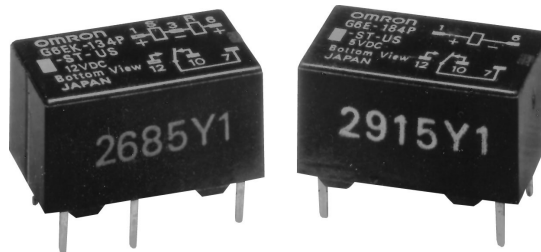


Low Signal Relay G6E

- Subminiature 7.87 H x 9.91 W x 16 L mm (0.31 H x 0.39 W x 0.63 L in).
- High sensitivity with pick-up coil power of 98 mW.
- Surge withstand voltage meets FCC Part 68 rule and Telcordia 2.5 kV Specifications.
- Packaged for automatic insertion.
- Unique moving loop armature reduces relay size, magnetic interference, and contact bounce time.
- Bifurcated crossbar contact assures high reliability.
- Minimal loss of latching capability due to highly efficient magnetic circuit; also, highly resistant to shock and vibration.
- Sealed construction allows automatic solder and cleaning; assures high reliability even in adverse environments.
- RoHS Compliant.



Ordering Information

To Order: Select the part number and add the desired coil voltage rating, (e.g., G6E-134P-ST-US-DC6).

■ Non-latching

Type	Contact form	Model	
		Standard	Low sensitivity
PCB	SPDT	G6E-134P-ST-US	G6E-134PL-ST-US

■ Latching

Type	Contact form	Model			
		Single coil latching		Dual coil latching	
		Standard	Low sensitivity	Standard	Low sensitivity
PCB	SPDT	G6EU-134P-ST-US	--	G6EK-134P-ST-US	G6EK-134PL-ST-US

Specifications

■ Contact Data

Load	Resistive load (p.f. = 1)	Inductive load (p.f. = 0.4) (L/R = 7 ms)
Rated load	0.40 A at 125 VAC, 2 A at 30 VDC	0.20 A at 125 VAC, 1 A at 30 VDC
Contact material	Ag (Au clad)	
Carry current	3 A	
Max. operating voltage	250 VAC, 220 VDC	
Max. operating current	3 A (AC), 3 A (DC)	1.50 A (AC), 1.50 A (DC)
Max. switching capacity	50 VA, 60 W	25 VA, 30 W
Min. permissible load	10 µA, 10 mVDC	

■ Coil Data

Standard Non-latching Type (G6E-134P-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	0.08	0.06	70% max.	10% min.	190% max. at 23°C (73°F)	Approx. 200
5	40	125	0.18	0.17				
6	33.30	180	0.31	0.24				
9	22.20	405	0.62	0.50				
12	16.70	720	1.20	0.99				
24	8.30	2,880	4.70	3.90				
48	8.30	5,760	5.35	5.12				Approx. 400

Low-sensitivity Non-latching Type (G6E-134PL-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	133	22.50	0.03	0.03	70% max.	10% min.	190% max. at 23°C (73°F)	Approx. 400
5	79.40	63	0.08	0.07				
6	66.60	90	0.12	0.10				
9	44.30	203	0.21	0.19				
12	33.30	360	0.45	0.42				
24	16.70	1,440	1.77	1.65				
								115% max. at 70°C (158°F)

Standard Single Coil Latching Type (G6EU-134P-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	66.70	45	0.05	0.04	70% max.	70% min.	190% max. at 23°C (73°F)	Approx. 200
5	40	125	0.13	0.12				
6	33.30	180	0.19	0.17				
9	22.20	405	0.45	0.40				
12	16.70	720	0.84	0.79				
24	8.30	2,880	3.56	3.10				
								130% max. at 70°C (158°F)

Note: 1. The rated current and coil resistance are measured at a coil temperature of 23°C (73°F) with a tolerance of ±10%.

