

■Absolute Maximum Ratings (Ta = 25°C)

●Standard type, High sensitive type

Item		Symbol	G3VM-41AY1 G3VM-41DY1 G3VM-41AY G3VM-41DY	G3VM-61AY1 G3VM-61DY1 G3VM-61AY G3VM-61DY	G3VM-201AY1 G3VM-201DY1 G3VM-201AY G3VM-201DY	G3VM-351AY1 G3VM-351DY1 G3VM-351AY G3VM-351DY	G3VM-401AY1 G3VM-401DY1 G3VM-401AY G3VM-401DY	G3VM-601AY1 G3VM-601DY1 G3VM-601AY G3VM-601DY	Unit	Measurement conditions
Input	LED forward current	I _F	30						mA	
	Repetitive peak LED forward current	I _{FP}	1						A	100 μs pulses, 100 pps
	LED forward current reduction rate	ΔI _F /°C	-0.3						mA/°C	Ta≥25°C
	LED reverse voltage	V _R	5						V	
	Connection temperature	T _J	125						°C	
Output	Load voltage (AC peak/DC)	V _{OFF}	40	60	200	350	400	600	V	
	Continuous load current (AC peak/DC)	I _O	2,000	500	250	100	120	90	mA	
	ON current reduction rate	ΔI _O /°C	-20	-5	-2.5	-1	-1.2	-0.9	mA/°C	Ta≥25°C
	Pulse ON current	I _{OP}	6	1.5	0.75	0.3	0.36	0.27	A	t=100ms, Duty=1/10
	Connection temperature	T _J	125						°C	
Dielectric strength between I/O *		V _{I-O}	5,000						V _{rms}	AC for 1 min
Ambient operating temperature		T _a	-40~+85						°C	With no icing or condensation
Ambient storage temperature		T _{stg}	-55~+125						°C	
Soldering temperature		—	260						°C	10s

* 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.

DIP

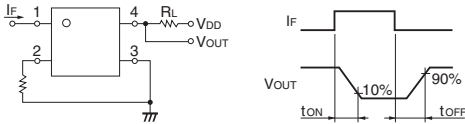
G3VM-□AY□/□DY□

Electrical Characteristics (Ta = 25°C)

Standard type

Item		Symbol		G3VM-41AY1 G3VM-41DY1	G3VM-61AY1 G3VM-61DY1	G3VM-201AY1 G3VM-201DY1	G3VM-351AY1 G3VM-351DY1	G3VM-401AY1 G3VM-401DY1	G3VM-601AY1 G3VM-601DY1	Unit	Measurement conditions
Input	LED forward voltage	V _F	Minimum	1.1						V	I _F =10mA
			Typical	1.27							
			Maximum	1.4							
	Reverse current	I _R	Maximum	10						μA	V _R =5V
	Capacity between terminals	C _T	Typical	50						pF	V=0, f=1MHz
	Trigger LED forward current	I _{FT}	Minimum	0.5	0.6				0.5	mA	G3VM-41AY1/DY1 : I _o =1A Others : I _o =Continuous load current ratings
Maximum			3								
Release LED forward current	I _{FC}	Minimum	0.1						mA	I _{OFF} =10μA	
Output	Maximum resistance with output ON	R _{ON}	Typical	0.09(0.06)	0.6	5	35(25)	22(17)	45(30)	Ω	I _F =5mA, I _o =Continuous load current ratings (value at t<1s)
			Maximum	0.15(0.10)	2	8	50(35)	35(28)	60(40)		
	Current leakage when the relay is open	I _{LEAK}	Maximum	1						μA	V _{OFF} =Load voltage ratings
	Capacity between terminals	C _{OFF}	Typical	300	130	90	30	80	75	pF	V=0, f=1MHz
Capacity between I/O terminals		C _{I-O}	Typical	0.8						pF	f=1MHz, V _S =0V
Insulation resistance between I/O terminals		R _{I-O}	Minimum	1000						MΩ	V _{I-O} =500VDC, R _{oH} ≤60%
			Typical	10 ⁸							
Turn-ON time	t _{ON}		Typical	2.8	1		0.3	0.6	0.5	ms	G3VM-41AY1/DY1 : R _L =200Ω, I _F =10mA, V _{DD} =20V G3VM-601AY1/DY1 : R _L =200Ω, I _F =5mA, V _{DD} =10V Others : R _L =200Ω, I _F =5mA, V _{DD} =20V *
			Maximum	5	3		2				
Turn-OFF time	t _{OFF}		Typical	0.3	0.2	0.1		0.2			
			Maximum	1							

