OMRON

MOS FET Relays

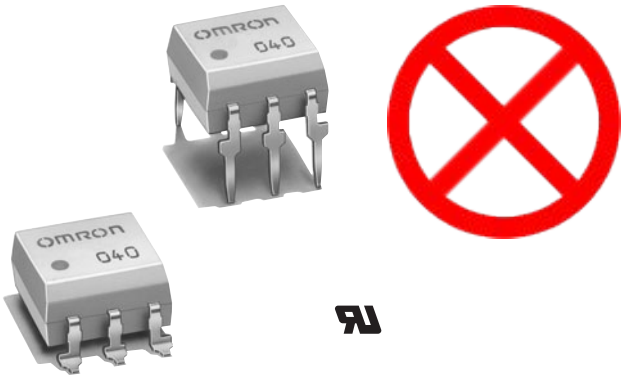
G3VM-353B/B1/E/E1

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"*.



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

■ Application Examples

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

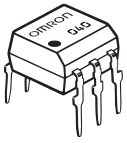
■ List of Models

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		
	Surface-mounting terminals		G3VM-353E		
			G3VM-353E1		
			G3VM-353E(TR)	---	1,500
			G3VM-353E1(TR)		

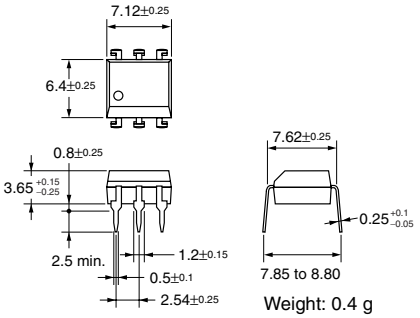
■ Dimensions

Note: All units are in millimeters unless otherwise indicated.

G3VM-353B/B1

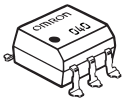


Note: The actual product is marked differently from the image shown here.



Weight: 0.4 g

G3VM-353E/E1



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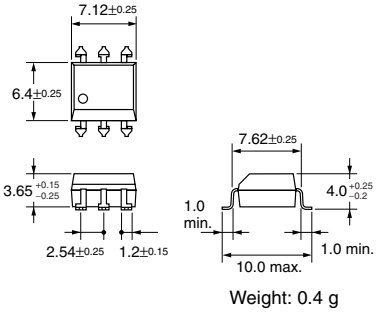
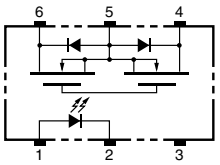


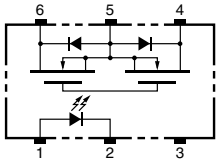
Weight: 0.4 g

■ Terminal Arrangement/Internal Connections (Top View)

G3VM-353B/B1

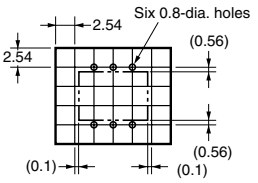


G3VM-353E/E1



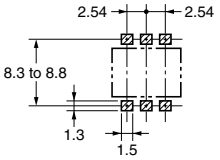
■ PCB Dimensions (Bottom View)

G3VM-353B/B1



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

G3VM-353E/E1



This announcement is based on product catalogue information previously shown before its discontinuation.
Product information of the existing product may be different from this version.

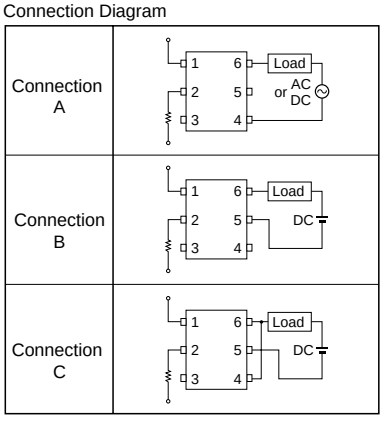
■ Absolute Maximum Ratings (Ta = 25°C)

Item			Symbol	Rating	Unit	Measurement Conditions
Input	LED forward current		I_F	50	mA	
	Repetitive peak LED forward current		I_{FP}	1	A	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		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	Δ I_{ON}/°C	–1.5 (–1)	mA/°C	Ta ≥ 25°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

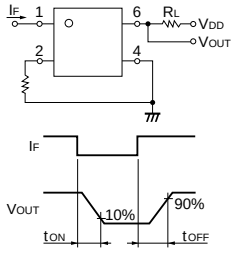


■ Electrical Characteristics (Ta = 25°C)

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

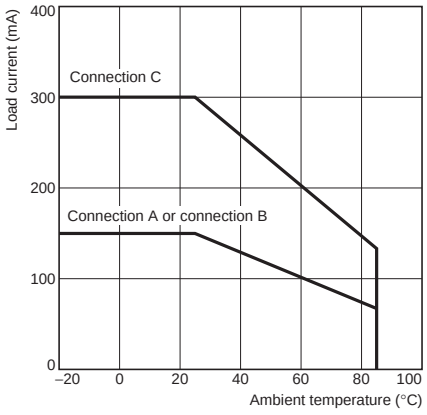
Item	Symbol	Minimum	Typical	Maximum	Unit
Output dielectric strength	V_{DD}	---	---	280	V
Operating LED forward current	I_F	5	---	25	mA
Continuous load current	I_O	---	---	150 (100)	mA
Operating temperature	T_a	– 20	---	65	°C

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

■ Engineering Data

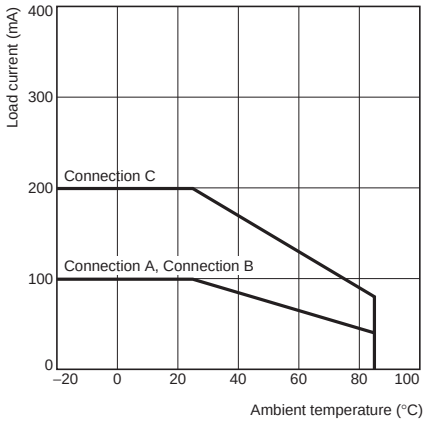
Load Current vs. Ambient Temperature

G3VM-353B(E)



Load Current vs. Ambient Temperature

G3VM-353B1/E1



■ Safety Precautions

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