

■Characteristics

Item	Classification	-EL type (For Resistive load)	-EL2 type (For Inrush load)
Contact resistance *1		100 mΩ max.	
Operate time		10 ms max.	
Release time		5 ms max.	
Insulation resistance *2		1,000 MΩ min. (at 500 VDC)	
Dielectric strength	Between coil and contacts	4,000 VAC, 50/60 Hz for 1 min	
	Between contacts of the same polarity	1,000 VAC, 50/60 Hz for 1 min	
Impulse withstand voltage	Between coil and contacts	8 kV (1.2 x 50 μs)	
Vibration resistance	Destruction	10 to 55 to 10 Hz, 0.75 mm single amplitude (1.5 mm double amplitude)	
	Malfunction	10 to 55 to 10 Hz, 0.75 mm single amplitude (1.5 mm double amplitude)	
Shock resistance	Destruction	1,000 m/s ²	
	Malfunction	100 m/s ²	
Durability	Mechanical	10,000,000 operations (18,000 operations per hour)	
	Electrical	Resistive load 100,000 operations at 23°C (operation: ON for 1 sec. OFF for 9 sec.)	Capacitive load 100,000 operations at 23°C (operation: ON for 1 sec. OFF for 3 sec.)
Failure rate (P level) (reference *3)		10 mA at 5 VDC	
Ambient operating temperature		-40°C to 85°C (with no icing or condensation)	
Ambient operating humidity		5% to 85%	
Weight		Approx. 6.5 g	

Note. Values in the above table are the initial values at 23°C.

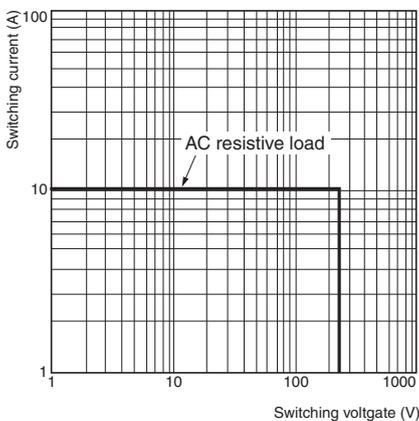
*1. The contact resistance is possible with 1 A applied at 5 VDC using a fall-of-potential method.

*2. Testing conditions: The insulation resistance was measured with a 500 VDC megohmmeter at the same locations as the electric strength was measured.

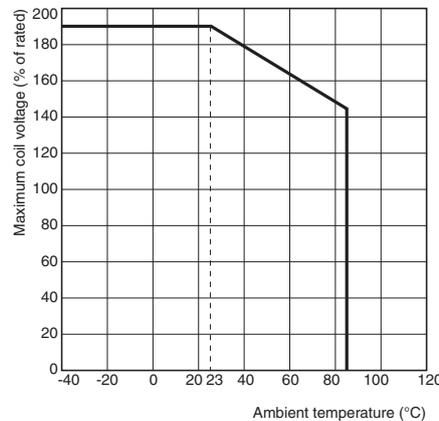
*3. This value was measured at switching frequency of 120 operation/min.

■Engineering Data

●Maximum Switching Capacity (AC)

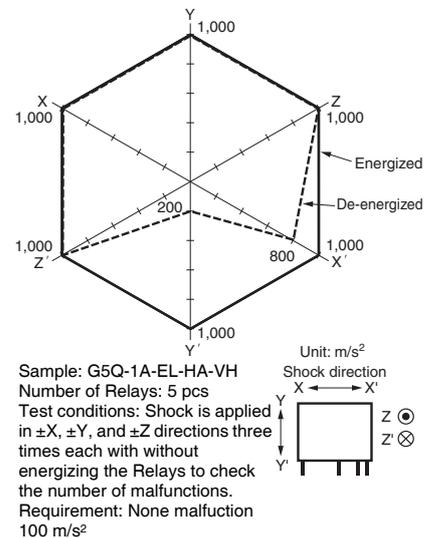


●Ambient Temperature VS. Maximum Coil Voltage



Note. The Maximum coil voltage refers to the maximum value in a varying of operating power voltage, not a continuous voltage.

