

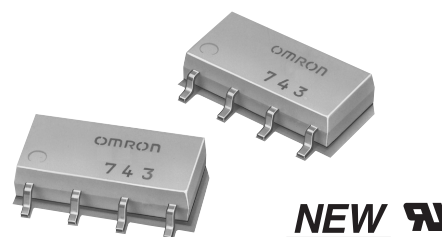
# MOS FET Relays G3VM-354J

## Analog-switching MOS FET Relay with DPST-NC Contacts.

- New models with SPST-NC contacts and an 8-pin SOP package now included in 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.

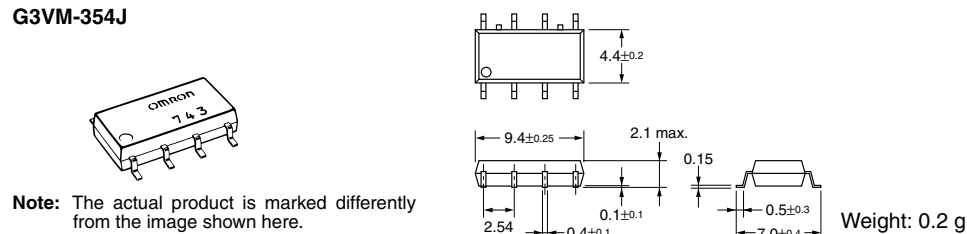
### List of Models

Contact form	Terminals	Load voltage (peak value)	Model	Number per stick	Number per tape
DPST-NC	Surface-mounting terminals	350 VAC	G3VM-354J	50	---
			G3VM-354J(TR)	---	2,500

### Dimensions

**Note:** All units are in millimeters unless otherwise indicated.

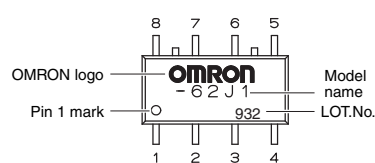
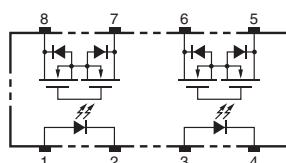
#### G3VM-354J



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

### Terminal Arrangement/Internal Connections (Top View)

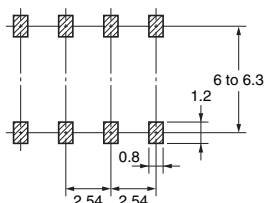
#### G3VM-354J



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

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

#### G3VM-354J



## ■ Absolute Maximum Ratings (Ta = 25°C)

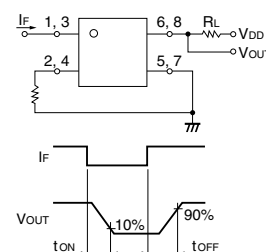
Item	Symbol	Rating	Unit	Measurement conditions
Input	LED forward current	$I_F$	50	mA
	Repetitive peak LED forward current	$I_{FP}$	1	A
	LED forward current reduction rate	$\Delta I_F/^\circ\text{C}$	-0.5	mA/°C
	LED reverse voltage	$V_R$	5	V
	Connection temperature	$T_j$	125	°C
Output	Load voltage (AC peak/DC)	$V_{OFF}$	350	V
	Continuous load current (AC peak/DC)	$I_O$	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		$T_{stg}$	-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	Symbol	Minimum	Typical	Maximum	Unit	Measurement conditions
Input	LED forward voltage	$V_F$	1.0	1.15	1.3	V
	Reverse current	$I_R$	---	---	10	$\mu\text{A}$
	Capacity between terminals	$C_T$	---	30	---	pF
	Trigger LED forward current	$I_{FT}$	---	1	3	mA
Output	Maximum resistance with output ON	$R_{ON}$	---	15	25	$\Omega$
	Current leakage when the relay is open	$I_{LEAK}$	---	---	1.0	$\mu\text{A}$
	Capacity between terminals	$C_{OFF}$	---	65	---	pF
Capacity between I/O terminals		$C_{I-O}$	---	0.8	---	pF
Insulation resistance		$R_{I-O}$	1,000	---	---	M $\Omega$
Turn-ON time		$t_{ON}$	---	---	1.0	ms
Turn-OFF time		$t_{OFF}$	---	---	3.0	ms

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



## ■ Recommended Operating Conditions

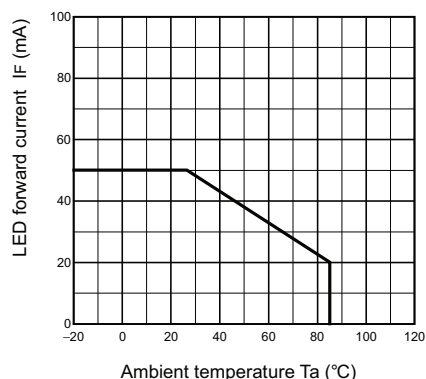
Use the G3VM under the following conditions so that the Relay will operate properly.