2. The operating characteristics are measured at a coil temperature of 23°C (73°F).

Standard Dual Coil Latching Type (G6EK-134P-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	66.70	45	0.05	0.04	70% max.	70% min.	190% max. at 23°C (73°F)	Approx. 200
5	40	125	0.09	0.08				
6	33.30	180	0.12	0.11				
7	22.20	405	0.25	0.22				
12	16.70	720	0.44	0.41				
24	8.30	2,880	1.66	1.62				
								130% max. at 70°C (158°F)

Low-sensitivity Dual Coil Latching Type (G6EK-134PL-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	133	22.50	0.02	0.01	70% max.	70% min.	170% max. at 23°C (73°F)	Approx. 400
5	79.40	63	0.04	0.03				
6	66.60	90	0.06	0.04				
9	44.30	203	0.12	0.09				
12	33.30	360	0.21	0.15				
24	16.70	1,440	0.80	0.58				

Note: 1. The rated current and coil resistance are measured at a coil temperature of 23°C (73°F) with a tolerance of $\pm 10\%$.
 2. The operating characteristics are measured at a coil temperature of 23°C (73°F).

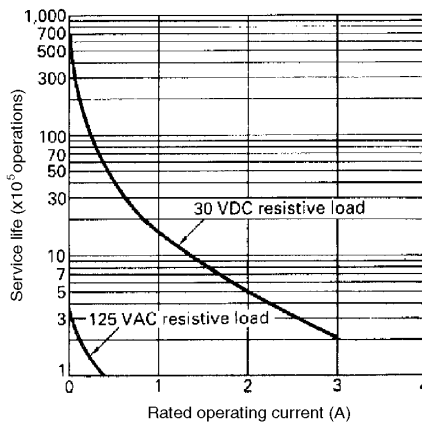
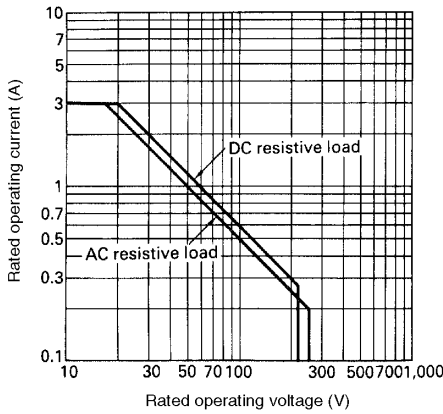
■ Characteristics

Contact resistance (initial)		50 m Ω max.
Operate time (set time)		5 ms max. (mean value approx. 2.90 ms, 48 VDC type, approx. 2.40 ms)
Release time (reset time)		5 ms max. (mean value approx. 1.30 ms)
Bounce time	Operate	Approx. 3 ms (mean value 0.37 ms)
	Release	Approx. 3 ms (mean value 1.12 ms)
Operating frequency	Mechanical	36,000 operations/hour
	Electrical	1,800 operations/hour (under rated load)
Insulation resistance		1,000 M Ω min. (at 500 VDC)
Dielectric strength		1,500 VAC, 50/60 Hz for 1 minute between coil contacts 1,000 VAC, 50/60 Hz for 1 minute between contacts of same pole
Surge withstand voltage		1,500 V 10x160 μ s (conforms to FCC Part 68) 2,500 V 2 x 10 μ s (Telcordia Requirement)
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	300 m/x ² , approx. 30G
Ambient temperature		-40°C to 70°C (-40°F to 158°F)
Humidity		10% to 85% RH
Service life	Mechanical	1 million operations min. (at 36,000 operations/hour)
	Electrical	See "Characteristic Data"
Weight		Approx. 2.7 g (0.10 oz.)

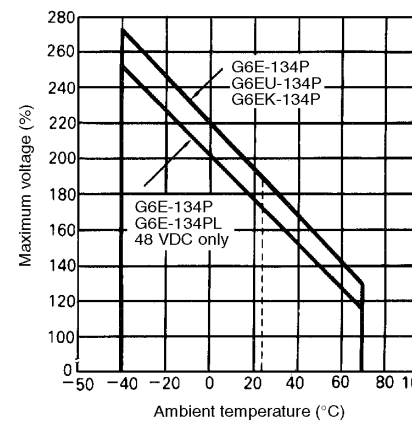
Note: Data shown are of initial value.

