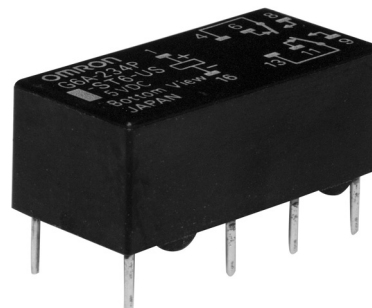


Low Signal Relay G6A

- High sensitivity -- can be driven by digital circuits.
- Low-profile design allows use in 12.70 mm (0.50 in) PC board rack.
- Surge withstand voltage meets FCC Part 68 regulation.
- Units can be mounted side by side due to low magnetic leakage.
- Special models available for ultrasonic cleaning and low thermoelectromotive force.
- Unique moving loop (permanent magnet) armature reduces relay size, magnetic interference, and contact bounce time.
- Single or dual coil winding types available.



Ordering Information

To Order: Select the part number and add the desired coil voltage rating, (e.g., G6A-274P-ST-US-DC12).

■ Non-latching

Type	Contact form	Model	
		AgPd (Au clad)	Ag (Au clad)
Standard	DPDT	G6A-234P-ST-US	G6A-274P-ST-US
	4PDT	G6A-434P-ST-US	G6A-474P-ST-US
High-sensitivity	DPDT	G6A-234P-ST15-US	G6A-274P-ST15-US
	4PDT	G6A-434P-ST20-US	G6A-474P-ST20-US
Low-sensitivity	DPDT	G6A-234P-ST40-US	G6A-274P-ST40-US
	4PDT	G6A-434P-ST40-US	G6A-474P-ST40-US

■ Latching

Single Coil

Type	Contact form	Model	
		AgPd (Au clad)	Ag (Au clad)
Standard	DPDT	G6AU-234P-ST-US	G6AU-274P-ST-US
	4PDT	G6AU-434P-ST-US	G6AU-474P-ST-US

Dual Coil

Type	Contact form	Model	
		AgPd (Au clad)	Ag (Au clad)
Standard	DPDT	G6AK-234P-ST-US	G6AK-274P-ST-US
	4PDT	G6AK-434P-ST-US	G6AK-474P-ST-US
Low-sensitivity	DPDT	G6AK-234P-ST40-US	G6AK-274P-ST40-US
	4PDT	G6AK-434P-ST40-US	G6AK-474P-ST40-US

Note: Other options available for ST10 ultra high reliability, high temperature 85°C (185°F), ST1 reverse coil polarity, BS British standard. Contact your OMRON sales representative for details.

Specifications

■ Contact Data

Type	G6A-234P-ST(15,40)-US, G6A-434P-ST(20,40)-US G6AK-234P-ST(40)-US, G6AK-434P-ST(40)-US G6AU-234P-ST-US, G6AU-434P-ST-US		G6A-274P-ST(15,40)-US, G6A-474P-ST(20,40)-US G6AK-274P-ST(40)-US, G6AK-474P-ST(40)-US G6AU-274P-ST-US, G6AU-474P-ST-US	
Load	Resistive load (p.f. = 1)	Inductive load (p.f. = 0.4) (L/R = 7 ms)	Resistive load (p.f. = 1)	Inductive load (p.f. = 0.4) (L/R = 7 ms)
Rated load	0.30 A at 125 VAC, 1 A at 30 VDC	0.20 A at 125 VAC, 0.50 A at 30 VDC	0.50 A at 125 VAC, 2 A at 30 VDC	0.25 A at 125 VAC, 1 A at 30 VDC
Contact material	AgPd (Au clad)	AgPd (Au clad)	Ag (Au clad)	Ag (Au clad)
Carry current	3 A	3 A	3 A	3 A
Max. operating voltage	250 VAC, 220 VDC	250 VAC, 220 VDC	250 VAC, 220 VDC	250 VAC, 220 VDC
Max. operating current	2 A	1 A	2 A	1 A
Max. switching capacity	125 VA, 60 W	62.50 VA, 30 W	125 VA, 60 W	62.50 VA, 30 W
Min. permissible load	10 μ A, 10 mVDC	10 μ A, 10 mVDC	10 μ A, 10 mVDC	10 μ A, 10 mVDC

