

MOS FET Relay

G3VM-S5

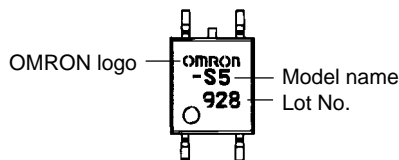
Slim 4-pin Relay Incorporating a MOS FET in a Miniature Out-line Package

- Ideal replacement for the dial-pulse relay or hook relay of each modem or facsimile machine.
- Ideal for application to the line interface blocks of PBX and telephone exchange systems.
- Can be applied to hybrid IC circuits and card-type modems conforming to PCMCIA standards.
- Uses SPST-NO contact-form and has a peak load voltage of 200 V.



Ordering Information

■ Appearance



Note: "G3VM" is not printed on the actual product

Contact form	Terminals	Load voltage (peak value)	Model	Number per stick	Number per tape
SPST-NO	Surface-mounting terminals	200 VAC (DC or AC)	G3VM-S5	100	2,500

Application Examples

- PBX subscriber interfaces
- Multi-functional telephones
- Gauging systems
- Built-in modems in personal computers
- Card-type modems and fax modems

Specifications

■ Absolute Maximum Ratings (Ta = 25°C)

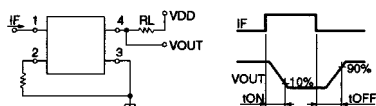
Item	Symbol	Ratings	Unit	
Input	LED forward current	I_F	50	mA
	Repetitive peak LED forward current (Duty: 50% max.; pulse width: 100 μ s max.)	I_{FP}	1	A
	LED reverse voltage	V_R	5	V
Output	Output dielectric strength	V_{BO}	DC or AC peak value: -200 to 200	V
			DC: 0 to 200	V
	Continuous load current (see note 1)	I_O	150	mA
Dielectric strength between I/O terminals (AC for 1 min) (see note 2)		V_{I-O}	1,500	Vrms
Ambient temperature (with no icing or condensation)		Ta	-40 to +85	°C
Storage temperature (with no icing or condensation)		Tstg	-55 to +125	°C
Soldering temperature (10 s)		---	260	°C

- Note:** 1. The output load current varies depending on the ambient temperature. Refer to *Engineering Data*.
2. The dielectric strength was checked by applying voltage between each pairing of input and output pins.

■ Electrical Characteristics (Ta = 25°C)

Item	Symbol	Minimum	Typical	Maximum	Unit	Measurement conditions
Output ON resistance	R_{ON}	---	---	8	Ω	$I_F=5$ mA, $I_{ON}=120$ mA
Current leakage when the relay is closed	I_{LEAK}	---	---	1.0	μ A	$V_{ON}=V_{BO}$
LED forward voltage	V_F	---	---	1.3	V	$I_F=10$ mA
Capacity between I/O terminals	C_{I-O}	---	0.8	---	pF	f=1 MHz
Insulation resistance between I/O terminals	R_{I-O}	5×10^{10}	---	---	Ω	$V_{I-O}=500$ VDC
Operating time	T_{ON}	---	---	1.5	ms	$I_F=5$ mA, $V_{DD}=20$ V, $R_L=200$ Ω (see note)
Release time	T_{OFF}	---	---	1	ms	$I_F=5$ mA, $V_{DD}=20$ V, $R_L=200$ Ω (see note)