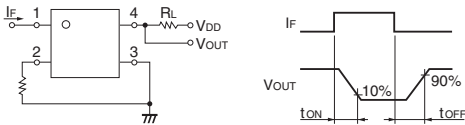
* Turn-ON and Turn-OFF Times



High sensitive type

Item			Symbol	G3VM-41AY G3VM-41DY	G3VM-61AY G3VM-61DY	G3VM-201AY G3VM-201DY	G3VM-351AY G3VM-351DY	G3VM-401AY G3VM-401DY	G3VM-601AY G3VM-601DY	Unit	Measurement conditions
Input	LED forward voltage	V _F	Minimum	1.45						V	I _F =10mA
			Typical	1.63							
			Maximum	1.75							
	Reverse current	I _R	Maximum	10						μA	V _R =5V
	Capacity between terminals	C _T	Typical	40						pF	V=0, f=1MHz
	Trigger LED forward current	I _{FT}	Minimum	0.3						mA	G3VM-41AY/DY : I _O =1A Others : I _O =Continuous load current ratings
Maximum			2								
Release LED forward current	I _{FC}	Minimum	0.1						mA	I _{OFF} =10μA	
Output	Maximum resistance with output ON	R _{ON}	Typical	0.09(0.06)	0.6	5	35(25)	22(17)	45(30)	Ω	I _F =5mA, I _O =Continuous load current ratings (value at t<1s)
			Maximum	0.15(0.10)	2	8	50(35)	35(28)	60(40)		
	Current leakage when the relay is open	I _{LEAK}	Maximum	1						μA	V _{OFF} =Load voltage ratings
	Capacity between terminals	C _{OFF}	Typical	300	130	90	30	80	75	pF	V=0, f=1MHz
Capacity between I/O terminals		C _{I-O}	Typical	0.8						pF	f=1MHz, V _S =0V
Insulation resistance between I/O terminals		R _{I-O}	Minimum	1000						MΩ	V _{I-O} =500VDC, R _O H≤60%
			Typical	10 ⁸							
Turn-ON time	t _{ON}	Typical	2	0.5		0.1	0.2		ms	G3VM-601AY/DY : R _L =200Ω, I _F =5mA, V _{DD} =10V Others : R _L =200Ω, I _F =5mA, V _{DD} =20V *	
		Maximum	5	1							
Turn-OFF time	t _{OFF}	Typical	0.3	0.2							
		Maximum	1								

* Turn-ON and Turn-OFF Times



Recommended Operating Conditions

For usage with high reliability, Recommended Operation Conditions is a measure that takes into account the derating of Absolute Maximum Ratings and Electrical Characteristics.

Each item on this list is an independent condition, so it is not simultaneously satisfy several conditions.

Standard type

Item	Symbol		G3VM-41AY1 G3VM-41DY1	G3VM-61AY1 G3VM-61DY1	G3VM-201AY1 G3VM-201DY1	G3VM-351AY1 G3VM-351DY1	G3VM-401AY1 G3VM-401DY1	G3VM-601AY1 G3VM-601DY1	Unit
Load voltage (AC peak/DC)	V _{DD}	Maximum	32	48	160	280	320	480	V
Operating LED forward current	I _F	Minimum	5						mA
		Typical	7.5						
		Maximum	25						
Continuous load current (AC peak/DC)	I _O	Maximum	2000	500	250	100	120	90	
Ambient operating temperature	T _a	Minimum	-20						°C
		Maximum	65						

High sensitive type

Item	Symbol		G3VM-41AY G3VM-41DY	G3VM-61AY G3VM-61DY	G3VM-201AY G3VM-201DY	G3VM-351AY G3VM-351DY	G3VM-401AY G3VM-401DY	G3VM-601AY G3VM-601DY	Unit	
Load voltage (AC peak/DC)	V _{DD}	Maximum	32	48	160	280	320	480	V	
Operating LED forward current	I _F	Minimum	3							mA
		Typical	5							
		Maximum	15		20					
Continuous load current (AC peak/DC)	I _O	Maximum	2000	500	250	100	120	90		
Ambient operating temperature	T _a	Minimum	-20							°C
		Maximum	65							

