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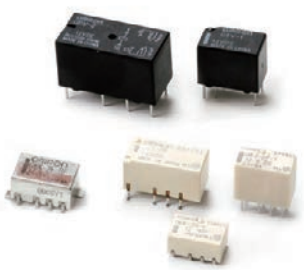
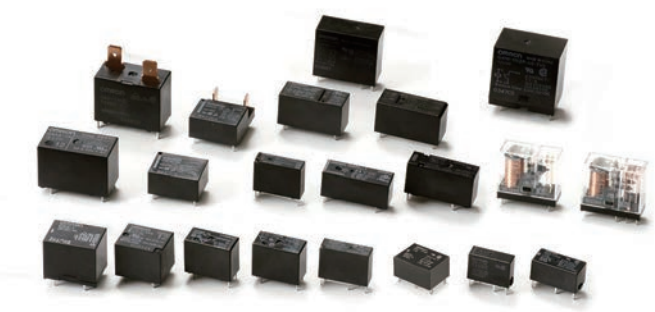
Electrical Mechanical Relay

Selection Guide

Signal Relay



Power Relay



PCB Relay

PCB Relay Types

We largely divide relays based on the maximum switching current value.

Signal Relay

Relays with less than 2 A maximum switching current value

Power Relay

Relays larger than 2 A maximum switching current value

Type Selection List (Best Selection)

Signal Relay

Item		G5V-1	G5V-2	G6E	G6A	G6S	G6J-Y	G6K	G6K-RF
Contact form	1c	○		○					
	2c		○		○	○	○	○	○
Switching current (Max value)	1 A	○					○	○	○
	2 A		○		○	○			
	3 A			○					
Latching function	1-coil latching relay			○	○	○	○	○	○
	2-coil latching relay			○	○	○			
Enclosure rating	Sealed	○	○	○	○	○	○	○	○
	Flux protection								
Terminal rating	PCB terminal	○	○	○	○	○	○	○	○
	Surface-mounting Terminals					○	○	○	○

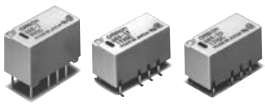
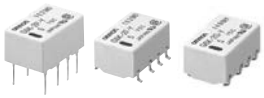
Power Relay

Item		G6DN	G5NB(-EL)	G5Q(-EL/-EL2/-EL3)	G6D	G6B	G6RN	G6RL	G5LE	G5CA
Contact form	1a	○	○	○	○	○	○	○	○	○
	1c			○			○	○	○	
	1a1b					○				
	2a					○				
	2b					○				
Switching current (Max value)	3 A		○							
	5 A	○			○	○				
	7 A		○							
	8 A					○	○	○		
	10 A			○				○	○	○
	15 A									○
Latching function	1-coil latching relay					○				
	2-coil latching relay					○				
Enclosure rating	Sealed	○	○	○	○	○	○	○	○	○
	Flux protection		○	○		○		○	○	○
Terminal rating	PCB terminal	○	○	○	○	○	○	○	○	○
	Tab terminal									○

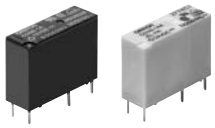
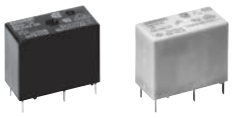
Item		G6C	G4W	G4A	G2RL	G5RL	G5RL -U/-K	G2RG	G2R	G7L	G7L (-PV/-X)
Contact form	1a	○	○	○	○	○	○		○	○	
	1c				○	○	○		○		
	1a1b	○									
	2a		○		○			○	○	○	○
	2c				○				○		
Switching current (Max value)	4 A								○		
	5 A				○	○ (N.C.)	○ (N.C.)		○		
	8 A	○						○	○		
	10 A	○	○		○				○		
	12 A					○ (N.O.)					
	15 A		○								
	16 A				○	○ (N.O.)	○ (N.O.)		○		
	20 A			○						○	
	25 A									○	
	30 A									○	○
Latching function	1-coil latching relay	○					○				
	2-coil latching relay	○					○		○		
Enclosure rating	Sealed	○			○			○	○		
	Flux protection	○		○	○	○	○		○		○
	Enclosed		○							○	○
Terminal rating	PCB terminal	○	○	○	○	○	○	○	○	○	○
	Tab terminal			○					○	○	
	Screw terminal									○	

Introduction of Main Types

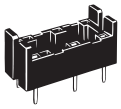
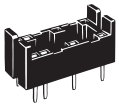
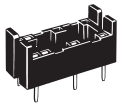
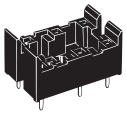
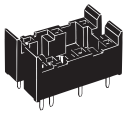
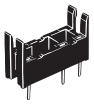
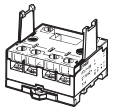
Signal Relay

Model	G6S	G6J-Y	G6K	G6K(U)-2F(P)-RF(-S,-T)
Features	Small general purpose relay High dielectric strength, high current	Ultra-small slim relay High density application possible	Ultra-small low profile relay Low power consumption	1 GHz/3 GHz range Ultra-small high frequency relay
Shape				
Contact form	2c	2c	2c	2c
Max. switching current	2 A	1 A	1 A	1 A
Coil power consumption	Approx. 140 to 200 mW	Approx. 140 to 230 mW	Approx. 100 mW	Approx. 100 mW
Dielectric strength (Between coil and contacts)	2,000 VAC (Impulse withstand voltage: 2.5 kV)	1,500 VAC (Impulse withstand voltage: 2.5 kV)	1,500 VAC (Impulse withstand voltage: 2.5 kV)	750 VAC

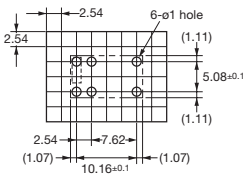
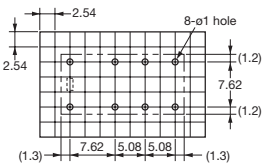
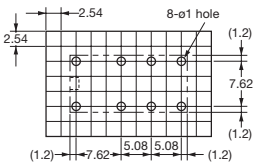
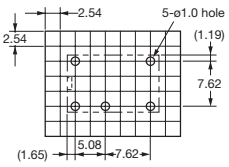
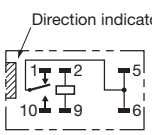
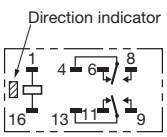
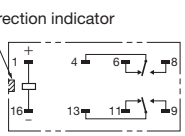
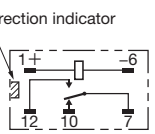
Power Relay

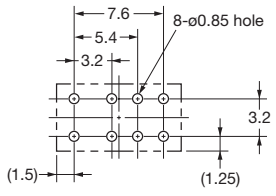
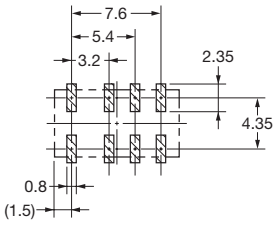
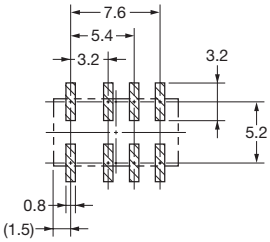
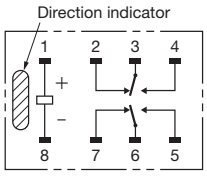
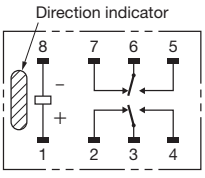
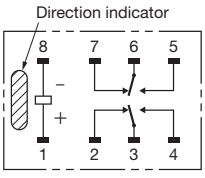
Model	G6DN	G5NB(-EL)	G5Q(-EL/-EL2/-EL3)	G2RL
Features	Small, slim power relay with 1-pole 5 A switching	Small general purpose relay with 1-pole switching at 7 A max	Small power relay with 1-pole 10 A switching	Low profile power relay with 1-pole 10 A/16 A throw/2-pole 5 A switching
Shape				
Contact form	1a	1a	1a, 1c	1a, 1c, 2a, 2c
Max. switching current	5 A	AC: 7 A, DC: 5 A (-EL) 3 A (standard type)	10 A	10 A/16 A (1a, 1c) 5 A (2a, 2c)
Coil power consumption	Approx. 110 mW	Approx. 200 mW	Approx. 200 mW Approx. 400 mW	5 to 24 VDC: Approx. 400 mW 48 VDC: Approx. 430 mW
Dielectric strength (Between coil and contacts)	3,000 VAC (Impulse withstand voltage: 6 kV)	4,000 VAC (Impulse withstand voltage: 10 kV)	4,000 VAC (Impulse withstand voltage: 8 kV)	5,000 VAC (Impulse withstand voltage: 10 kV)

Applicable socket list

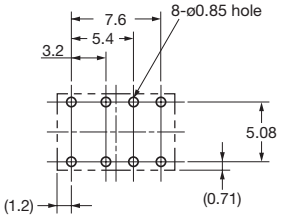
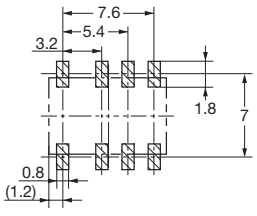
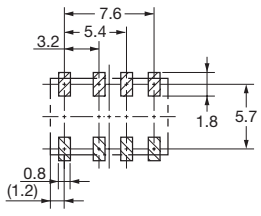
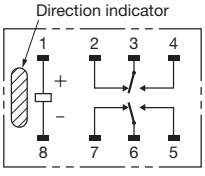
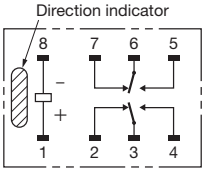
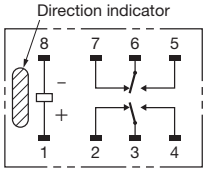
Model	G6B			G6C		G6D	G7L
Contact form	1a		1a1b, 2a, 2b	1a, 1a1b		1a	1a, 2a
Applicable socket	P6B-04P	P6B-06P (2-coil latching relay)	P6B-26P	P6C-06P	P6C-08P (2-coil latching relay)	P6D-04P	P7LF-06
Shape							