Note: Switching Time Measuring Circuit

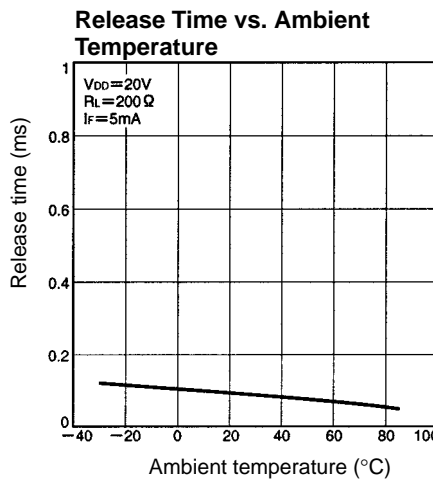
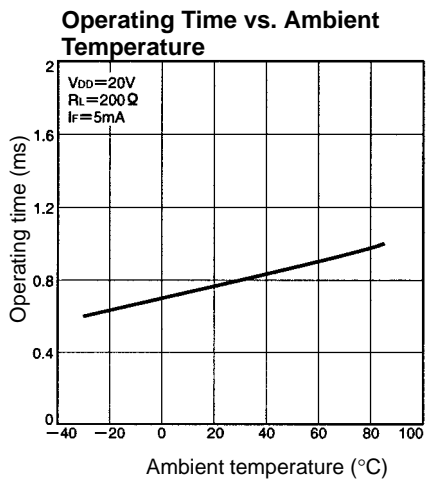
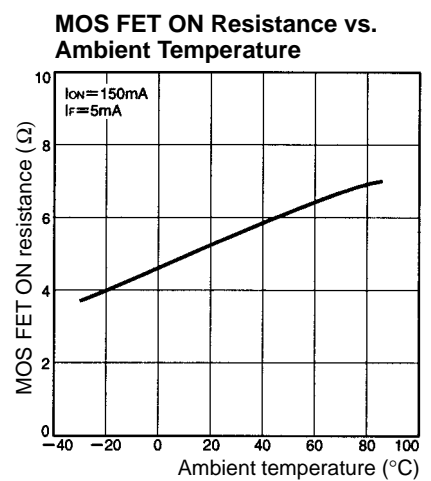
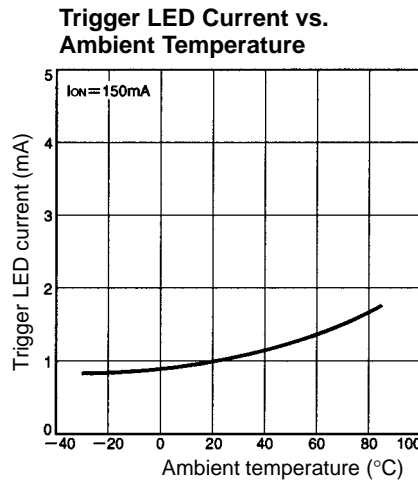
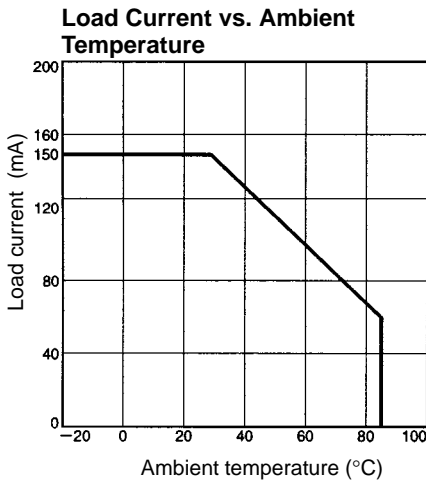


■ Recommended Operating Conditions

Item	Symbol	Minimum	Typical	Maximum	Unit
Operating voltage	V_{DD}	---	150	200	V
Forward current	I_F	5	7.5	25	mA
Continuous load current	I_O	---	---	120	mA
Operating temperature	T_{opr}	-20	---	65	°C

Engineering Data

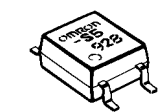
Reference Data



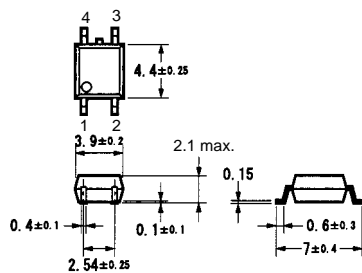
Dimensions

Note: All units are in millimeters unless otherwise indicated.

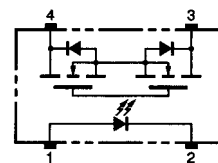
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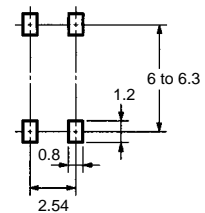
Unit: mm
Weight: 0.1 g



Terminal Arrangement/ Internal Connections (Top View)



Actual Mounting Pad Dimensions (Recommended Value, Top View)



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Precautions

Correct Use

Recommended Operating Conditions

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

Item	Min.	Type	Max.
Operating LED forward current	---	1 mA	3 mA
Releasing LED forward voltage	0.1 V	0.9 V	---