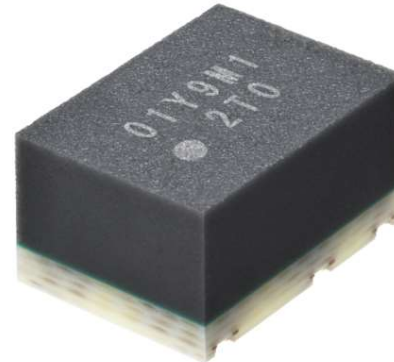


## New Product Information

New

# Extremely Low Leak Current MOS FET Relay Module

**G3VM-21MT**

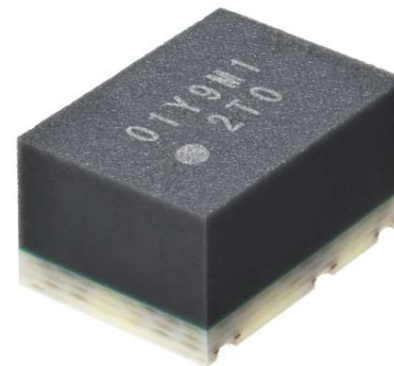
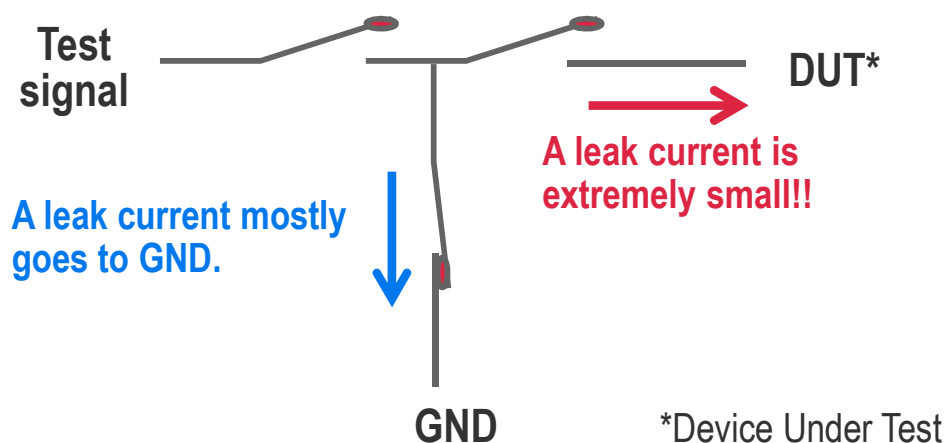


## ■ What's New?

G3VM-MT series has an unique 3-MOS FET structure (T module) which greatly suppresses a leakage current.

The extremely low leak current will enhance electrical measurement accuracy in automated test equipment.

### T module



## ■ Remarkable performance

Leak current  $\ll$  **1 pA**

\*Actual value is less than 0.1 pA.

**OMRON**

## ■ Advantages for customers

1. Enhance electrical measurement accuracy in testing equipment with extremely low leak current.

**Leak current  $\ll$  1 pA**

2. Helps to downsize PC boards with the small module package.

Body size: 5 mm X 3.75 mm X 2.7 mm(H)

3. Provides higher reliability and long-life by switching from reed relays.

## ■ Performance overview

G3VM-MT series combines distinctive features of MOS FET relays and mechanical relays as shown in the table below.

### Performance comparison with other relays

	Reed Relay	Mechanical Relay	MOS FET Relay	<b>G3VM-MT (T module)</b>
Reliability	Average	Average	Excellent	<b>Excellent</b>
Durability	Good	Average	Excellent	<b>Excellent</b>
Leakage current	Excellent	Excellent	Poor	<b>Excellent</b>
Isolation	Excellent	Excellent	Poor	<b>Excellent</b>

