

MOS FET Relays

G3VM-355JR

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

- SPST-NO/SPST-NC models with an 8-pin SOP package in the 350-V load voltage series.
- Continuous load current of 120 mA.
- Dielectric strength of 1,500 Vrms between I/O.
- RoHS Compliant.

Application Examples

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



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

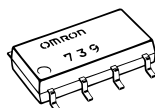
List of Models

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-355JR(TR)	---	2,500

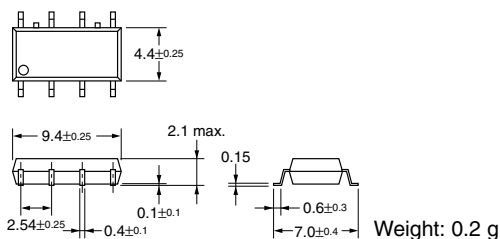
Dimensions

Note: All units are in millimeters unless otherwise indicated.

G3VM-355JR

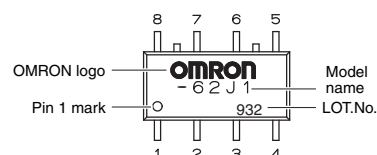
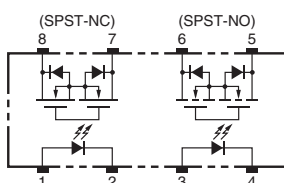


Note: The actual product is marked differently from the image shown here.



Terminal Arrangement/Internal Connections (Top View)

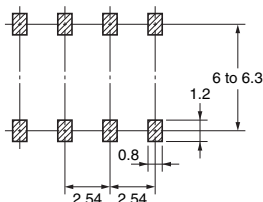
G3VM-355JR



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

Actual Mounting Pad Dimensions (Recommended Value, Top View)

G3VM-355JR



Absolute Maximum Ratings (Ta = 25°C)

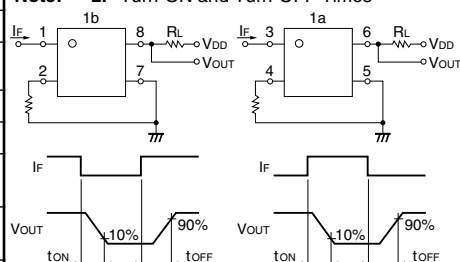
Item	Symbol	Rating	Unit	Measurement conditions
Input	LED forward current	I_F	50	mA
	Repetitive peak LED forward current	I_{FP}	1	A
	LED forward current reduction rate	$\Delta I_F/^\circ\text{C}$	- 0.5	mA/°C
	LED reverse voltage	V_R	5	V
	Connection temperature	T_J	125	°C
Output	Load voltage (AC peak/DC)	V_{OFF}	350	V
	Continuous load current	I_O	120	mA
	ON current reduction rate	$\Delta I_{ON}/^\circ\text{C}$	- 1.2	mA/°C
	Connection temperature	T_J	125	°C
Dielectric strength between input and output (See note 1.)		V_{I-O}	1,500	V_{rms}
Operating temperature		T_a	- 40 to +85	°C
Storage temperature		T_{slg}	- 55 to +125	°C
Soldering temperature (10 s)		---	260	°C

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)

Item	Sym- bol	Mini- mum	Typical	Maxi- mum	Unit	Measurement conditions
Input	LED forward voltage	V_F	1.0	1.15	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} I_{FC}	1	3	mA	SPST-NO: $I_O = 120 \text{ mA}$ SPST-NC: $I_{OFF} = 10 \mu\text{A}$
Output	Maximum resistance with output ON	R_{ON}	15	25	Ω	SPST-NO: $I_F = 5 \text{ mA}, I_O = 120 \text{ mA}$ SPST-NC: $I_F = 0 \text{ mA}, I_O = 120 \text{ mA}$
	Current leakage when the relay is open	I_{LEAK}	---	1.0	μA	$V_{OFF} = 350 \text{ V}$
	Capacity between terminals	C_{OFF}	65	---	pF	$V = 0, f = 1 \text{ MHz (NO)}$ $V = 0, f = 1 \text{ MHz, } I_F = 5 \text{ mA (NC)}$
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	---	$M\Omega$	$V_{I-O} = 500 \text{ VDC}$, $R_{oh} \leq 60\%$
Turn-ON time	SPST-NO	t_{ON}	---	1.0	ms	$I_F = 5 \text{ mA, } R_L = 200 \Omega$, $V_{DD} = 20 \text{ V}$ (See note 2.)
	SPST-NC	t_{ON}	---	1.0	ms	
Turn-OFF time	SPST-NO	t_{OFF}	---	1.0	ms	
	SPST-NC	t_{OFF}	---	3.0	ms	