■ Coil Data

Standard Non-latching DPDT (G6A-234P-ST-US, G6A-274P-ST-US)

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)		Pick-up voltage	Dropout voltage	Maximum voltage	Power consumption (mW)
			Armature OFF	Armature ON				
3	66.70	45	0.07	0.07	70% max.	10% min.	200% at 23°C (73°F)	Approx. 200
5	40	125	0.20	0.18				
6	33.30	180	0.29	0.26				
9	22.20	405	0.63	0.57				
12	16.70	720	1.10	1.06				
24	8.30	2,880	4.50	4.10				
48	4.90	9,750	13.70	12.50				
								Approx. 235

High-sensitivity Non-latching DPDT (G6A-234P-ST15-US, G6A-274P-ST15-US)

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)		Pick-up voltage	Dropout voltage	Maximum voltage	Power consumption (mW)
			Armature OFF	Armature ON				
1.50	100	15	0.02	0.02	80% max.	10% min.	200%	Approx. 150
3	50	60	0.09	0.08				
4.50	33.30	135	0.22	0.20				
5	30	167	0.25	0.21				
6	25	240	0.35	0.31				
9	16.70	540	0.80	0.70				
12	12.50	960	1.35	1.25				
24	6.30	3,840	5.60	5.10				
48	3.20	15,000	22.50	20.00				

Note: The rated current and coil resistance are measured at a coil temperature of 23°C (73°F) with a tolerance of $\pm 10\%$.

Low-sensitivity Non-latching DPDT (G6A-234P-ST40-US, G6A-274P-ST40-US)

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)		Pick-up voltage	Dropout voltage	Maximum voltage	Power consumption (mW)
			Armature OFF	Armature ON				
3	133.30	22.50	0.03	0.02	70% max.	10% min.	150% at 23°C (73°F)	Approx. 400
5	80	62.50	0.08	0.07				
6	66.70	90	0.11	0.10				
9	44.30	203	0.27	0.23				
12	33.30	360	0.52	0.43				
24	16.70	1,440	2.10	1.80				
48	8.30	5,760	7.50	6.40				

Standard Non-latching 4PDT (G6A-434P-ST-US, G6A-474P-ST-US)

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)		Pick-up voltage	Dropout voltage	Maximum voltage	Power consumption (mW)
			Armature OFF	Armature ON				
3	120	25	0.05	0.05	70% max.	10% min.	150% at 23°C (73°F)	Approx. 360
5	72.50	69	0.14	0.12				
6	60	100	0.20	0.17				
9	40	225	0.45	0.38				
12	30	400	0.80	0.68				
24	15	1,600	3.20	2.70				
48	7.50	6,400	12.80	10.90				

High-sensitivity Non-latching 4PDT (G6A-434P-ST20-US, G6A-474P-ST20-US)

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)		Pick-up voltage	Dropout voltage	Maximum voltage	Power consumption (mW)
			Armature OFF	Armature ON				
3	66.70	45	--	--	70% max.	10% min.	200% at 50°C (122°F)	Approx. 200
5	40	125	--	--				
6	33.30	180	--	--				
9	22.20	405	--	--				
12	16.70	720	--	--				
24	8.30	2,880	--	--				
48	4.20	11,520	--	--				

Low-sensitivity Non-latching 4PDT (G6A-434P-ST40-US, G6A-474P-ST40-US)

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)		Pick-up voltage	Dropout voltage	Maximum voltage	Power consumption (mW)
			Armature OFF	Armature ON				
3	133.30	22.50	0.04	0.02	70% max.	10% min.	150% at 23°C (73°F)	Approx. 400
5	80	62.50	0.12	0.09				
6	66.70	90	0.17	0.13				
9	44.30	203	0.42	0.30				
12	33.30	360	0.70	0.52				
24	16.70	1,440	2.80	2.20				
48	8.30	5,760	10.20	8.60				

Note: The rated current and coil resistance are measured at a coil temperature of 23°C (73°F) with a tolerance of ±10%.