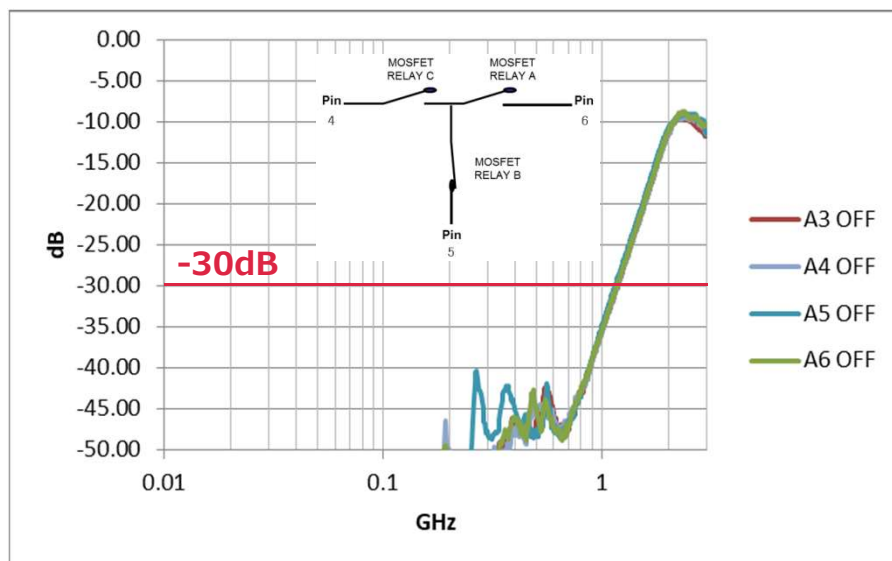
## ■ Performance details: Isolation / insertion loss

The isolation performance is less than -30 dB at 1 GHz.

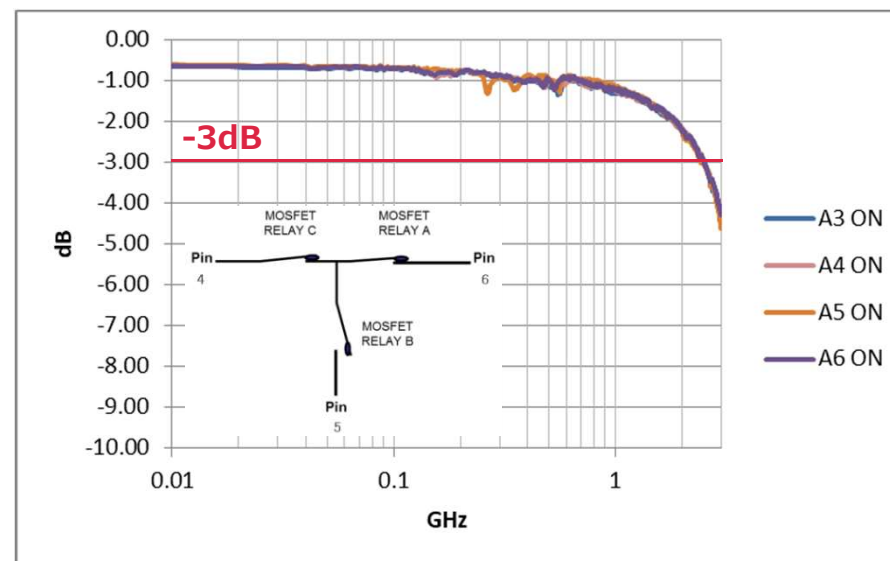
And the insertion loss performance is more than -3 dB at 1 GHz.