Spacing and Insulation

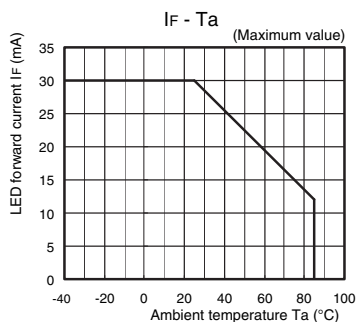
Standard type and High sensitive type

Item		Standard	Unit
Creepage distances	Minimum	7.0	mm
Clearance distances	Minimum	7.0	
Internal isolation thickness	Minimum	0.4	

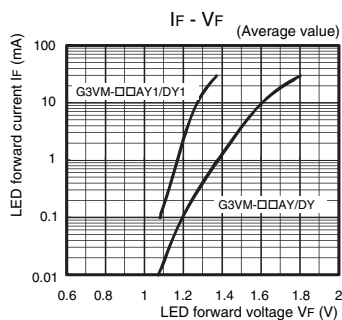
DIP
G3VM-AY/DY

Engineering Data

●LED forward current vs.
Ambient temperature

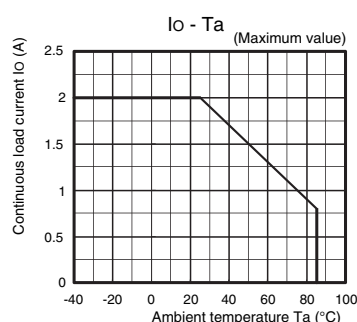
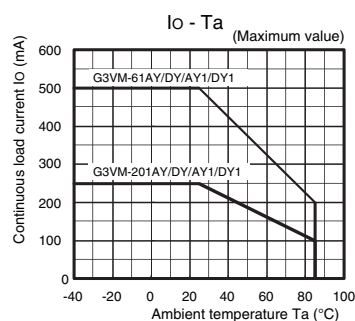
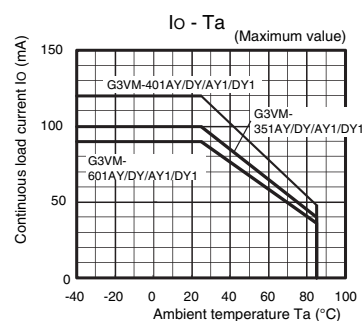


●LED forward current vs.
LED forward voltage



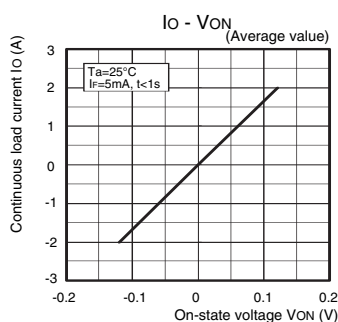
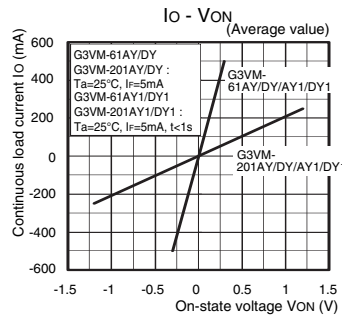
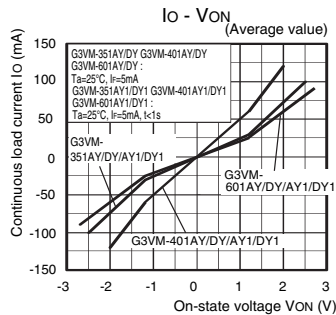
●Continuous load current vs.
Ambient temperature