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



Recommended Operating Conditions

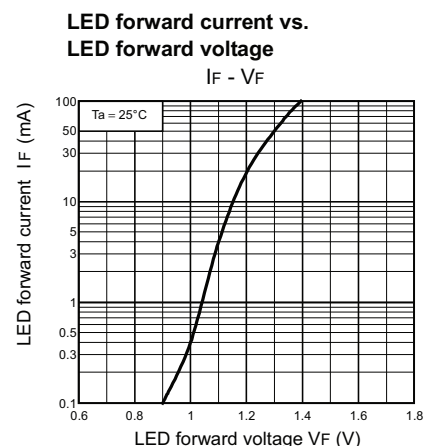
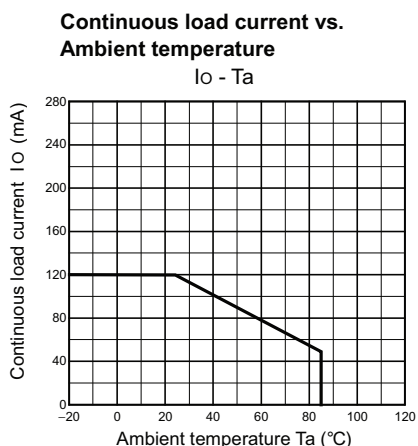
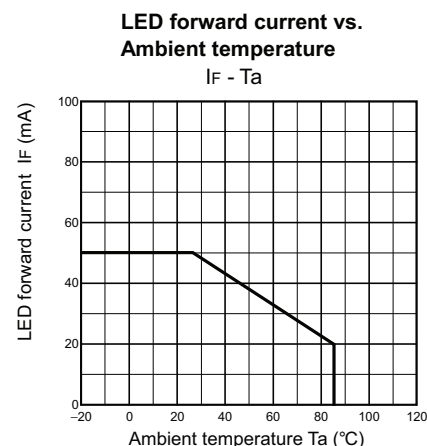
Use the G3VM under the following conditions so that the Relay will operate properly.

Item	Symbol	Minimum	Typical	Maximum	Unit
Load voltage (AC peak/DC)	V_{DD}	---	---	280	V
Operating LED forward current	I_F	5	10	25	mA
Continuous load current (AC peak/DC)	I_O	---	---	120	mA
Operating temperature	T_a	- 20	---	65	°C

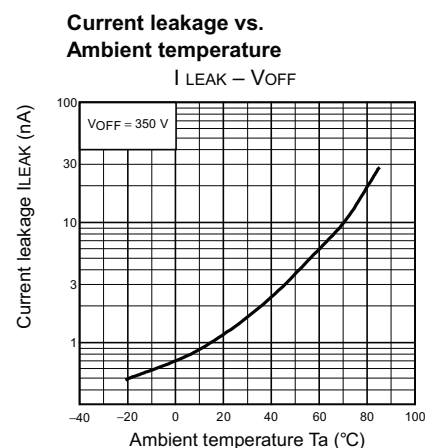
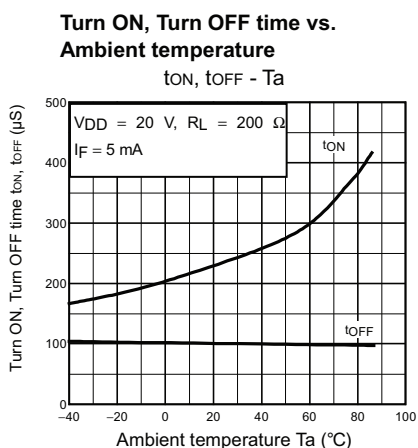
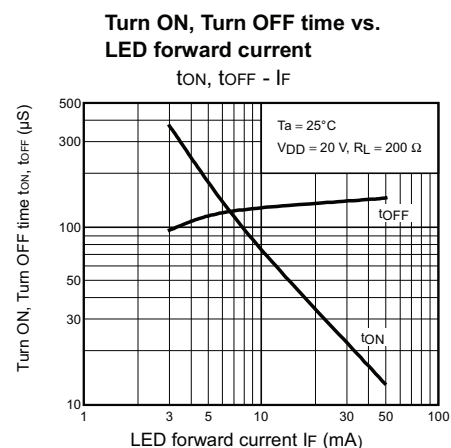
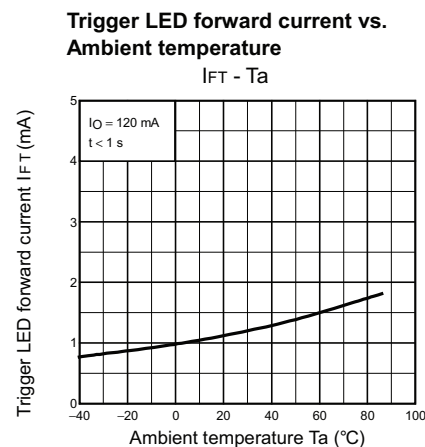
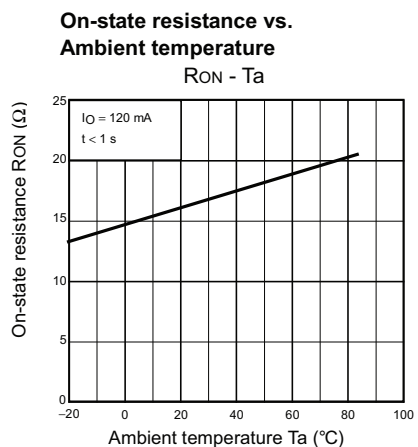
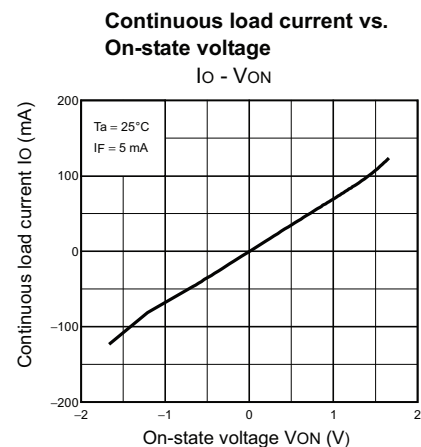
■ Engineering Data