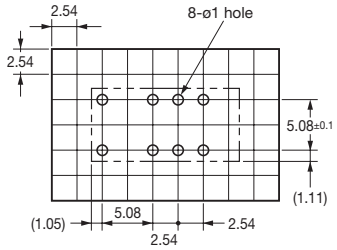
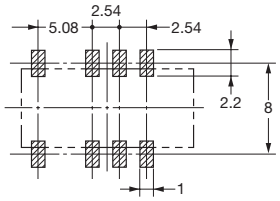
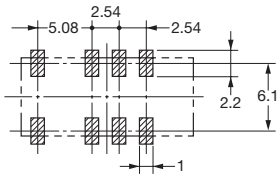
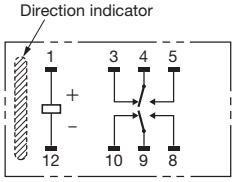
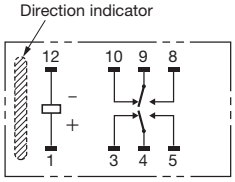
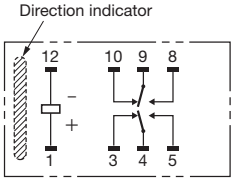
Signal Relay Product Lineup INDEX

Model			G5V-1	G5V-2	G6A	G6E
Outer shape Shape (max. value mm) Length (L) x Width (w) x Height (H)			 12.5 x 7.5 x 10	 20.5 x 10.1 x 11.5	 20.2 x 10.1 x 8.4	 16 x 10 x 8
Features			General purpose low-cost 1-pole signal relay	General purpose low-cost 2-pole signal relay	FCC-standard high-voltage type	Small, high sensitivity 1-pole signal relay
Contact	Contact form		1c	2c	2c	1c
	Contact type		Crossbar single	Crossbar twin	Crossbar twin	Crossbar twin
	Rated load	Resistive load	100,000 operations min. at 125 VAC, 0.5 A 100,000 operations min. at 24 VDC, 1 A	100,000 operations min. at 125 VAC, 0.5 A 100,000 operations min. at 30 VDC, 2 A (Standard type)	500,000 operations min. at 125 VAC, 0.5 A 500,000 operations min. at 30 VDC, 2 A	100,000 operations min. at 125 VAC, 0.4 A 500,000 operations min. at 30 VDC, 2 A
		Inductive load COSø=0.4 L/R=7 ms	—	—	500,000 operations min. at 125 VAC, 0.3 A 500,000 operations min. at 30 VDC, 1 A	100,000 operations min. at 125 VAC, 0.2 A 500,000 operations min. at 30 VDC, 1 A
	Max. switching current (A)		1 A	2 A	2 A	3 A
	Failure rate (mA) P level (reference value)		5 VDC 1 mA	10 mVDC 10 µA	10 mVDC 10 µA	10 mVDC 10 µA
Coil	Rated voltage		3 to 24 VDC	3 to 48 VDC	3 to 48 VDC	5 to 48 VDC
	Rated power consumption		Approx. 150 mW	Standard type: Approx. 500 to 580 mW High sensitivity type: Approx. 150 to 300 mW	Standard type: Approx. 200 to 235 mW High sensitivity type: Approx. 150 mW	Approx. 200 to 400 mW
Mechanical endurance			5,000,000 operations min.	15,000,000 operations min.	100,000,000 operations min.	100,000,000 operations min.
Dielectric strength	Between coil and contacts		1,000 VAC (Impulse withstand voltage 1.5 kV FCC part 68 standard)	1,000 VAC (Impulse withstand voltage 1.5 kV FCC part 68 standard)	1,000 VAC (Impulse withstand voltage 1.5 kV FCC part 68 standard)	1,500 VAC (Impulse withstand voltage 2.5 kV FCC part 68 standard)
	Between contacts of different polarity		—	1,000 VAC (Impulse withstand voltage: 1.5 kV)	1,000 VAC	—
	Between contacts of the same polarity		400 VAC	750 VAC (Impulse withstand voltage: 1.5 kV)	1,000 VAC	1,000 VAC (Impulse withstand voltage 1.5 kV FCC part 68 standard)
	Between set/reset coil		—	—	250 VAC	—
Ambient operating temperature			-40°C to 70°C (Standard type) -40°C to 90°C (G5V-1-T90)	-25°C to 65°C (High sensitivity between -25 and 70°C)	-40°C to 70°C	-40°C to 70°C
Functions	2-coil latching relay		—	—	●	●
	1-coil latching relay		—	—	●	●
	Other		—	—	—	Ultrasonically cleanable
Enclosure rating	Enclosed		—	—	—	—
	Flux protection		—	—	—	—
	Sealed		●	●	●	●
Terminal	PCB terminal		●	●	●	●
	Surface-mounting Terminals		—	—	—	—
	Tab terminal		—	—	—	—
Approved standards			UL, CSA	UL, CSA	UL, C-UL	UL, CSA
Minimum packing unit			25 pcs/tube	25 pcs/tube	25 pcs/tube	25 pcs/tube
Weight			Approx. 2 g	Approx. 5 g	Approx. 3.5 g	Approx. 2.7 g
PCB diagram (Unit: mm)			G5V-1  (BOTTOM VIEW)	G5V-2  (BOTTOM VIEW)	G6A-274P  (BOTTOM VIEW)	G6E-134P-US G6E-134PL-US  (BOTTOM VIEW)
Terminal array diagram/ internal connection diagram			G5V-1  (BOTTOM VIEW)	G5V-2  (BOTTOM VIEW)	G6A-274P  (BOTTOM VIEW) (Take note of coil polarity)	G6E-134P-US G6E-134PL-US  (BOTTOM VIEW) (Take note of coil polarity)

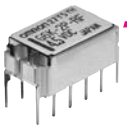
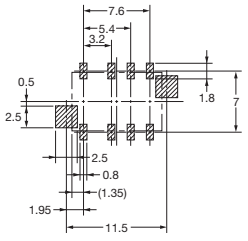
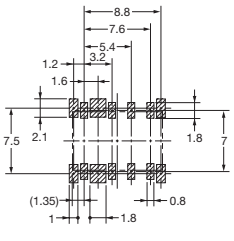
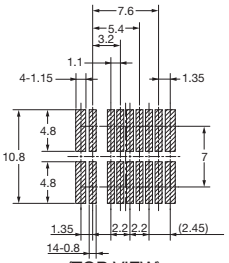
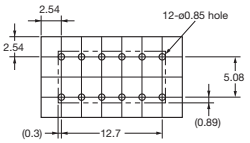
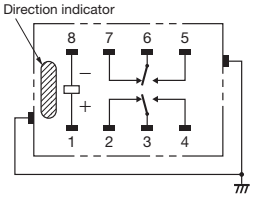
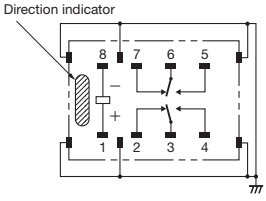
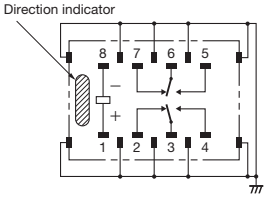
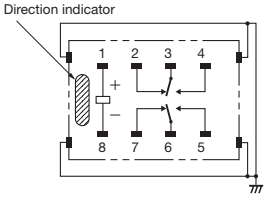
Model			G6J-Y		
Outer shape			G6J-2P-Y PCB terminal	G6J-2FS-Y Surface-mounting terminal (short)	G6J-2FL-Y Surface-mounting terminal (long)
					
Shape (max. value mm) Length (L) x Width (w) x Height (H)			10.9 x 6 x 9.3	10.9 x 6 x 10	10.9 x 6 x 10
Features			Ultra-small ultra-thin surface-mounting 2-pole signal relay		
Contact	Contact form		2c		
	Contact type		Crossbar twin		
	Rated load	Resistive load	100,000 operations min. at 125 VAC, 0.3 A 100,000 operations min. at 30 VDC, 1 A		
		Inductive load COSø=0.4 L/R=7 ms	—		
	Max. switching current (A)		1 A		
	Failure rate (mA) P level (reference value)		10 mVDC 10 µA		
Coil	Rated voltage		3 to 24 VDC		
	Rated power consumption		Approx. 140 to 230 mW		
Mechanical endurance			50,000,000 operations min.		
Dielectric strength	Between coil and contacts		1,500 VAC (Impulse withstand voltage 2.5 kV Telcordia standard) (Impulse withstand voltage 1.5 kV FCC part 68 standard)		
	Between contacts of different polarity		1,000 VAC (Impulse withstand voltage 1.5 kV FCC part 68 standard)		
	Between contacts of the same polarity		750 VAC (Impulse withstand voltage 1.5 kV FCC part 68 standard)		
	Between set/reset coil		—		
Ambient operating temperature			-40°C to 85°C		
Functions	2-coil latching relay		—		
	1-coil latching relay		●		
	Other		—		
Enclosure rating	Enclosed		—		
	Flux protection		—		
	Sealed		●		
Terminal	PCB terminal		●	—	
	Surface-mounting Terminals		—	●	
	Tab terminal		—		
Approved standards			UL, C-UL		
Minimum packing unit			50 pcs/tube	50 pcs/tube, 400 pcs/relay	
Weight			Approx. 1.0 g		
PCB diagram (Unit: mm)			G6J-2P-Y  (BOTTOM VIEW)	G6J-2FS-Y  (TOP VIEW)	G6J-2FL-Y  (TOP VIEW)
Terminal array diagram/ internal connection diagram			G6J-2P-Y  (BOTTOM VIEW) (Take note of coil polarity)	G6J-2FS-Y  (TOP VIEW) (Take note of coil polarity)	G6J-2FL-Y  (TOP VIEW) (Take note of coil polarity)