Standard Single Coil Latching DPDT (G6AU-234P-ST-US, G6AU-274P-ST-US)

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)		Set pick-up voltage	Reset pick-up voltage	Maximum voltage	Power consumption (mW)
			Armature OFF	Armature ON				
3	33.70	89	0.15	0.11	70% max.	70% min.	200% at 23°C (73°F)	Approx. 100
5	20	250	0.44	0.35				
6	16.70	360	0.64	0.48				
9	11.10	810	1.38	1.07				
12	8.30	1,440	2.50	2				
24	4.20	5,760	9.20	7.20				
48	2.50	19,000	28.50	22				
								Approx. 120

Standard Dual Coil Latching (G6AK-234P-ST-US, G6AK-274P-ST-US)

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)				Set pick-up voltage	Reset pick-up voltage	Maximum voltage	Power consumption (mW)
			Set coil		Reset coil					
			Armature OFF	Armature ON	Armature OFF	Armature ON				
3	66.70	45	0.04	0.03	0.03	0.04	70% max.	70% min.	200% at 23°C (73°F)	Approx. 200
5	36	139	0.11	0.08	0.08	0.11				Approx. 180
6	30	200	0.16	0.12	0.12	0.16				
9	20	450	0.38	0.28	0.28	0.38				
12	15	800	0.60	0.45	0.45	0.60				
24	7.50	3,200	2.10	1.50	1.50	2.10				
48	4.20	11,520	8.50	6.30	6.30	8.50				
								150% at 70°C (158°F)	Approx. 200	

Dual Coil Latching Low-sensitivity DPDT (G6AK-234P-ST40-US, G6AK-274P-ST40-US)

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)				Set pick-up voltage	Reset pick-up voltage	Maximum voltage	Power consumption (mW)
			Set coil		Reset coil					
			Armature OFF	Armature ON	Armature OFF	Armature ON				
3	120	25	0.02	0.01	0.01	0.02	70% max.	70% min.	150% at 23°C (73°F)	Approx. 360
5	72.50	69	0.05	0.04	0.04	0.05				
6	60	100	0.07	0.05	0.05	0.07				
9	40	225	0.16	0.12	0.12	0.16				
12	30	400	0.28	0.20	0.20	0.28				
24	15	1,600	1.10	0.75	0.75	1.10				
48	7.50	6,400	4	2.90	2.9	4				
								110% at 70°C (158°F)		

Standard Single Coil Latching 4PDT (G6AU-434P-ST-US, G6AU-474P-ST-US)

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)		Set pick-up voltage	Reset pick-up voltage	Maximum voltage	Power consumption (mW)
			Armature OFF	Armature ON				
3	106.80	28.10	0.03	0.02	70% max.	70% min.	150% at 23°C (73°F)	Approx. 320
5	64	78.10	0.08	0.06				
6	53.30	112.50	0.11	0.08				
9	35.60	253	0.25	0.18				
12	26.70	450	0.45	0.32				
24	13.30	1,800	1.80	1.30				
48	6.70	7,200	7.00	5.20				
								110% at 70°C (158°F)

Standard Dual Coil Latching 4PDT (G6AK-434P-ST-US, G6AK-474P-ST-US)

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)				Set pick-up voltage	Reset pick-up voltage	Maximum voltage	Power consumption (mW)
			Set coil		Reset coil					
			Armature OFF	Armature ON	Armature OFF	Armature ON				
3	106.80	28.10	0.03	0.02	0.02	0.03	70% max.	70% min.	150% at 23°C (73°F) 110% at 70°C (158°F)	Approx. 320
5	64	78.10	0.08	0.06	0.06	0.08				
6	53.30	112.50	0.11	0.08	0.08	0.11				
9	35.60	253	0.25	0.18	0.18	0.25				
12	26.70	450	0.45	0.32	0.32	0.45				
24	13.30	1,800	1.80	1.30	1.30	1.80				
48	6.70	7,200	7.00	5.20	5.20	7.00				

Dual Coil Latching Low-sensitivity 4PDT (G6AK-434P-ST40-US, G6AK-474P-ST40-US)

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)				Set pick-up voltage	Reset pick-up voltage	Maximum voltage	Power consumption (mW)
			Set coil		Reset coil					
			Armature OFF	Armature ON	Armature OFF	Armature ON				
3	120	25	0.02	0.02	0.02	0.02	70% max.	70% min.	150% at 23°C (73°F) 110% at 70°C (158°F)	Approx. 360
5	72.50	69	0.07	0.05	0.05	0.07				
6	60	100	0.09	0.08	0.08	0.09				
9	40	225	0.18	0.14	0.14	0.18				
12	30	400	0.30	0.23	0.23	0.30				
24	15	1,600	1.20	0.82	0.82	1.20				
48	7.50	6,400	4.40	3.20	3.20	4.40				

Note: The rated current and coil resistance are measured at a coil temperature of 23°C (73°F) with a tolerance of ±10%.