G3VM-355JR

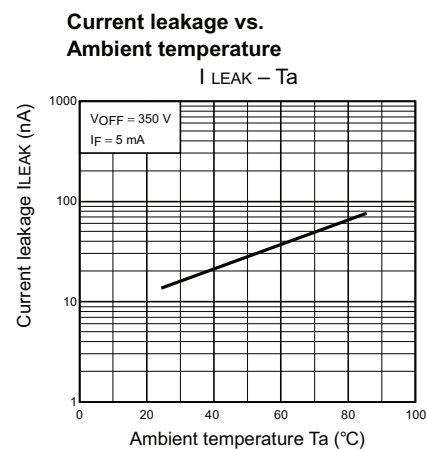
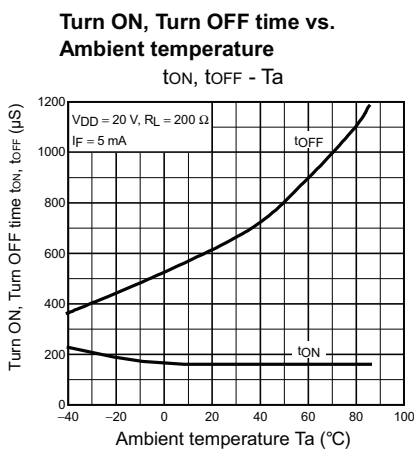
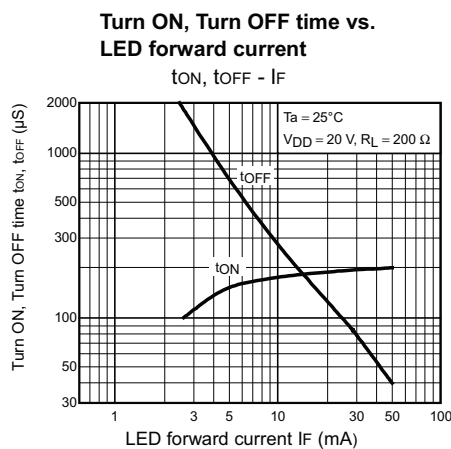
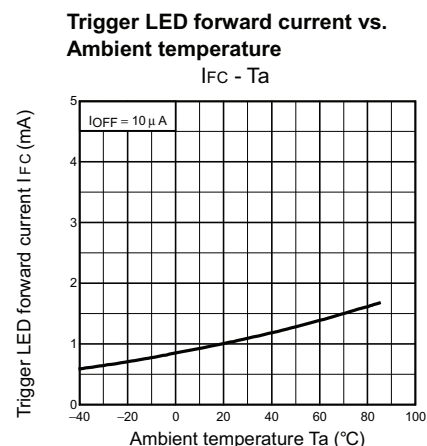
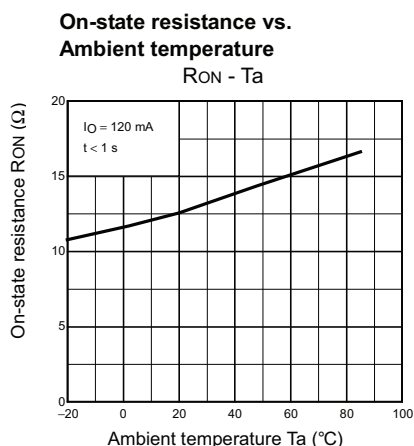
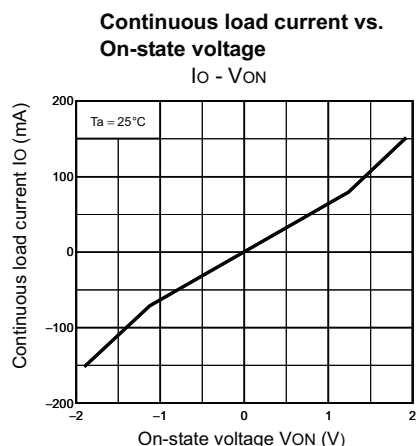
Common Characteristics; SPST-NO / SPST-NC



Characteristics; SPST-NO



■ Engineering Data
G3VM-355JR (continued)
Characteristics; SPST-NC



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