time		t_{OFF}	---	1.0 (0.5)	3.0 (1)	ms		

Values in parentheses are for the G3VM-353B1/E1.

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



Recommended Operating Conditions

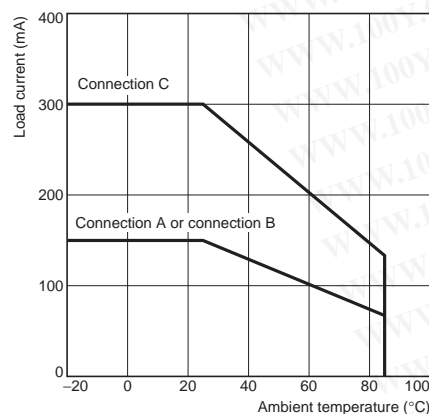
Use the G3VM under the following conditions so that the Relay will operate properly.

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	---	---	150 (100)	mA
Operating temperature	T_a	-20	---	65	°C

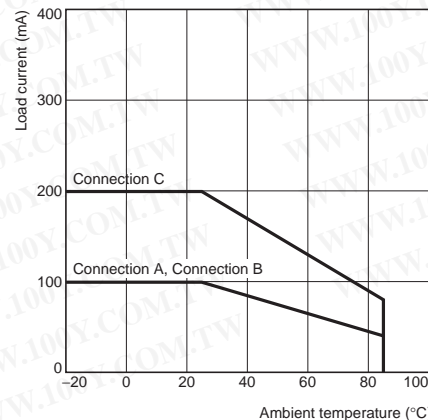
Values in parentheses are for the G3VM-353B1/E1.

Engineering Data

Load Current vs. Ambient Temperature G3VM-353B(E)



Load Current vs. Ambient Temperature G3VM-353B1/E1



Safety Precautions

Refer to "Common Precautions" for all G3VM models.

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