Signal Relay Product Lineup INDEX

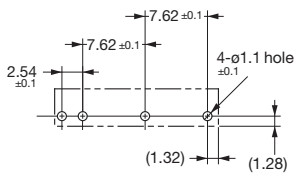
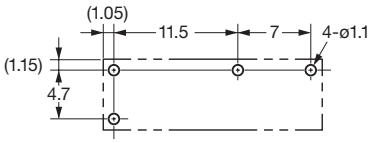
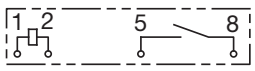
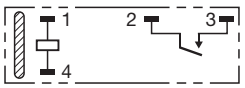
Model			G6K		
Outer shape			G6K-2P-Y PCB terminal	G6K-2F-Y Outer L shape surface-mounting terminal	G6K-2G-Y Inner L shape surface-mounting terminal
					
Shape (max. value mm) Length (L) x Width (w) x Height (H)			10.2 x 6.7 x 5.3	10.2 x 6.7 x 5.4	10.2 x 6.7 x 5.6
Features			Ultra-small low power consumption Ultra-thin low profile surface-mounting 2-pole signal relay		
Contact	Contact form		2c		
	Contact type		Crossbar twin		
	Rated load	Resistive load	100,000 operations min. at 125 VAC, 0.3 A 100,000 operations min. at 30 VDC, 1 A		
		Inductive load COSø=0.4 L/R=7 ms	—		
	Max. switching current (A)		1 A		
	Failure rate (mA) P level (reference value)		10 mVDC 10 µA		
Coil	Rated voltage		3 to 24 VDC		
	Rated power consumption		Approx. 100 mW		
Mechanical endurance			50,000,000 operations min.		
Dielectric strength	Between coil and contacts		1,500 VAC (Impulse withstand voltage 2.5 kV Telcordia standard) (Impulse withstand voltage 1.5 kV FCC part 68 standard)		
	Between contacts of different polarity		1,000 VAC (Impulse withstand voltage 1.5 kV FCC part 68 standard)		
	Between contacts of the same polarity		750 VAC (Impulse withstand voltage 1.5 kV FCC part 68 standard)		
	Between set/reset coil		—		
Ambient operating temperature			-40°C to 70°C		
Functions	2-coil latching relay		—		
	1 coil latching relay		●		
	Other		—		
Enclosure rating	Enclosed		—		
	Flux protection		—		
	Sealed		●		
Terminal	PCB terminal		●	—	
	Surface-mounting Terminals		—	●	
	Tab terminal		—		
Approved standards			UL, CSA		
Minimum packing unit			50 pcs/tube	50 pcs/tube, 900 pcs/relay	
Weight			Approx. 0.7 g		
PCB diagram (Unit: mm)			G6K-2P-Y  (BOTTOM VIEW)	G6K-2F-Y  (TOP VIEW)	G6K-2G-Y  (TOP VIEW)
Terminal array diagram/ internal connection diagram			G6K-2P-Y  (BOTTOM VIEW) (Take note of coil polarity)	G6K-2F-Y  (TOP VIEW) (Take note of coil polarity)	G6K-2G-Y  (TOP VIEW) (Take note of coil polarity)

Model			G6S		
Outer shape			G6S-2 PCB terminal	G6S-2F Outer L shape surface-mounting terminal	G6S-2G Inner L shape surface-mounting terminal
					
Shape (max. value mm) Length (L) x Width (w) x Height (H)			15 x 7.5 x 9.4	15 x 7.5 x 9.4	15 x 7.5 x 9.4
Features			Small general purpose high dielectric strength, high current surface-mounting 2-pole signal relay		
Contact	Contact form		2c		
	Contact type		Crossbar twin		
	Rated load	Resistive load	100,000 operations min. at 125 VAC, 0.5 A 100,000 operations min. at 30 VDC, 2 A		
		Inductive load COSϕ=0.4 L/R=7 ms	—		
	Max. switching current (A)		2 A		
	Failure rate (mA) P level (reference value)		10 mVDC 10 µA		
Coil	Rated voltage		3 to 24 VDC		
	Rated power consumption		Approx. 140 to 200 mW		
Mechanical endurance			100,000,000 operations min.		
Dielectric strength	Between coil and contacts		2,000 VAC (Impulse withstand voltage 2.5 kV Telcordia standard) (Impulse withstand voltage 1.5 kV FCC part 68 standard)		
	Between contacts of different polarity		1,500 VAC (Impulse withstand voltage 2.5 kV Telcordia standard) (Impulse withstand voltage 1.5 kV FCC part 68 standard)		
	Between contacts of the same polarity		1,000 VAC (Impulse withstand voltage 1.5 kV FCC part 68 standard)		
	Between set/reset coil		500 VAC		
Ambient operating temperature			-40°C to 85°C		
Functions	2-coil latching relay		●		
	1-coil latching relay		●		
	Other		—		
Enclosure rating	Enclosed		—		
	Flux protection		—		
	Sealed		●		
Terminal	PCB terminal		●	—	
	Surface-mounting Terminals		—	●	
	Tab terminal		—		
Approved standards			UL, CSA, EN/IEC (BSI certification -Y type)		
Minimum packing unit			50 pcs/tube	50 pcs/tube, 400 pcs/relay	
Weight			Approx. 2 g		
PCB diagram (Unit: mm)			G6S-2 G6S-2-Y  (BOTTOM VIEW)	G6S-2F G6S-2F-Y  (TOP VIEW)	G6S-2G G6S-2G-Y  (TOP VIEW)
Terminal array diagram/ internal connection diagram			G6S-2 G6S-2-Y  (BOTTOM VIEW) (Take note of coil polarity)	G6S-2F G6S-2F-Y  (TOP VIEW) (Take note of coil polarity)	G6S-2G G6S-2G-Y  (TOP VIEW) (Take note of coil polarity)

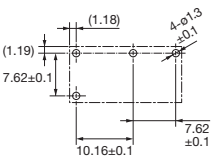
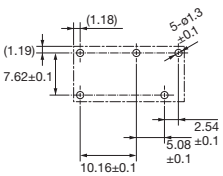
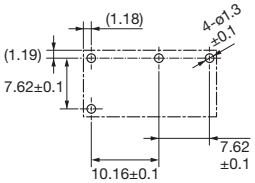
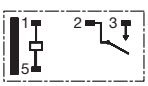
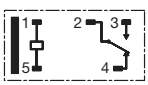
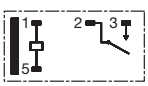
Signal Relay Product Lineup INDEX

Model			G6K(U)-2(F/P)-RF(-S,-T)			
			G6K(U)-2F-RF	G6K(U)-2F-RF-S	G6K(U)-2F-RF-T	G6K-2P-RF
Outer shape Shape (max. value mm) Length (L) x Width (w) x Height (H)			 10.6 x 7.2 x 5.7	 11.0 x 7.2 x 5.7	 11.0 x 7.2 x 5.7	NEW  13.6 x 7.2 x 5.5
Features			1 GHz range ultra-small high frequency relay	1 GHz range ultra-small high frequency relay (space-saving type)	3 GHz range ultra-small high frequency relay	Series of PCB terminals
Characteristic resistance			50 Ω			
High frequency characteristics	Isolation (similar poles)		20 dB min. at 1 GHz		20 dB min. at 1 GHz 18 dB min. at 3 GHz	20 dB min. at 1 GHz
	Isolation (different poles)		30 dB min. at 1 GHz		30 dB min. at 1 GHz 25 dB min. at 3 GHz	30 dB min. at 1 GHz
	Insertion loss		0.2 dB max. at 1 GHz		0.2 dB max. at 1 GHz 0.6 dB max. at 3 GHz	0.2 dB max. at 1 GHz
	Return loss		20.8 dB min. at 1 GHz		20.8 dB min. at 1 GHz 15.6 dB min. at 3 GHz	20.8 dB min. at 1 GHz
	V.SWR		1.2 max. at 1 GHz		1.2 max. at 1 GHz 1.4 max. at 3 GHz	1.2 max. at 1 GHz
Contact	Contact form		2c			
	Contact type		Crossbar twin			
	Rated load	Resistive load	100,000 operations min. at 125 VAC, 0.3 A 100,000 operations min. at 30 VDC, 1 A 100,000 operations min. at 1 GHz, 1 W			
		Inductive load	—			
	Max. switching current (A)		1 A			
Coil	Rated voltage		3 to 24 VDC			
	Rated power consumption		Approx. 100 mW			
Mechanical endurance			50,000,000 operations min.			
Dielectric strength	Between coil and contacts		750 VAC			
	Between contacts of different polarity		750 VAC			
	Between contacts of the same polarity		750 VAC			
	Between coil, contact, and earth		500 VAC			
Ambient operating temperature			-40°C to 70°C			
Functions	2-coil latching relay		—			
	1-coil latching relay		●			—
	Other		—			
Enclosure rating	Enclosed		—			
	Flux protection		—			
	Sealed		●			
Terminal	PCB terminal		—			●
	Surface-mounting Terminals		●			—
	Tab terminal		—			
Approved standards			—			
Minimum packing unit			300 pcs/tray, 300, 900 pcs/relay			30 pcs/tube
Weight			Approx. 0.95 g			
PCB diagram (Unit: mm)			G6K-2F-RF  (TOP VIEW)	G6K-2F-RF-S  (TOP VIEW)	G6K-2F-RF-T  (TOP VIEW)	G6K-2P-RF  (BOTTOM VIEW)
Terminal array diagram/ internal connection diagram			G6K-2F-RF  (TOP VIEW)	G6K-2F-RF-S  (TOP VIEW)	G6K-2F-RF-T  (TOP VIEW)	G6K-2P-RF  (BOTTOM VIEW)