●Shock Malfunction



■Actual Load Life (Reference Values)

G5Q-1A4-EL2-HA

120 VAC Capacitive load

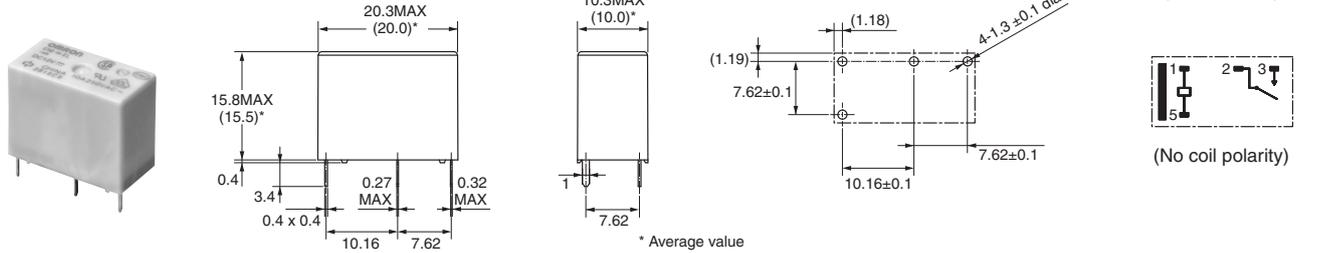
Inrush: 56 A (0-P), Break: 0.2 A (rms)

200,000 operations min. (Ambient temperature: 23°C)

■Dimensions

(Unit: mm)

G5Q-1A-EL-HA-VH
G5Q-1A4-EL2-HA



■Approved Standards

UL Recognized: (File No. E41515)

CSA Certified: (File No. LR31928)

Model	Coil ratings	Contact ratings	Number of test operations
G5Q-1A-EL-HA-VH	12, 24 VDC	10 A 250 VAC Resistive 40°C	6,000
G5Q-1A4-EL2-HA	12, 24 VDC	5 A 250 VAC Resistive 85°C	6,000
		TV-3 40°C	25,000
		1 A 120 VAC 30 A Inrush-max. 1 msec 85°C	25,000

EN/IEC, VDE (Certified/No.40009467)

Model	Coil ratings	Contact ratings	Number of test operations
G5Q-1A-EL-HA-VH	12, 24 VDC	10 A 250 VAC (cosφ=1) 105°C	10,000
G5Q-1A4-EL2-HA	12, 24 VDC	5 A 250 VAC (cosφ=1) 85°C	10,000
		Peak inrush 30 A / Break 1 A 230 VAC 85°C	25,000

Creepage distance	6.4 mm min.
Clearance distance	5.5 mm min.
Insulation material group	IIIa
Type of insulation coil-contact circuit open contact circuit	Reinforced Micro disconnection
Rated Insulation voltage	250 V
Pollution degree	2
Rated voltage system	250 V
Over voltage category	III
Category of protection according to IEC 61810-1	RT II (Flux protection) / RT III (Sealed)
Glow wire according to IEC 60335-1 ed.5	GWT 750°C min. (IEC 60695-2-11) / GWFI 850°C min. (IEC 60695-2-12)
Tracking resistance according to IEC 60112	PTI 250 V min. (housing parts)
Flammability class according to UL94	V-0
Coil Insulation system	F Class (UL 1446)

■Precautions

- Please refer to “PCB Relays Common Precautions” for correct use.

- Application examples provided in this document are for reference only. In actual applications, confirm equipment functions and safety before using the product.
- Consult your OMRON representative before using the product under conditions which are not described in the manual or applying the product to nuclear control systems, railroad systems, aviation systems, vehicles, combustion systems, medical equipment, amusement machines, safety equipment, and other systems or equipment that may have a serious influence on lives and property if used improperly. Make sure that the ratings and performance characteristics of the product provide a margin of safety for the system or equipment, and be sure to provide the system or equipment with double safety mechanisms.

Note: Do not use this document to operate the Unit.