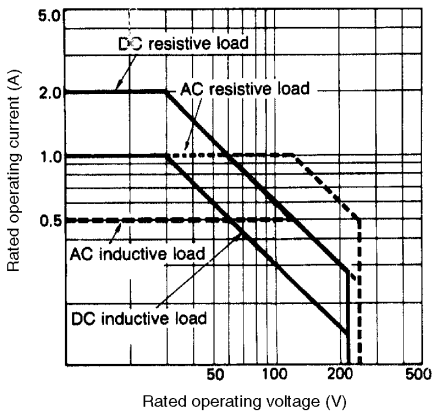
■ Characteristics

Type		Non-latching	Latching
Contact resistance		50 mΩ max.	
Operate (set) time	DPDT	5 ms max. (mean value approx. 3 ms)	5 ms max. (mean value approx. 2.50 ms)
	4PDT	7 ms max. (mean value approx. 3.80 ms)	7 ms max. (mean value approx. 3.30 ms)
Release (reset) time	DPDT	3 ms max. (mean value approx. 1.20 ms)	5 ms max. (mean value approx. 2.50 ms)
	4PDT	5 ms max. (mean value approx. 1.30 ms)	7 ms max. (mean value approx. 2.70 ms)
Bounce time	Operate	Actual value approx. 0.50 ms	
	Release	Actual value approx. 0.50 ms	
Operating frequency	Mechanical	36,000 operations/hour	
	Electrical	1,800 operations/hour (under rated load)	
Insulation resistance		1,000 MΩ min. (at 500 VDC)	
Dielectric strength		1,000 VAC, 50/60 Hz for 1 minute between coil and contacts	
		1,000 VAC, 50/60 Hz for 1 minute between contacts of different poles	
		1,000 VAC, 50/60 Hz for 1 minute between contacts of same pole	
		250 VAC, 50/60 Hz for 1 minute between set and reset coils	
Surge withstand voltage		1,500 V 10 x 16 μs (conforms to FCC Part 68)	
Vibration	Mechanical durability	10 to 55 Hz; 5 mm (0.20 in) double amplitude	
	Malfunction durability	10 to 55 Hz; 3.3 mm (0.13 in) double amplitude	
Shock	Mechanical durability	1,000 m/s ² (Approx. 100G)	
	Malfunction durability	DPDT: 500 m/s ² (Approx. 50 G); 4PDT: 300 m/s ² (Approx. 30 G)	
Ambient temperature		-40° to 70°C (-40° to 158°F)	
Humidity		45% to 85% RH	
Service life	Mechanical	100 million operations min. (at 36,000 operations/hour)	
	Electrical	See "Characteristic Data"	
Weight	DPDT	Approx. 3.5 g (0.12 oz)	
	4PDT	Approx. 6.0 g (0.21 oz)	

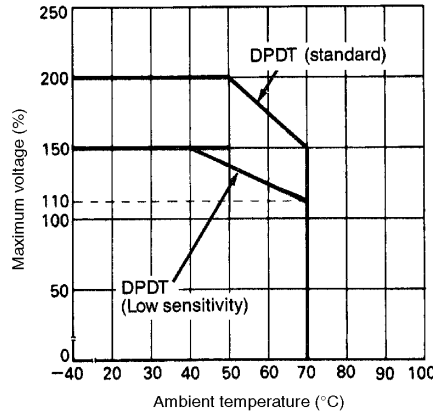
Note: Data shown are of initial value.

■ Characteristic Data

Maximum Switching Capacity
DPDT



Ambient Temperature vs.
Maximum Voltage (reference only)



Electrical Service Life
DPDT