### Isolation < -30dB at 1GHz

Isolation



Insertion loss



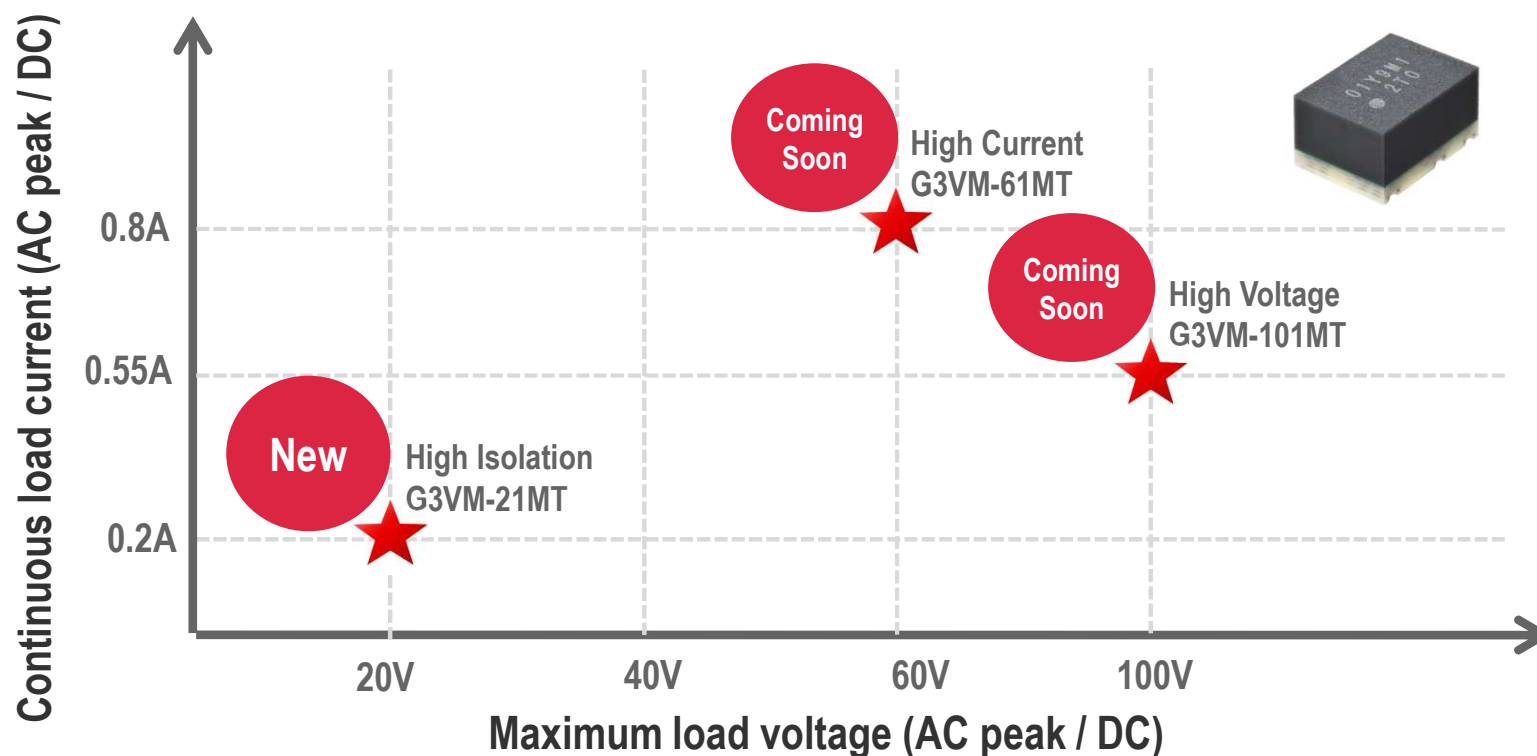
## ■ Product lineup

3-type of products will be released;

G3VM-21MT : High isolation type

G3VM-61MT : High current type

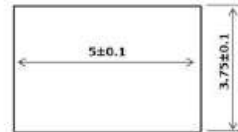
G3VM-101MT : High voltage type



\*Specifications of developing products could be changed without announcement.