G3VM-41AY/DY/AY1/DY1

G3VM-61AY/DY/AY1/DY1
G3VM-201AY/DY/AY1/DY1G3VM-351AY/DY/AY1/DY1
G3VM-401AY/DY/AY1/DY1
G3VM-601AY/DY/AY1/DY1

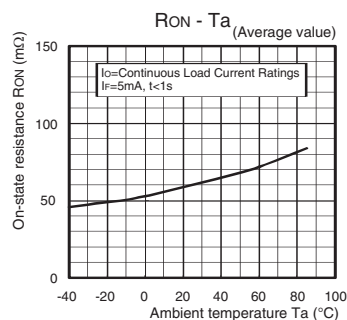
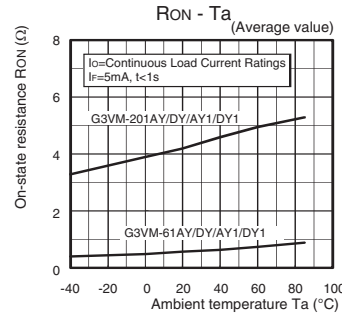
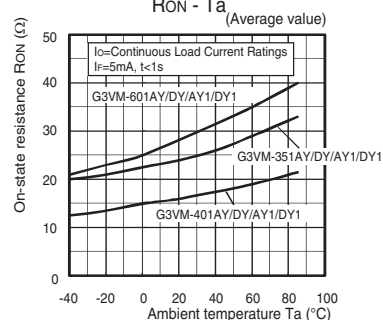
●Continuous load current vs.
On-state voltage

G3VM-41AY/DY/AY1/DY1

G3VM-61AY/DY/AY1/DY1
G3VM-201AY/DY/AY1/DY1G3VM-351AY/DY/AY1/DY1
G3VM-401AY/DY/AY1/DY1
G3VM-601AY/DY/AY1/DY1

●On-state resistance vs.
Ambient temperature

G3VM-41AY/DY/AY1/DY1

G3VM-61AY/DY/AY1/DY1
G3VM-201AY/DY/AY1/DY1G3VM-351AY/DY/AY1/DY1
G3VM-401AY/DY/AY1/DY1
G3VM-601AY/DY/AY1/DY1

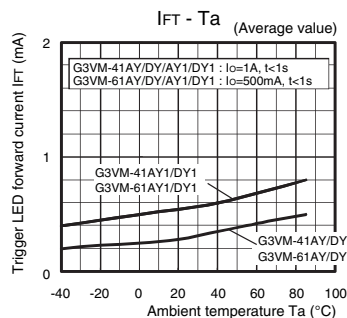
Engineering Data

●Trigger LED forward current vs.

Ambient temperature

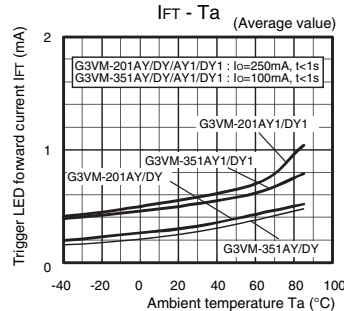
G3VM-41AY/DY/AY1/DY1

G3VM-61AY/DY/AY1/DY1



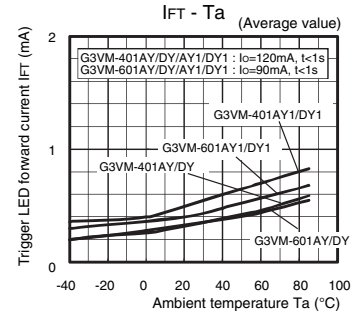
G3VM-201AY/DY/AY1/DY1

G3VM-351AY/DY/AY1/DY1



G3VM-401AY/DY/AY1/DY1

G3VM-601AY/DY/AY1/DY1

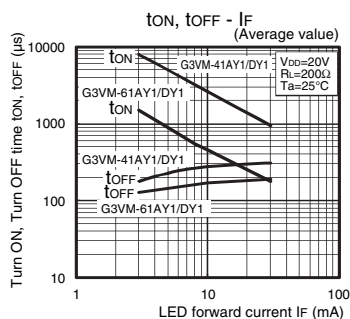


●Turn ON, Turn OFF time vs.