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

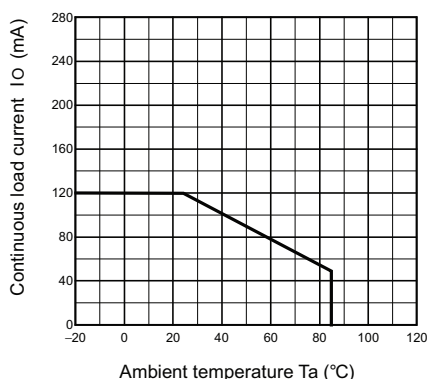
# Engineering Data

G3VM-354J

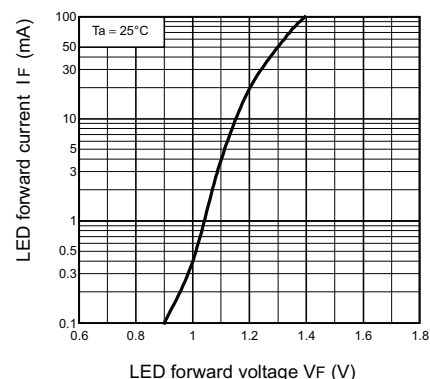
LED forward current vs.  
Ambient temperature  
 $I_F - T_a$



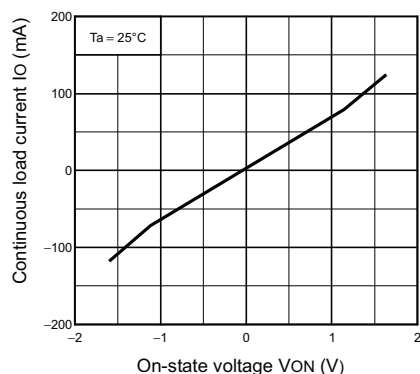
Continuous load current vs.  
Ambient temperature  
 $I_O - T_a$



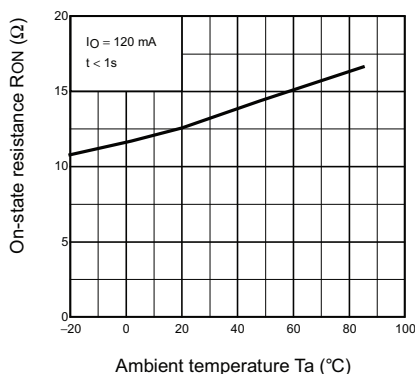
LED forward current vs.  
LED forward voltage  
 $I_F - V_F$



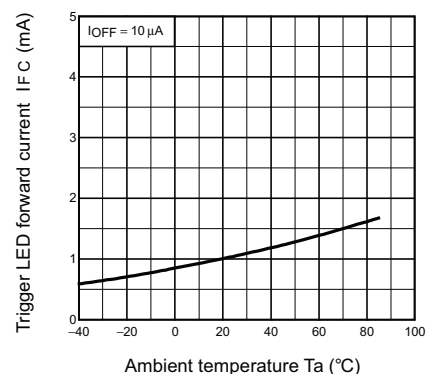
Continuous load current vs.  
On-state voltage  
 $I_O - V_{ON}$



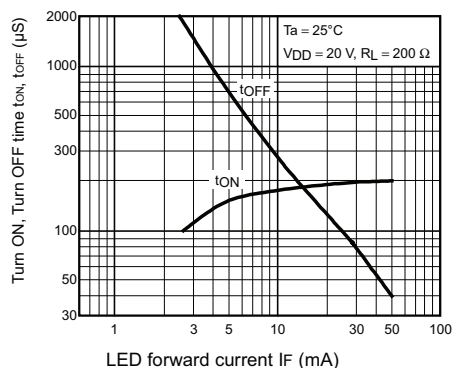
On-state resistance vs.  
Ambient temperature  
 $R_{ON} - T_a$



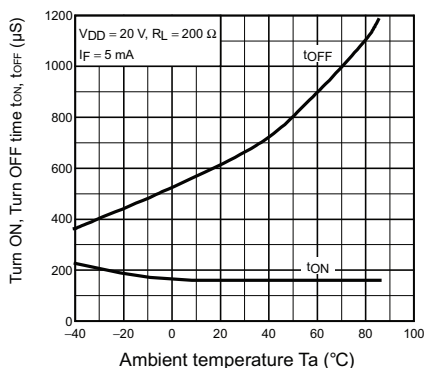
Trigger LED forward current vs.  
Ambient temperature  
 $I_{FC} - T_a$



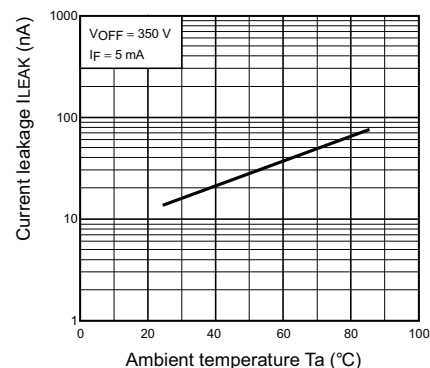
Turn ON, Turn OFF time vs.  
LED forward current  
 $t_{ON}, t_{OFF} - I_F$



Turn ON, Turn OFF time vs.  
Ambient temperature  
 $t_{ON}, t_{OFF} - T_a$



Current leakage vs.  
Ambient temperature  
 $I_{LEAK} - T_a$



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**ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.**

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

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