# ■ Preliminary product specifications

## Main product specifications

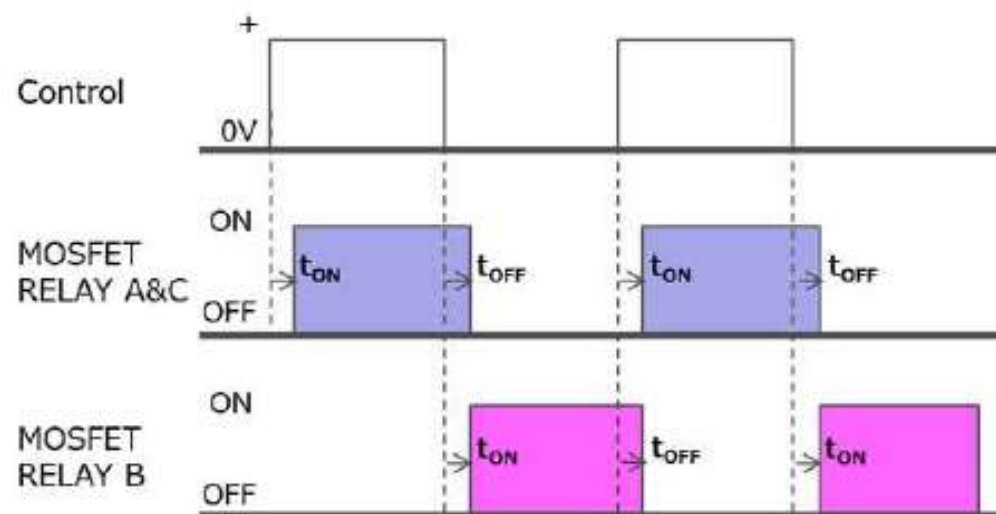
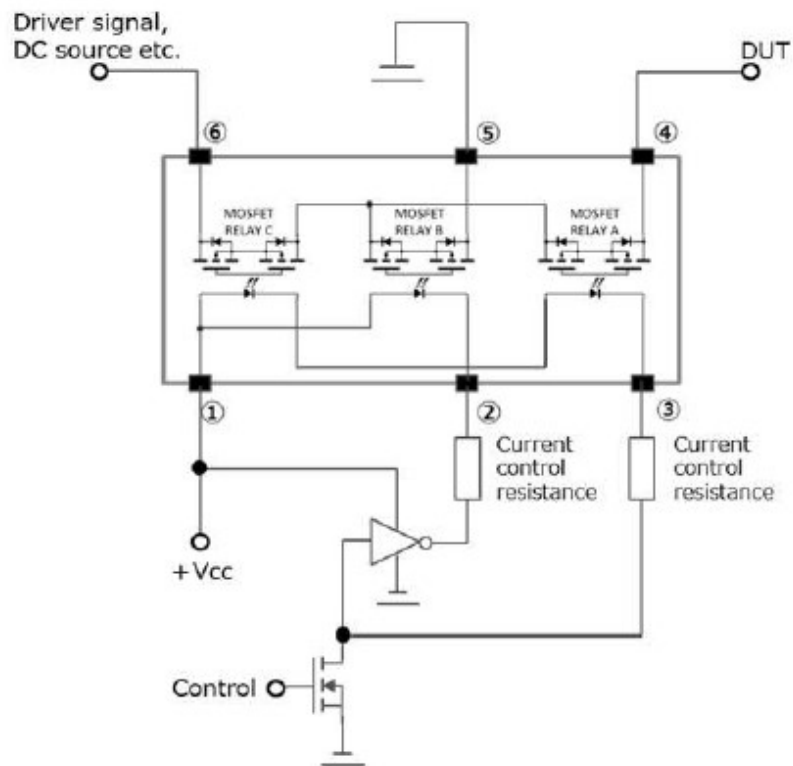


5mm×3.75mm×2.7mm

G3VM-21MT	
Type	High Isolation
Load voltage	20V max.
Continuous load current	200mA max.
Maximum resistance with output ON	12Ω max.
Capacitance between output terminals	0.6pF typ.
Capacitance between output terminals	1pF max.
Trigger LED forward current	3mA max. at 25 deg.C
Turn-ON time max. / Turn-OFF time	0.3ms max. / 0.3ms max.
Leakage current	1pA max.
Dielectric strength between I/O (AC for 1 min.)	500Vrms
Ambient operating temperature	-40~+110℃

# ■ Operations

## Internal circuit / timing chart



※This product is recommended to use with dry switching  
(No Load & No Source when switching) to prevent short circuit.





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## OMRON Corporation

Electronic and Mechanical Components Company

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