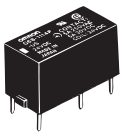
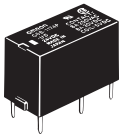
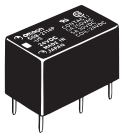
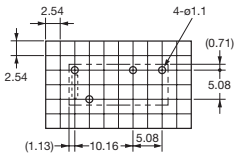
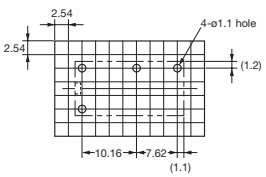
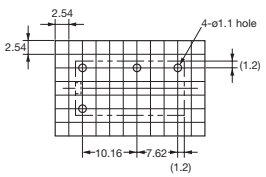
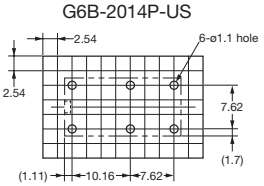
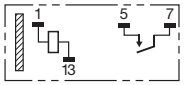
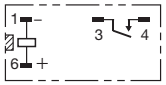
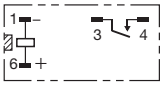
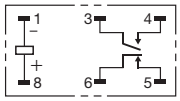
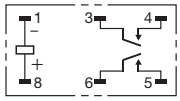
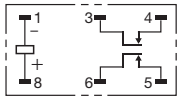
Power Relay Product Lineup INDEX

Model			G6DN	G5NB	
				Standard type	-EL
Outer shape					NEW 
Shape (max. value mm) Length (L) x Width (w) x Height (H)			20.0 x 5.08 x 12.5	20.5 x 7.2 x 15.3	20.5 x 7.2 x 15.3
Features			Small, slim power relay with 1-pole 5 A switching	1-pole 3 A switching relay with impulse withstand voltage of 10 kV And EN61010 strengthened insulation	Small power relay with 1-pole 7 A switching and ignition resistance international-standard compatibility
Contact	Contact form		1a	1a	
	Contact type		Crossbar twin	Single	
	Rated load	Resistive load	100,000 operations min. at 250 VAC, 3 A (Standard) 100,000 operations min. at 30 VDC, 3 A (Standard) 80,000 operations min. at 250 VAC, 5 A (Standard) 80,000 operations min. at 30 VDC, 5 A (Standard) 100,000 operations min. at 250 VAC, 5 A (High durability) 100,000 operations min. at 30 VDC, 5 A (High durability)	200,000 operations min. at 125 VAC, 3 A 200,000 operations min. at 30 VDC, 3 A	200,000 operations min. at 250 VAC, 5 A 50,000 operations min. at 250 VAC, 7 A 100,000 operations min. at 30 VDC, 5 A
		Inductive load COSø=0.4 L/R=7 ms	100,000 operations min. at 250 VAC, 2 A (Standard) 100,000 operations min. at 30 VDC, 2 A (Standard) 200,000 operations min. at 250 VAC, 2 A (High durability) 200,000 operations min. at 30 VDC, 2 A (High durability)	—	
		Capacitive load	—	—	—
	Max. switching current (A)		5 A	3 A	AC: 7 A, DC: 5 A
	Failure rate (mA) P level (reference value)		0.1 VDC 0.1 mA	5 VDC 10 mA	
Coil	Rated voltage		4.5 to 24 VDC	5 to 24 VDC	12 to 24 VDC
	Rated power consumption		Approx. 110 mW	Approx. 200 mW	
Mechanical endurance			20,000,000 operations min.	5,000,000 operations min.	
Dielectric strength	Between coil and contacts		3,000 VAC (Impulse withstand voltage: 6 kV)	4,000 VAC (Impulse withstand voltage: 10 kV)	
	Between contacts of different polarity		—	—	
	Between contacts of the same polarity		750 VAC	750 VAC	
	Between set/reset coil		—	—	
Ambient operating temperature			-40°C to 90°C	-40°C to 70°C	-40°C to 85°C
Functions	2-coil latching relay		—	—	
	1-coil latching relay		—	—	
	Other		—	—	
Enclosure rating	Enclosed		—	—	
	Flux protection		—	●	—
	Sealed		●	●	●
Terminal	PCB terminal		●	●	
	Surface-mounting Terminals		—	—	
	Tab terminal		—	—	
	Screw terminal		—	—	
Approved standards			UL, C-UL, EN/IEC (VDE certification)	UL, CSA, EN/IEC (VDE certification)	
Minimum packing unit			25 pcs/tube	100 pcs/tray	
Weight			Approx. 3 g	Approx. 4 g	
PCB diagram (Unit: mm)			G6DN-1A  (BOTTOM VIEW)	G5NB-1A/G5NB-1A4-EL-HA  (BOTTOM VIEW)	
Terminal array diagram/ internal connection diagram			G6DN-1A  (BOTTOM VIEW)	G5NB-1A/G5NB-1A4-EL-HA  (BOTTOM VIEW)	

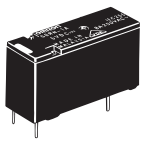
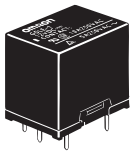
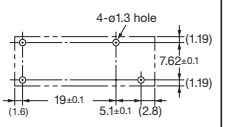
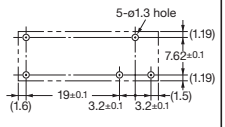
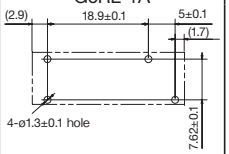
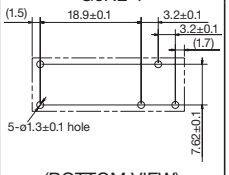
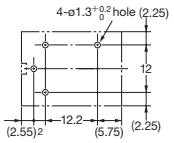
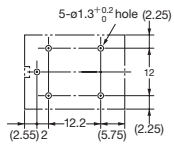
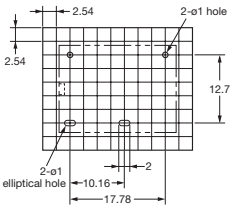
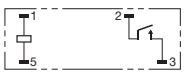
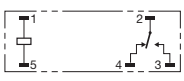
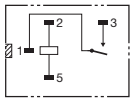
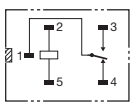
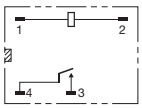
Power Relay Product Lineup INDEX

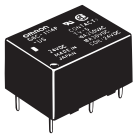
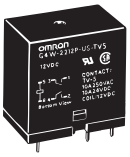
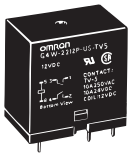
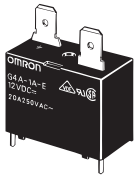
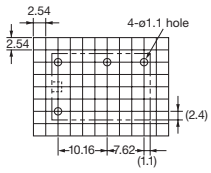
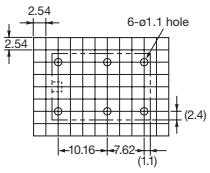
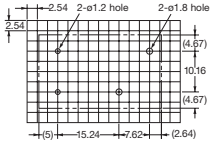
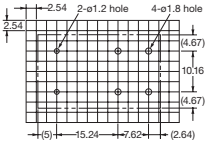
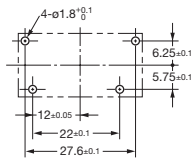
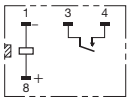
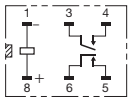
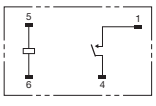
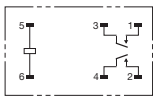
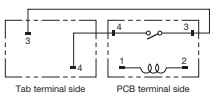
Model			G5Q			
Outer shape Shape (max. value mm) Length (L) x Width (w) x Height (H)			Standard type	-EL	-EL2	-EL3
				 NEW	 NEW	 NEW
			20.3 x 10.3 x 15.8	20.3 x 10.3 x 15.8	20.3 x 10.3 x 15.8	20.3 x 10.3 x 15.8
Features			Small power relay with 1-pole 10 A switching	10 A (250 VAC) high switching capacity with over 100,000 operations and long operating life, with ignition resistance international-standard compatibility	Switching at 40 A inrush current through inrush-current resistance, with ignition resistance international-standard compatibility	30 A inrush current and 3 A breaking current motor load switching, with ignition resistance international-standard compatibility
Contact	Contact form		1a	1c	1a	
	Contact type		Single			
	Rated load	Resistive load	100,000 operations min. at 125 VAC 10 A (N.O.) 200,000 operations min. at 125 VAC 3 A (N.O.) 100,000 operations min. at 250 VAC 3 A (N.O.) 100,000 operations min. at 30 VDC 5 A (N.O.)	200,000 operations min. at 125 VAC 3 A (N.C.) 100,000 operations min. at 250 VAC 3 A (N.C.) 100,000 operations min. at 30 VDC 3 A (N.C.)	100,000 operations min. at 250 VAC, 10 A	—	—
		Inductive load COSø=0.4 L/R=7 ms	—		—	—	Motor load 250 VAC, Inrush: 30 A/0.5 s, Breaking: 3 A cosø=0.5, 300,000 operations min.
		Capacitive load	—		—	250 VAC, Inrush: 40 A/100 µs, Breaking: 1 A, 100,000 operations min.	—
	Max. switching current (A)		10 A			
	Failure rate (mA) P level (reference value)		5 VDC 10 mA			
Coil	Rated voltage		5 to 24 VDC		12 VDC, 24 VDC	5 to 24 VDC
	Rated power consumption		Approx. 200 mW		Approx. 400 mW	
Mechanical endurance			10,000,000 operations min.			
Dielectric strength	Between coil and contacts		4,000 VAC (Impulse withstand voltage: 8 kV)			
	Between contacts of different polarity		—			
	Between contacts of the same polarity		1,000 VAC			
	Between set/reset coil		—			
Ambient operating temperature			-40°C to 85°C			
Functions	2-coil latching relay		—			
	1-coil latching relay		—			
	Other		—			
Enclosure rating	Enclosed		—			
	Flux protection		●	●	—	—
	Sealed		●	—	●	●
Terminal	PCB terminal		●			
	Surface-mounting Terminals		—			
	Tab terminal		—			
	Screw terminal		—			
Approved standards			UL, CSA, EN/IEC (VDE certification)			
Minimum packing unit			40 pcs/tube			100 pcs/tray
Weight			Approx. 6.5 g			
PCB diagram (Unit: mm)			G5Q-1A G5Q-1A4  (BOTTOM VIEW)	G5Q-1 G5Q-14  (BOTTOM VIEW)	G5Q-1A-EL-HA-VH/G5Q-1A4-EL2-HA/ G5Q-1A4-EL3-HA  (BOTTOM VIEW)	
Terminal array diagram/ internal connection diagram			G5Q-1A G5Q-1A4  (BOTTOM VIEW)	G5Q-1 G5Q-14  (BOTTOM VIEW)	G5Q-1A-EL-HA-VH/G5Q-1A4-EL2-HA/ G5Q-1A4-EL3-HA  (BOTTOM VIEW)	

