

MOS FET Relays

G3VM-355J/JR

New MOS FET Relays with Both SPST-NO and SPST-NC Contacts Incorporated in a Single SOP Package.

General-purpose Models Added.

- SPST-NO/SPST-NC models with an 8-pin SOP package now available in the 350-V load voltage series.
- Continuous load current of 120 mA (90 mA).
- Dielectric strength of 1,500 Vrms between I/O.
- General-purpose models (models with high ON resistance) added to the series.



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

RoHS compliant

⚠ Refer to "Common Precautions".

■ Application Examples

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

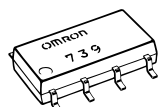
■ List of Models

Contact form	Terminals	Load voltage (peak value)	Model	Number per stick	Number per tape
SPST-NO/ SPST-NC	Surface-mounting terminals	350 VAC	G3VM-355JR	50	---
			G3VM-355J		
			G3VM-355JR(TR)	---	2,500
			G3VM-355J(TR)		

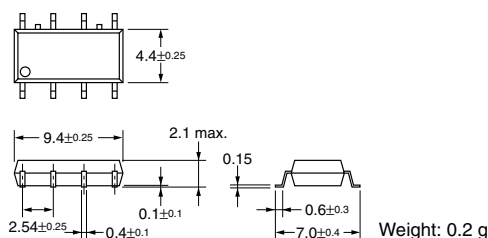
■ Dimensions

Note: All units are in millimeters unless otherwise indicated.

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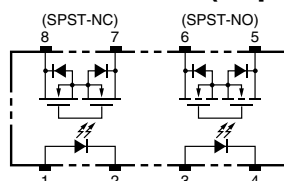


Note: The actual product is marked differently from the image shown here.



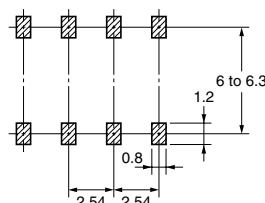
■ Terminal Arrangement/Internal Connections (Top View)

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

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■ Absolute Maximum Ratings (Ta = 25°C)

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	I _O	120 (90)	mA	
	ON current reduction rate	Δ I _{ON} /°C	-1.2 (-0.9)	mA/°C	Ta ≥ 25°C
	Connection temperature	T _j	125	°C	
Dielectric strength between input and output (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

Values in parentheses are for the G3VM-355J.

■ Electrical Characteristics (Ta = 25°C)

Item		Symbol	Minimum	Typical	Maximum	Unit	Measurement conditions
In-put	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	SPST-NO: I _O = 90 mA
		I _{FC}					SPST-NC: I _{OFF} = 10 μA
Out-put	Maximum resistance with output ON	R _{ON}	---	15 (40)	25 (50)	Ω	SPST-NO: I _F = 5 mA, I _O = 90 mA
							SPST-NC: I _F = 0 mA, I _O = 90 mA
	Current leakage when the relay is open	I _{LEAK}	---	---	1.0	μA	V _{OFF} = 350 V
Capacity between I/O terminals		C _{I-O}	---	0.8	---	pF	f = 1 MHz, V _S = 0 V
Insulation resistance		R _{I-O}	1,000	---	---	MΩ	V _{I-O} = 500 VDC, RoH ≤ 60%
Turn-ON time	SPST-NO	t _{ON}	---	(0.3)	1.0	ms	I _F = 5 mA, R _L = 200 Ω, V _{DD} = 20 V (See note 2.)
	SPST-NC		---	(0.25)	1.0	ms	
Turn-OFF time	SPST-NO	t _{OFF}	---	(0.15)	1.0	ms	
	SPST-NC		---	(0.5)	3.0 (1)	ms	

Values in parentheses are for the G3VM-355J.

■ Recommended Operating Conditions

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

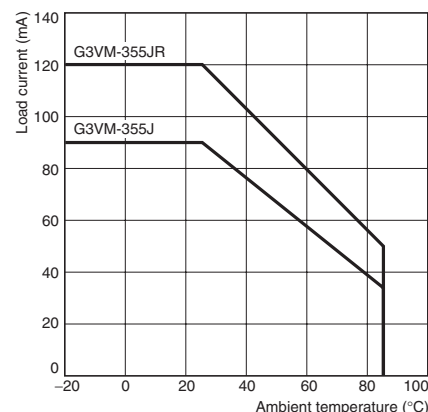
Item	Symbol	Minimum	Typical	Maximum	Unit
Output dielectric strength	V _{DD}	---	---	280	V
Operating LED forward current	I _F	5	---	25	mA
Continuous load current	I _O	---	---	120 (90)	mA
Operating temperature	T _a	-20	---	65	°C

Values in parentheses are for the G3VM-355J.

■ Engineering Data

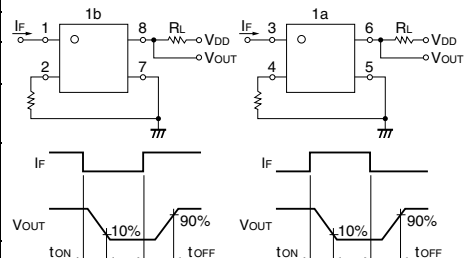
Load Current vs. Ambient Temperature

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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.

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



■ Safety Precautions

Refer to "Common Precautions" for all G3VM models.