LED forward current

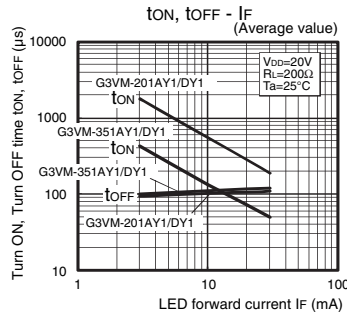
G3VM-41AY1/DY1

G3VM-61AY1/DY1



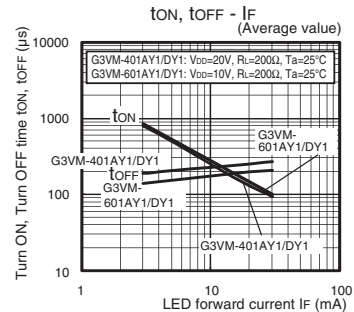
G3VM-201AY1/DY1

G3VM-351AY1/DY1



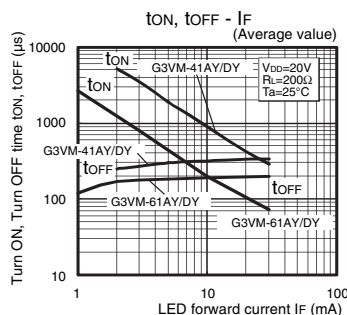
G3VM-401AY1/DY1

G3VM-601AY1/DY1



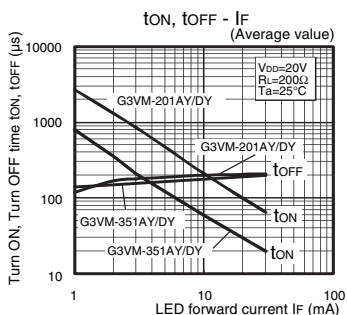
G3VM-41AY/DY

G3VM-61AY/DY



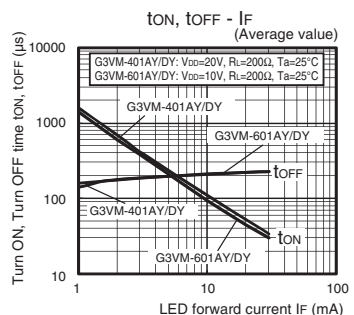
G3VM-201AY/DY

G3VM-351AY/DY



G3VM-401AY/DY

G3VM-601AY/DY

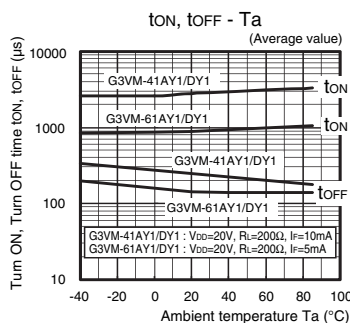


●Turn ON, Turn OFF time vs.

Ambient temperature

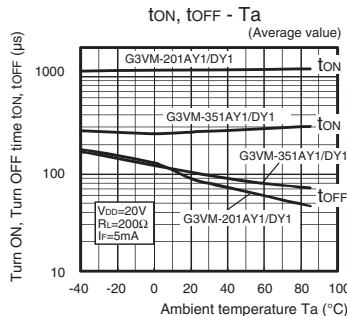
G3VM-41AY1/DY1

G3VM-61AY1/DY1



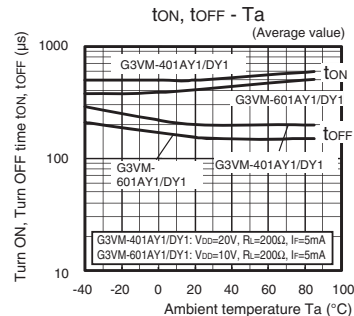
G3VM-201AY1/DY1

G3VM-351AY1/DY1



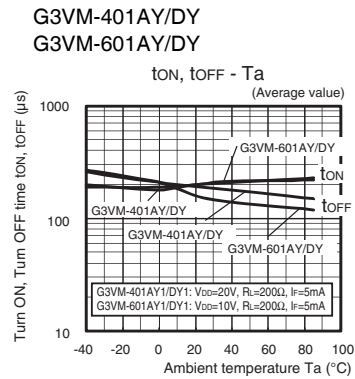
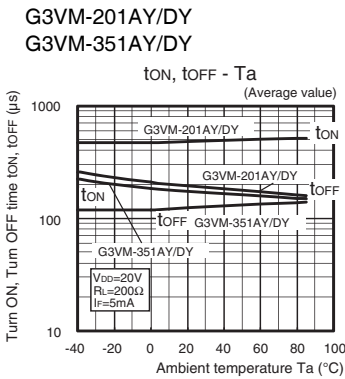
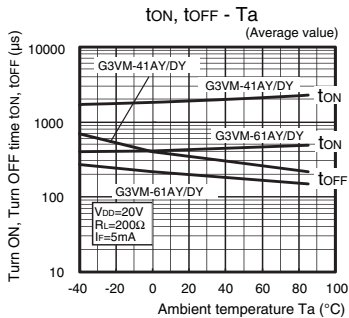
G3VM-401AY1/DY1