Power Relay Product Lineup INDEX

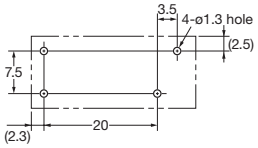
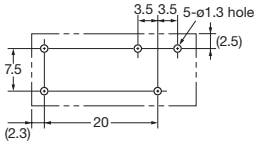
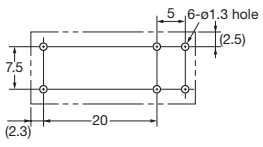
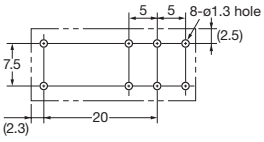
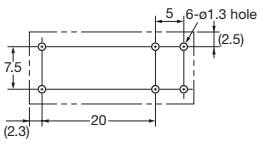
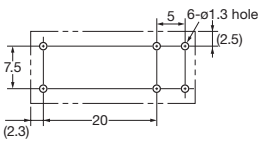
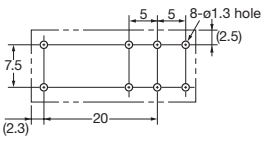
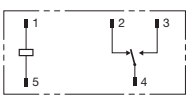
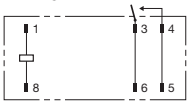
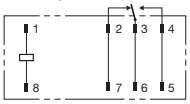
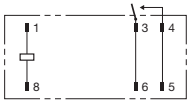
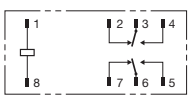
Model			G6D	G6B		
				1-pole		2-pole
				Standard type	High capacity type	Standard type
Outer shape Shape (max. value mm) Length (L) x Width (w) x Height (H)			 17.5 x 6.5 x 12.5	 20 x 10 x 10	 20.2 x 10 x 12.5	 20 x 11 x 11
Features			Small 5 A 1-pole power relay	Small 5 A (8 A) 1a contact power relay		Small 5 A 1a1b, 2a, 2b contact power relay
Contact	Contact form		1a	1a		1a1b, 2a, 2b
	Contact type		Single	Single		
	Rated load	Resistive load	70,000 operations min. at 250 VAC, 5 A 70,000 operations min. at 30 VDC, 5 A 300,000 operations min. at 250 VAC, 2 A 300,000 operations min. at 30 VDC, 2 A	100,000 operations min. at 250 VAC, 5 A 100,000 operations min. at 30 VDC, 5 A	100,000 operations min. at 250 VAC, 8 A 100,000 operations min. at 30 VDC, 8 A	100,000 operations min. at 250 VAC, 5 A 100,000 operations min. at 30 VDC, 5 A
		Inductive load COSø=0.4 L/R=7 ms	—	100,000 operations min. at 250 VAC, 2 A 100,000 operations min. at 30 VDC, 2 A	100,000 operations min. at 250 VAC, 2 A 100,000 operations min. at 30 VDC, 2 A	100,000 operations min. at 250 VAC, 1.5 A 100,000 operations min. at 30 VDC, 1.5 A
	Max. switching current (A)		5 A	5 A	8 A	5 A
	Failure rate (mA) P level (reference value)		5 VDC 10 mA	5 VDC 10 mA		
Coil	Rated voltage		5 to 24 VDC	5 to 24 VDC		
	Rated power consumption		Approx. 200 mW	Approx. 200 mW		Approx. 300 mW
Mechanical endurance			20,000,000 operations min.	50,000,000 operations min.		
Dielectric strength	Between coil and contacts		3,000 VAC (Impulse withstand voltage: 6 kV)	Single stable type: 3,000 VAC (impulse withstand voltage 6 kV) Latching type: 2,000 VAC (impulse withstand voltage 4.5 kV)		
	Between contacts of different polarity		—	—		2,000 VAC
	Between contacts of the same polarity		750 VAC	1,000 VAC		
	Between set/reset coil		—	250 VAC	—	
Ambient operating temperature			-25°C to 70°C	-25°C to 70°C		
Functions	2-coil latching relay		—	●	—	
	1-coil latching relay		—	●	—	
	Other		—	Ultrasonically cleanable		
Enclosure rating	Enclosed		—	—		
	Flux protection		—	—	● (G6B-1177P-ND)	—
	Sealed		●	●		
Terminal	PCB terminal		●	●		
	Surface-mounting Terminals		—	—		
	Tab terminal		—	—		
	Screw terminal		—	—		
Approved standards			UL, CSA, EN/IEC (TÜV certification)	UL, CSA, EN/IEC (TÜV certification)		
Minimum packing unit			25 pcs/tube	100 pcs/tray	20 pcs/tube	100 pcs/tray
Weight			Approx. 3 g	Approx. 3.5 g	Approx. 4.6 g	Approx. 4.5 g
PCB diagram (Unit: mm)			G6D-1A-ASI(-AP)  (BOTTOM VIEW)	G6B-1114P-US  (BOTTOM VIEW)	G6B-1174P-US  (BOTTOM VIEW)	G6B-2114P-US G6B-2214P-US G6B-2014P-US  (BOTTOM VIEW)
Terminal array diagram/ internal connection diagram			G6D-1A-ASI(-AP)  (BOTTOM VIEW)	G6B-1114P-US  (BOTTOM VIEW)	G6B-1174P-US  (BOTTOM VIEW)	G6B-2114P-US  G6B-2214P-US  G6B-2014P-US  (BOTTOM VIEW)

Power Relay Product Lineup INDEX

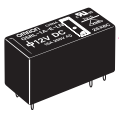
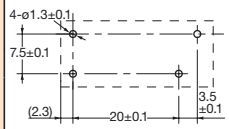
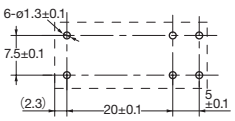
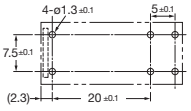
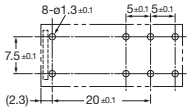
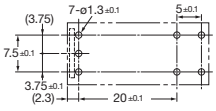
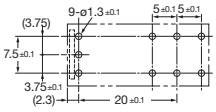
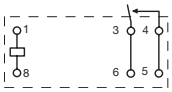
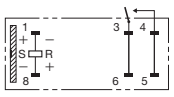
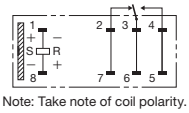
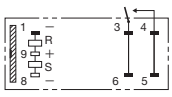
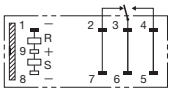
Model			G6RN	G6RL	G5LE	G5CA	
						G5CA	G5CA-E
Outer shape Shape (max. value mm) Length (L) x Width (w) x Height (H)			 28.5 x 10 x 15	 28.5 x 10 x 12.3	 22.5 x 16.5 x 19	 22 x 16 x 11	
Features			Small 1-pole power relay with 8 A switching and impulse withstand voltage of 10 kV	Low profile 1-pole power relay with 10 A switching and 12.3 mm height	10 A cubic type 1-pole power relay	Flat power relay with 10, 15 A switching	
Contact	Contact form		1a, 1c	1a, 1c	1a, 1c	1a	
	Contact type		Single	Single	Single	Single	
	Rated load	Resistive load	50,000 operations min. at 250 VAC, 8 A 50,000 operations min. at 30 VDC, 5 A	50,000 operations min. at 250 VAC, 8 A 50,000 operations min. at 24 VDC, 5 A	100,000 operations min. at 120 VAC, 10 A 100,000 operations min. at 30 VDC, 8 A	300,000 operations min. at 250 VAC, 10 A 100,000 operations min. at 30 VDC, 10 A	100,000 operations min. at 110 VAC, 15 A 100,000 operations min. at 30 VDC, 10 A
		Inductive load COSø=0.4 L/R=7 ms	—	—	—	100,000 operations min. at 250 VAC, 3 A 100,000 operations min. at 30 VDC, 3 A	100,000 operations min. at 110 VAC, 5 A 100,000 operations min. at 30 VDC, 3 A
	Max. switching current (A)		8 A	10 A	10 A	10 A	15 A
	Failure rate (mA) P level (reference value)		5 VDC 10 mA	5 VDC 10 mA	5 VDC 100 mA	5 VDC 100 mA	
Coil	Rated voltage		5 to 24 VDC	3 to 48 VDC	5 to 24 VDC	5 to 24 VDC	
	Rated power consumption		Approx. 220 mW	Approx. 220 to 240 mW	Approx. 400 mW	Approx. 150 to 200 mW	
Mechanical endurance			10,000,000 operations min.	10,000,000 operations min.	10,000,000 operations min.	20,000,000 operations min.	
Dielectric strength	Between coil and contacts		4,000 VAC (Impulse withstand voltage: 10 kV)	5,000 VAC (Impulse withstand voltage: 10 kV)	2,000 VAC (Impulse withstand voltage: 4.5 kV)	2,500 VAC (Impulse withstand voltage: 4.5 kV)	
	Between contacts of different polarity		—	—	—	—	
	Between contacts of the same polarity		1,000 VAC	1,000 VAC	750 VAC	1,000 VAC	
	Between set/reset coil		—	—	—	—	
Ambient operating temperature			-40°C to 85°C	-40°C to 85°C	-25°C to 85°C	-25°C to 70°C	
Functions	2-coil latching relay		—	—	—	—	
	1-coil latching relay		—	—	—	—	
	Other		—	—	—	—	
Enclosure rating	Enclosed		—	—	—	—	
	Flux protection		—	●	●	●	
	Sealed		●	●	●	●	—
Terminal	PCB terminal		●	●	●	●	●
	Surface-mounting Terminals		—	—	—	—	—
	Tab terminal		—	—	—	—	●(#187) TP type
	Screw terminal		—	—	—	—	
Approved standards			UL, CSA, EN/IEC (VDE certification)	UL, C-UL, EN/IEC (VDE certification)	UL, CSA, EN/IEC (VDE certification), EN/IEC (TÜV certification)	UL, CSA, EN (TÜV certification)	
Minimum packing unit			20 pcs/tube	100 pcs/tray	100 pcs/tray	20 pcs/tube	
Weight			Approx. 9 g	Approx. 7.8 g	Approx. 12 g	Approx. 8 g (TP type: approx. 9.6 g)	
PCB diagram (Unit: mm)			G6RN-1A  G6RN-1  (BOTTOM VIEW)	G6RL-1A  G6RL-1  (BOTTOM VIEW)	G5LE-1A  G5LE-1  (BOTTOM VIEW)	G5CA-1A(-E)  (BOTTOM VIEW)	
Terminal array diagram/ internal connection diagram			G6RN-1A  G6RN-1  (BOTTOM VIEW)	G6RL-1A  G6RL-1  (BOTTOM VIEW)	G5LE-1A  G5LE-1  (BOTTOM VIEW)	G5CA-1A(-E)  (BOTTOM VIEW)	