Characteristic Data

Maximum Switching Capacity Electrical Service Life



Ambient Temperature vs. maximum Voltage (reference only)

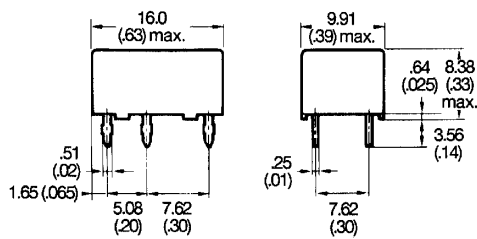


Dimensions

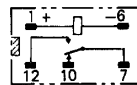
Unit: mm (inch)

Non-latching

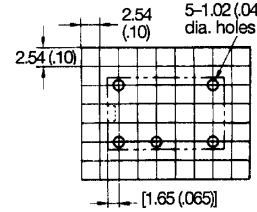
G6E-134P-ST-US, G6E-134PL-ST-US



Terminal arrangement/
Internal connections
(Bottom view)

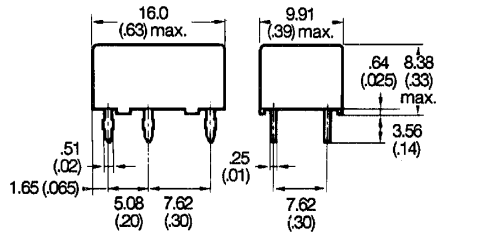


Mounting holes
(Bottom view, tolerance: ±10 (0.004))

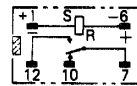


Latching

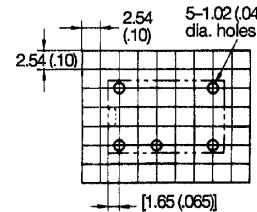
G6EU-134P-ST-US



Terminal arrangement/
Internal connections
(Bottom view)

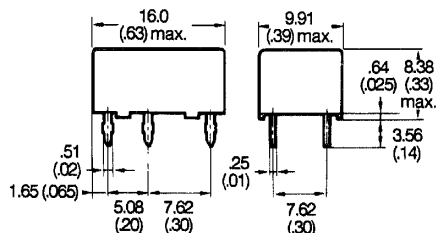


Mounting holes
(Bottom view, tolerance: ±10 (0.004))

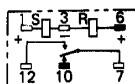


- Note:** 1. indicate mounting orientation marks.
2. Pay attention to the polarity of the coil.

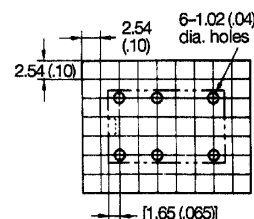
G6EK-134P-ST-US, G6EK-134PL-ST-US



Terminal arrangement/
Internal connections
(Bottom view)



Mounting holes
(Bottom view, tolerance: ±10 (0.004))



Not [] indicate mounting orientation marks.
2. Pay attention to the polarity of the coil.

■ Approvals

UL (File No. E41515)/CSA (File No. LR31928)

Type	Contact form	Coil ratings	Contact ratings
G6E-134P-ST-US	SPDT	1.5 to 48 VDC	0.2 A, 250 VAC (General purpose)
G6E-134PL-ST-US			0.6 A, 125 VAC (General purpose)
G6EU-134P-ST-US			2 A, 30 VDC (Resistive)
G6EK-134P-ST-US			0.6 A, 125 VDC (Resistive)
G6EK-134PL-ST-US			

- Note:**
- The rated values approved by each of the safety standards (e.g., UL, CSA, TUV) may be different from the performance characteristics individually defined in this catalog.
 - In the interest of product improvement, specifications are subject to change.
 - Complies with UL1950 Basic Insulation at 125 V (pollution degree 1 for internal spacings, pollution degree 2 for external spacings).

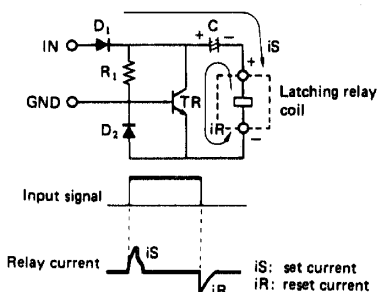
Hints on Correct Use

Avoid ultrasonic cleaning at 28 kHz, 13 mW/cm³ for a period of more than 30 seconds.

Single-winding type (G6EU)

Example of low-power consumption driver circuit

- This is an example of a driver circuit that allows Model G6E to function as a normal relay with a normal switching pulse input.
- The relay is set by an abrupt current charged to capacity C. This current flows in the relay via diode D₁ and C and out via diode D₂.
- The relay is reset by the discharge current of C flowing in the relay via transistor TR and C.



- Note:**
- Give adequate consideration to the circuit constant when actually using this circuit, confirming the set and reset status of the relay.
 - OMRON owns the patent on this circuit. Consult OMRON when using this circuit.