G3VM-601AY1/DY1

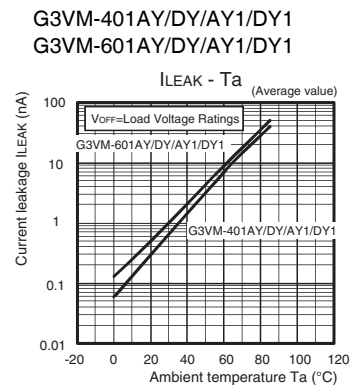
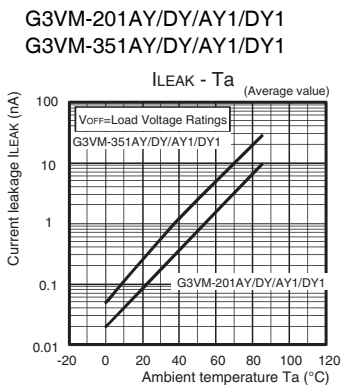
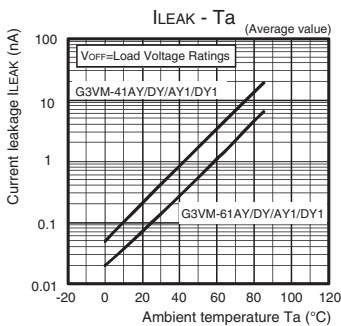


Engineering Data

●Turn ON, Turn OFF time vs.
Ambient temperature
G3VM-41AY1/DY1
G3VM-61AY1/DY1



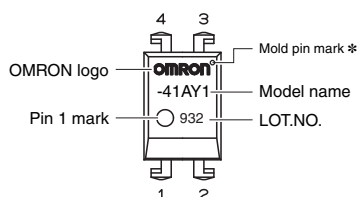
●Current leakage vs.
Ambient temperature
G3VM-41AY/DY/AY1/DY1
G3VM-61AY/DY/AY1/DY1



■Apperance/Terminal Arrangement/Internal Connections

■Apperance

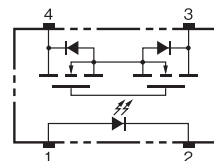
DIP (Dual Inline Package)
DIP4



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

* The indentation in the corner diagonally opposite from the pin 1 mark is from a pin on the mold.

■ Terminal Arrangement/Internal Connections

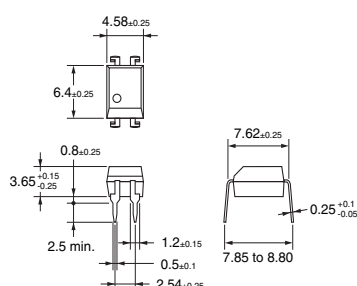


■Dimensions (Unit: mm)



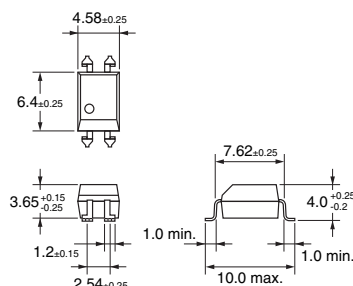
PCB Terminals

Weight: 0.25 g

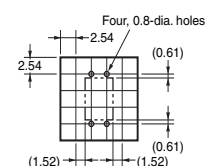


Surface-mounting Terminals

Weight: 0.25 g

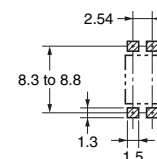


PCB Dimensions (BOTTOM VIEW)



Actual Mounting Pad Dimensions

(Recommended Value, TOP VIEW)



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

■Approved Standards

UL recognized

●Standard type and High sensitive type

Approved Standards	Contact form	File No.
UL recognized	1a (SPST-NO)	E80555

■Safety Precautions

• Refer to "Common Precautions" for all G3VM models.

Please check each region's Terms & Conditions by region website.

OMRON Corporation

Electronic and Mechanical Components Company

Regional Contact

Americas

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0318(0115)(O)