Model			G6C		G4W		G4A
					1-pole	2-pole	
Outer shape							
Shape (max. value mm) Length (L) x Width (w) x Height (H)			20 x 15 x 10		30.5 x 19.5 x 30.5	30.5 x 19.5 x 30.5	30.5 x 16 x 23.5
Features			Small 1-pole 10 A (1a1b, 8 A) power relay		Impulse voltage 10 kV For switching with power source with 4 kV dielectric strength		Optimal for air conditioner compressor load and inverter load 1-pole power relay
Contact	Contact form		1a	1a1b	1a	2a	1a
	Contact type		Single		Single		Single
	Rated load	Resistive load	100,000 operations min. at 250 VAC, 10 A 100,000 operations min. at 30 VDC, 10 A	100,000 operations min. at 250 VAC, 8 A 100,000 operations min. at 30 VDC, 8 A	100,000 operations min. at 250 VAC, 15 A 100,000 operations min. at 24 VAC, 15 A	100,000 operations min. at 250 VAC, 10 A 100,000 operations min. at 24 VAC, 10 A	100,000 operations min. at 250 VAC, 20 A
		Inductive load COSø=0.4 L/R=7 ms	100,000 operations min. at 250 VAC, 5 A 100,000 operations min. at 30 VDC, 5 A	100,000 operations min. at 250 VAC, 3.5 A 100,000 operations min. at 30 VDC, 3.5 A	100,000 operations min. at 250 VAC, 10 A 100,000 operations min. at 24 VDC, 7.5 A	100,000 operations min. at 250 VAC, 7.5 A 100,000 operations min. at 24 VDC, 5 A	—
	Max. switching current (A)		10 A	8 A	15 A	10 A	20 A
	Failure rate (mA) P level (reference value)		5 VDC 10 mA		5 VDC 100 mA		5 VDC 100 mA
Coil	Rated voltage		3 to 24 VDC		12 to 100 VDC		12 VDC, 24 VDC
	Rated power consumption		Approx. 200 mW		Approx. 800 mW		Approx. 900 mW
Mechanical endurance			50,000,000 operations min.		5,000,000 operations min.		2,000,000 operations min.
Dielectric strength	Between coil and contacts		2,000 VAC (Impulse withstand voltage: 6 kV)		4,000 VAC (Impulse withstand voltage: 10 kV)		4,500 VAC (Impulse withstand voltage: 8.5 kV)
	Between contacts of different polarity		—	2,000 VAC	2,000 VAC		—
	Between contacts of the same polarity		1,000 VAC		1,500 VAC		1,000 VAC
	Between set/reset coil		250 VAC		—		—
Ambient operating temperature			-25°C to 70°C		-25°C to 55°C		-25°C to 60°C
Functions	2-coil latching relay		●		—		—
	1-coil latching relay		●		—		—
	Other		Ultrasonically cleanable		Full wave rectification		—
Enclosure rating	Enclosed		—		●		—
	Flux protection		●		—		●
	Sealed		●		—		—
Terminal	PCB terminal		●		●		●
	Surface-mounting Terminals		—		—		—
	Tab terminal		—		—		●(#250)
	Screw terminal		—		—		—
Approved standards			UL, CSA, EN/IEC (VDE certification), EN/IEC (TÜV certification)		UL, CSA, EN/IEC (VDE certification), EN/IEC (TÜV certification)		UL, CSA, EN/IEC (VDE certification)
Minimum packing unit			100 pcs/tray		50 pcs/tray		50 pcs/tray
Weight			Approx. 5.6 g		Approx. 29 g		Approx. 23 g
PCB diagram (Unit: mm)			G6C-1114P-US	G6C-2114P-US	G4W-1112P-US-TV8	G4W-2212P-US-TV5	G4A-1A-E
							
			(BOTTOM VIEW)	(BOTTOM VIEW)	(BOTTOM VIEW)	(BOTTOM VIEW)	(BOTTOM VIEW)
Terminal array diagram/ internal connection diagram			G6C-1114P-US	G6C-2114P-US	G4W-1112P-US-TV8	G4W-2212P-US-TV5	G4A-1A-E
							
			(BOTTOM VIEW)	(BOTTOM VIEW)	(BOTTOM VIEW)	(BOTTOM VIEW)	(TOP VIEW) (BOTTOM VIEW)

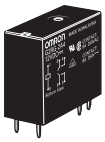
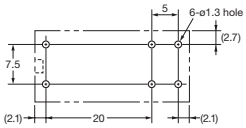
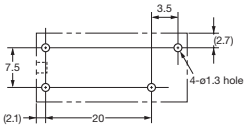
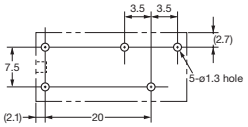
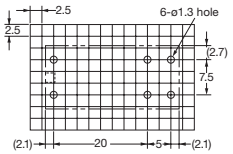
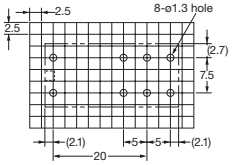
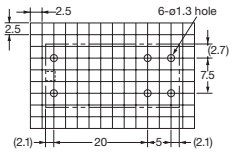
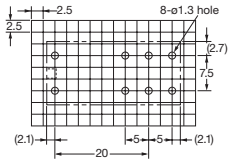
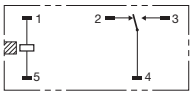
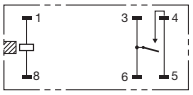
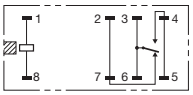
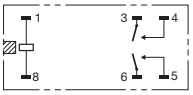
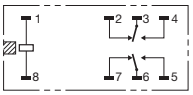
Power Relay Product Lineup INDEX

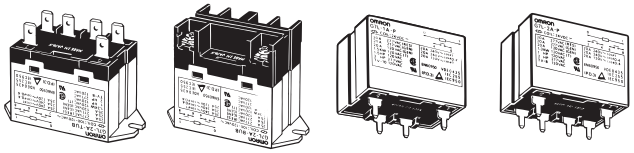
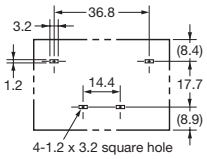
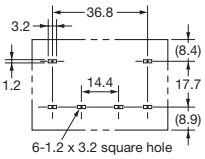
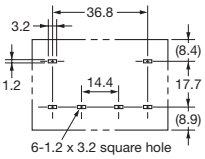
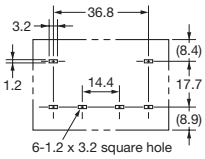
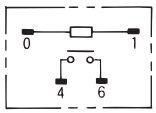
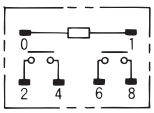
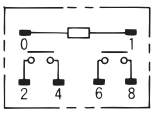
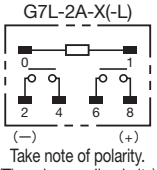
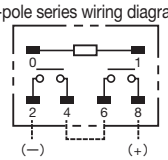
Model			G2RL			
			1-pole	1-pole (high capacity type)	1-Pole (TV-3 rating)	2-pole
Outer shape Shape (max. value mm) Length (L) x Width (w) x Height (H)			 29.0 x 12.7 x 15.7	 29.0 x 12.7 x 15.7	NEW  29.0 x 12.7 x 15.7	 29.0 x 12.7 x 15.7
Features			1-pole 10 A general purpose type	16 A high current type	TV-3 compatible type	2-pole 5 A general purpose type
Contact	Contact form		1a, 1c		1a	2a, 2c
	Contact type		Single			
	Rated load	Resistive load	50,000 operations min. at 250 VAC, 12 A 30,000 operations min. at 24 VDC, 12 A	G2RL-1(A)-E, G2RL-1A-E-ASI 30,000 operations min. at 250 VAC, 16 A 30,000 operations min. at 24 VDC, 16 A G2RL-1A-E-CV 50,000 operations min. at 250 VAC, 16 A at 105°C		30,000 operations min. at 250 VAC, 8 A 30,000 operations min. at 24 VDC, 8 A
		Inductive load COSø=0.4 L/R=7 ms	—	—	—	—
	Max. switching current (A)		12 A	16 A		8 A
	Failure rate (mA) P level (reference value)		24 VDC 40 mA			
Coil	Rated voltage		5 to 48 VDC			
	Rated power consumption		5 to 24 VDC: Approx. 400 mW, 48 VDC: Approx. 430 mW			
Mechanical endurance			20,000,000 operations min.			
Dielectric strength	Between coil and contacts		5,000 VAC (Impulse withstand voltage: 10 kV)			
	Between contacts of different polarity		—			2,500 VAC
	Between contacts of the same polarity		1,000 VAC			
	Between set/reset coil		—			
Ambient operating temperature			-40°C to 85°C, -40°C to 105°C (-CV type)			
Functions	2-coil latching relay		—			
	1-coil latching relay		—			
	Other		—			
Enclosure rating	Enclosed		—			
	Flux protection		●			
	Sealed		●			
Terminal	PCB terminal		●			
	Surface-mounting Terminals		—			
	Tab terminal		—			
	Screw terminal		—			
Approved standards			UL, CSA, EN/IEC (VDE certification)			
Minimum packing unit			20 pcs/tube			
Weight			Approx. 12 g			
PCB diagram (Unit: mm)			G2RL-1A  G2RL-1  (BOTTOM VIEW)	G2RL-1A-E  G2RL-1-E  (BOTTOM VIEW)	G2RL-1A-E-ASI  (BOTTOM VIEW)	G2RL-2A  G2RL-2  (BOTTOM VIEW)
Terminal array diagram/ internal connection diagram			G2RL-1A  G2RL-1  (BOTTOM VIEW)	G2RL-1A-E  G2RL-1-E  (BOTTOM VIEW)	G2RL-1A-E-ASI  (BOTTOM VIEW)	G2RL-2A  G2RL-2  (BOTTOM VIEW)

Power Relay Product Lineup INDEX

Model			G5RL			G5RL-U/-K	
			Standard (quiet)	High capacity (quiet)	High capacity (TV-8 rating)	1-coil latching relay	2-coil latching relay
Outer shape Shape (max. value mm) Length (L) x Width (w) x Height (H)			 29.0 x 12.7 x 15.7	 29.0 x 12.7 x 15.7	NEW  29.0 x 12.7 x 15.7	NEW  29.0 x 12.7 x 15.7	
Features			Low profile power relay with a TV-8 rating and low noise			Small latching relay with low profile and 16 A switching	
Contact	Contact form		1a			1a, 1c	
	Contact type		Single			Single	
	Rated load	Resistive load	100,000 operations min. at 250 VAC, 12 A 100,000 operations min. at 24 VDC, 12 A	50,000 operations min. at 250 VAC, 16 A 50,000 operations min. at 24 VDC, 16 A		50,000 operations min. at 250 VAC 16 A (N.O.) 50,000 operations min. at 250 VAC 5 A (N.C.) 50,000 operations min. at 24 VDC 16 A (N.O.) 50,000 operations min. at 24 VDC 5 A (N.C.)	
		Inductive load COSø=0.4 L/R=7 ms	—			—	
	Max. switching current (A)		12 A	16 A		16 A (N.O.), 5 A (N.C.)	
	Failure rate (mA) P level (reference value)		5 VDC 100 mA			—	
Coil	Rated voltage		5 to 24 VDC		5 to 48 VDC	3 to 24 VDC	5 to 24 VDC
	Rated power consumption		Approx. 530 mW		Approx. 400 mW (Approx. 430 mW with 48 VDC only)	Approx. 600 mW	Approx. 750 mW (Approx. 840 mW with 24 VDC only)
Mechanical endurance			1,000,000 operations min.		10,000,000 operations min.	5,000,000 operations min.	
Dielectric strength	Between coil and contacts		6,000 VAC (Impulse withstand voltage: 10 kV)			6,000 VAC (Impulse withstand voltage: 10 kV)	
	Between contacts of different polarity		—			—	
	Between contacts of the same polarity		1,000 VAC			1,000 VAC	
	Between set/reset coil		—			—	
Ambient operating temperature			-40°C to 85°C			-40°C to 85°C	
Functions	2-coil latching relay		—			—	●
	1-coil latching relay		—			●	—
	Other		—			—	
Enclosure rating	Enclosed		—			—	
	Flux protection		●			●	
	Sealed		—			—	
Terminal	PCB terminal		●			●	
	Surface-mounting Terminals		—			—	
	Tab terminal		—			—	
	Screw terminal		—			—	
Approved standards			UL, C-UL, EN/IEC (VDE certification)		UL, CSA, EN/IEC (VDE certification)	UL, CSA, EN/IEC (VDE certification)	
Minimum packing unit			100 pcs/tray			100 pcs/tray	
Weight			Approx. 10 g			Approx. 10 g	
PCB diagram (Unit: mm)			G5RL-1A-LN  (BOTTOM VIEW)	G5RL-1A-E-LN/G5RL-1A-E-TV8  (BOTTOM VIEW)		G5RL-U1A-E  G5RL-U1-E  (BOTTOM VIEW)	G5RL-K1A-E  G5RL-K1-E  (BOTTOM VIEW)
Terminal array diagram/ internal connection diagram			G5RL-1A-LN  (BOTTOM VIEW)	G5RL-1A-E-LN/G5RL-1A-E-TV8  (BOTTOM VIEW)		G5RL-U1A-E  Note: Take note of coil polarity. G5RL-U1-E  Note: Take note of coil polarity. (BOTTOM VIEW)	G5RL-K1A-E  Note: Take note of coil polarity. G5RL-K1-E  Note: Take note of coil polarity. (BOTTOM VIEW)

Power Relay Product Lineup INDEX

Model			G2RG	G2R		
				1-pole	1-pole (high capacity type)	2-pole
Outer shape Shape (max. value mm) Length (L) x Width (w) x Height (H)			 29.0 x 13.5 x 25.5	 29 x 13 x 25.5		 29 x 13 x 25.5
Features			Small power relay with high voltage 5 A switching at 110 VDC (1a contact with 2-pole series wiring at 1.5 mm)	1-pole 10 A general purpose type	16 A high capacity type	2-pole 5 A general purpose type
Contact	Contact form		2a	1a, 1c		2a, 2c
	Contact type		Single	Single		
	Rated load	Resistive load	10,000 operations min. at 250 VAC 8 A 10,000 operations min. at 110 VDC 5 A (with 2-pole series wiring)	100,000 operations min. at 250 VAC, 10 A 100,000 operations min. at 30 VDC, 10 A (Flux protection)	100,000 operations min. at 250 VAC, 16 A 100,000 operations min. at 30 VDC, 16 A	100,000 operations min. at 250 VAC, 5 A 100,000 operations min. at 30 VDC, 5 A (Flux protection)
		Inductive load COSø=0.4 L/R=7 ms	—	100,000 operations min. at 250 VAC, 7.5 A 100,000 operations min. at 30 VDC, 5 A (Flux protection)	100,000 operations min. at 250 VAC, 8 A 100,000 operations min. at 30 VDC, 8 A	100,000 operations min. at 250 VAC, 2 A 100,000 operations min. at 30 VDC, 3 A (Flux protection)
	Max. switching current (A)		8 A	10 A (Flux protection) 8 A (Sealed)	16 A	5 A (Flux protection) 4 A (Sealed)
	Failure rate (mA) P level (reference value)		5 VDC 10 mA	5 VDC 100 mA		5 VDC 10 mA
Coil	Rated voltage		12 VDC, 24 VDC	5 to 100 VDC, 12 to 200 VAC		
	Rated power consumption		Approx. 800 mW	DC: Approx. 530 mW, AC: Approx. 900 mVA		
Mechanical endurance			1,000,000 operations min.	DC coil specifications: 20,000,000 operations min., AC coil specifications: 10,000,000 operations min.		
Dielectric strength	Between coil and contacts		5,000 VAC (Impulse withstand voltage: 10 kV)	5,000 VAC (Impulse withstand voltage: 10 kV)		
	Between contacts of different polarity		3,000 VAC	—		3,000 VAC
	Between contacts of the same polarity		1,000 VAC	1,000 VAC		
	Between set/reset coil		—	1,000 VAC	—	1,000 VAC
Ambient operating temperature			-40°C to 70°C	-40°C to 70°C		
Functions	2-coil latching relay		—	●	—	●
	1-coil latching relay		—	—		
	Other		—	Ultrasonically cleanable, full wave rectification (excluding high current type)		
Enclosure rating	Enclosed		—	● (Tab terminal)	—	
	Flux protection		—	●		
	Sealed		●	●	—	●
Terminal	PCB terminal		●	●		
	Surface-mounting Terminals		—	—		
	Tab terminal		—	●(#187)	—	
	Screw terminal		—	—		
Approved standards			UL, CSA, EN/IEC (VDE certification)	UL, CSA, EN/IEC (VDE certification), EN (TÜV certification)		
Minimum packing unit			50 pcs/tray	50 pcs/tray (100 pcs/tray for tab terminal)		
Weight			Approx. 17.2 g	Approx. 17 g (Approx. 20 g for tab terminal)		
PCB diagram (Unit: mm)			G2RG-2A4  (BOTTOM VIEW)	G2RL-1A  G2R-1  (BOTTOM VIEW)	G2R-1A-E  G2RL-1-E  (BOTTOM VIEW)	G2R-2A  G2RL-2  (BOTTOM VIEW)
Terminal array diagram/ internal connection diagram			G2RG-2A4  (BOTTOM VIEW)	G2RL-1A  G2R-1  (BOTTOM VIEW)	G2R-1A-E  G2RL-1-E  (BOTTOM VIEW)	G2R-2A  G2RL-2  (BOTTOM VIEW)

Model			G7L				
			G7L			G7L-PV	G7L-X (standard) G7L-X-L (general purpose)
Outer shape Shape (max. value mm) Length (L) x Width (w) x Height (H)			 52.5 x 35.5 x 41 (PCB terminal)			 52.5 x 35.5 x 41	NEW  52.5 x 35.5 x 41
Features			•Multi polar power relay, strong against sudden drops in voltage •Wide range with 100 V and 200 V coils			Solar system Relay for PV inverter	600 to 1,000 VDC isolation/switching thanks to 2-pole series wiring
Contact	Contact form		1a (-T□, B□ type)	2a (-T□, B□ type)	1a, 2a (-P type)	2a	2a
	Contact type		Double break			Double break	Double break
	Rated load	Resistive load	100,000 operations min. at 220 VAC, 30 A	100,000 operations min. at 220 VAC, 25 A	100,000 operations min. at 220 VAC, 20 A	30,000 operations min. at 280 VAC, 30 A	100 operations at 1,000 VDC 25 A (standard) 6,000 operations at 600 VDC 25 A (standard) 100 operations at 1,000 VDC 20 A (general purpose) 6,000 operations at 600 VDC 20 A (general purpose)
		Inductive load COSø=0.4 L/R=7 ms	100,000 operations min. at 220 VAC, 25 A		100,000 operations min. at 220 VAC, 20 A	30,000 operations min. at 280 VAC, 30 A (COSø=0.8)	—
	Max. switching current (A)		30 A	25 A	20 A	30 A	25 A (standard), 20 A (general purpose)
	Failure rate (mA) P level (reference value)		5 VDC 100 mA			5 VDC 100 mA	5 VDC 100 mA
Coil	Rated voltage		6 to 100 VDC, 12 to 200/240 VAC			12 VDC, 24 VDC	12 VDC, 24 VDC
	Rated power consumption		DC: Approx. 1.9 W, AC: Approx. 1.7 to 2.5 VA			2.3 W	Approx. 2.3 W
Mechanical endurance			1,000,000 operations min.			1,000,000 operations min.	1,000,000 operations min.
Dielectric strength	Between coil and contacts		4,000 VAC (Impulse withstand voltage: 10 kV)			4,000 VAC	4,000 VAC (Impulse withstand voltage: 10 kV)
	Between contacts of different polarity		—	2,000 VAC		2,000 VAC	2,000 VAC
	Between contacts of the same polarity		2,000 VAC			2,000 VAC	2,000 VAC
	Between set/reset coil		—			—	—
Ambient operating temperature			-25°C to 60°C			-25°C to 85°C	-40°C to 85°C
Functions	2-coil latching relay		—			—	—
	1-coil latching relay		—			—	—
	Other		Test button (excluding P type)			—	—
Enclosure rating	Enclosed		●			●	—
	Flux protection		—			—	●
	Sealed		—			—	—
Terminal	PCB terminal		—		●	●	●
	Surface-mounting Terminals		—			—	—
	Tab terminal		●		—	—	—
	Screw terminal		●		—	—	—
Approved standards			UL, CSA, EN (TÜV certification)			UL, VDE	UL, EN/IEC (VDE certification)
Minimum packing unit			20 pcs/tray			20 pcs/tray	20 pcs/tray
Weight			Approx. 90 g (tab terminal), approx. 120 g (screw terminal), approx. 100 g (PCB terminal)			Approx. 100 g	Approx. 100 g
PCB diagram (Unit: mm)			G7L-1A-P  4-1.2 x 3.2 square hole (BOTTOM VIEW)		G7L-2A-P  6-1.2 x 3.2 square hole (BOTTOM VIEW)	G7L-2A-P-PV  6-1.2 x 3.2 square hole (BOTTOM VIEW)	G7L-2A-X(-L)  6-1.2 x 3.2 square hole (BOTTOM VIEW)
Terminal array diagram/ internal connection diagram			G7L-1A-P  (BOTTOM VIEW)		G7L-2A-P  (BOTTOM VIEW)	G7L-2A-P-PV  (BOTTOM VIEW)	G7L-2A-X(-L)  Take note of polarity. (There is no coil polarity) 2-pole series wiring diagram  Use this product in a 2-pole series connection. (BOTTOM VIEW)

Applications

For many devices and applications in every field

From household use to public infrastructure, these products can be used in every field and for all purposes with many variations.

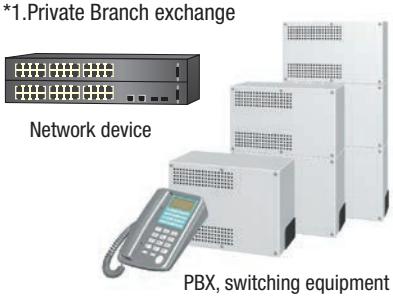
Signal Relay

You can use single relays in the following devices for system switching, signal switching, and more.

Communication equipment

Telephone switchboard, PBX*1, fax machines
IP telephones, various modems
Network devices (switches, routers, etc.)

Applications: system switching,
dial pulse transmission
*1.Private Branch exchange



Network device

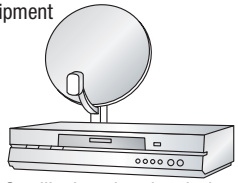
PBX, switching equipment

Broadcasting and video equipment

Broadcasting equipment
Satellite broadcasting receivers

Applications: redundancy switching,
system switching

Broadcasting equipment



Satellite broadcasting device

Wireless devices

Various wireless devices,
GPS*2 devices, etc.

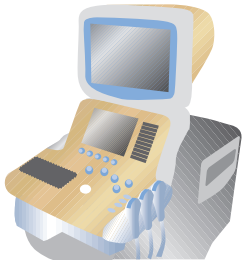
Applications: system switching
*2.Global Positioning System

Wireless device

Medical and health-related equipment

Ultrasonic echography equipment,
various treatment devices
Various health and beauty devices

Applications: sensor switching,
system switching

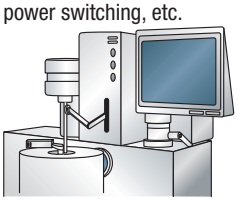


Ultrasonic echography equipment

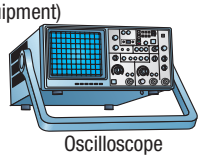
Testing and measurement equipment

Various oscilloscope measurement devices
Various IC tester inspection equipment

Applications: input/output switching,
power switching, etc.



ATE (Automated Test Equipment)



Oscilloscope

Entertainment devices

Game machines, peripheral equipment, etc.

Applications: information output

Game machine

Security devices

Gas detectors and other disaster prevention devices
Alarm systems and other crime prevention devices

Applications: alarm output

Control panel

Detector

Industrial equipment

Machine tools, molding machines, welding machines
Mounters and other industrial robots

Applications: system switching, control switching

Machine tool

Other devices

OA devices, AV devices, electric appliances

Applications: system switching, etc.

Multimedia

Multifunction machine

Applications

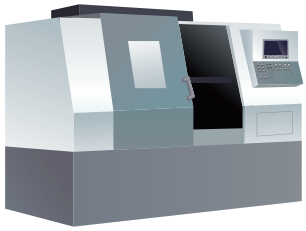
Power Relay

Can be used in a wide range of fields where power relays directly switch the loads, such as in motors, lamps, heaters, etc.

Industrial equipment

Machine tools, molding machines, welding machines, mounters and other industrial robots

Applications: control of motors, heaters, etc.



Machine tool

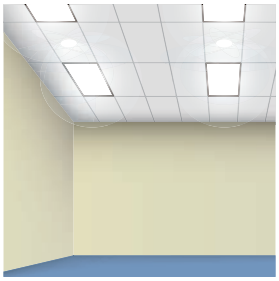
Robot

Household appliances

Shutter doors, lights

Applications: control of motors, lighting, etc.

Automatic shutter door



Lights

Power equipment

UPS, switching power

Applications: power control

UPS

Switching power

Household devices

Air conditioners, washing machines, refrigerators, etc.

Applications: control of compressors, pumps, motors, heaters, etc.

Air conditioner

Washing machine

Refrigerator

FA equipment

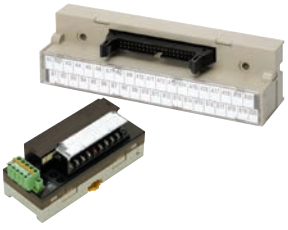
PLC, temperature regulators, timers, various I/O devices

Applications: control external device load

PLC

Temperature regulator

Timer

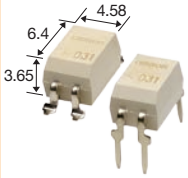


Various I/O devices

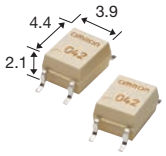
MOS FET Relay (G3VM) Introduction

● **Contributing to reduction in size and maintenance reduction**
Over 160 varieties of products with 6 packages (DIP/SOP/SSOP/USOP/VSON/S-VSON)

DIP
Bottom surface 100%



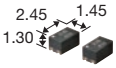
SOP
Bottom surface 59%



SSOP
Bottom surface 26%

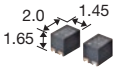
USOP
Bottom surface 21%

VSON
Bottom surface 12%

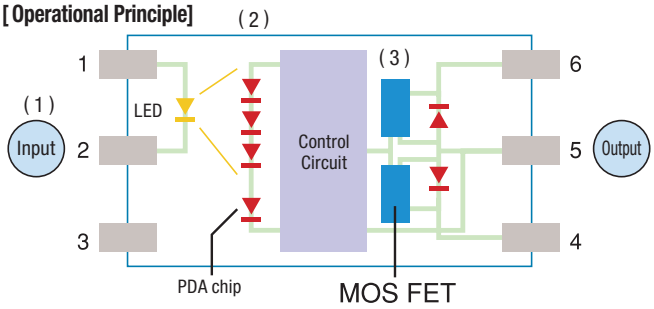


S-VSON
Bottom surface 10%

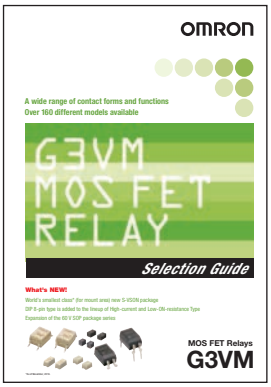
* 82% of VSON



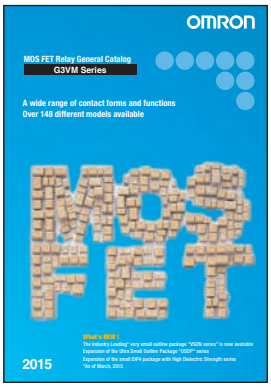
[Operational Principle]



(1) The LED lights up when the current is connected at the input side.
(2) The light sent by the LED will be converted into voltage when it is received by the photodiode.
(3) This voltage will be the gate voltage to drive the MOS FET via control circuit.



G3VM Series MOS FET Relay Selection Guide
(Cat. No. Y112)



G3VM Series MOS FET Relay General Catalog
(Cat. No. X083)

OMRON Corporation
Electronic and Mechanical Components Company
Contact: www.omron.com/ecb

Cat. No. Y225-E1-01
0317(0317)(O)