Power Relay
G4F

High-power Relay that Breaks 20 A, Carries 20 A, and Withstands 60-A Inrush

- Miniature, high-capacity power relay ideal for incorporation in non-industrial equipment to switch such loads as motor, transformer, lamp, heater, etc.
- Creepage distance of more than 4 mm.
- Nonflammable insulating materials employed meet UL94V-0

Ordering Information

Classification	Contact form	Coil terminal	Load contact terminal	Model
Standard model	**SPST-NO**	PCB terminal	Quick connect #250	G4F-11123T
	SPDT			G4F-1123T
UL/CSA approved model	**SPST-NO**			G4F-11123T-US
	SPDT			G4F-1123T-US
VDE/TÜV approved model	**SPST-NO**			G4F-11123T-TU
	SPDT			G4F-1123T-TU

Note: 1. When ordering, add the rated coil voltage to the model number
Example: G4F-1123T, 12 VDC
└── Rated coil voltage

Specifications

■ Coil Ratings

Voltage	Current	Resistance	Coil inductance (H) (ref. value)		Must operate voltage	Must release voltage	Max. voltage	Power consumption (approx.)
			Armature OFF	Armature ON	% of rated voltage			
12 VDC	75 mA	160 Ω	1.3	1.9	70% max.	10% min.	110%	0.9 W
24 VDC	37.5 mA	640 Ω	5.8	9.5				

Note: 1. The rated current and coil resistance are measured at a coil temperature of 23°C with a tolerances of ±10%.
2. Performance characteristic data are measured at 23°C coil temperature.

■ Contact Ratings

Model	G4F-1123T(-US) (-TU)		G4F-11123T(-US) (-TU)	
Load	Resistive load (cosϕ = 1)	Inductive load (cosϕ = 0.4)	Resistive load (cosϕ = 1)	Inductive load (cosϕ = 1)
Rated load	15 A at 220 VAC	10 A at 220 VAC	20 A at 220 VAC	15 A at 220 VAC
Max. inrush current	55 A		60 A	
Rated carry current	20 A			
Max. switching voltage	250 VAC			
Max. switching current	15 A		20 A	
Max. switching power	3,300 VA	2,200 VA	4,400 VA	3,300 VA
Failure rate (reference value)	100 mA at 5 VDC			

■ Characteristics

Contact resistance	30 mΩ max.
Operate time	20 ms max.
Release time	10 ms max.
Operating frequency	Mechanical: 18,000 operations/hour Electrical: 1,800 operations/hour (under rated load)
Insulation resistance	100 MΩ min. (at 500 VDC)
Dielectric strength	2,000 VAC, 50/60 Hz for 1 minute (1,000 VAC between contacts of same polarity)
Vibration resistance	Destruction: 10 to 55 to 10 Hz, 0.75 mm single amplitude (1.5 mm double amplitude) Malfunction: 10 to 55 to 10 Hz, 0.75 mm single amplitude (1.5 mm double amplitude)
Shock resistance	Destruction: 1,000 m/s^2 Malfunction: 200 m/s^2
Ambient temperature	Operating: –25°C to 55°C (with no icing)
Ambient humidity	Operating: 5% to 85%
Endurance	Mechanical: 5,000,000 operations min. (at operating frequency of 18,000 operations/hour) Electrical: 200,000 operations min. (at operating frequency of 1,800 operations/hour under rated load)
Weight	Approx. 40 g

Note: The data shown above are initial values.

■ Motor Load Ratings (Reference Only)

Model	Load conditions	Operating frequency	Electrical Endurance
G4F-1123T	110 VAC (cosϕ = 0.7) Inrush: 55 A (0.2 sec.) Break: 15 A	ON: 1 sec. OFF: 10 sec.	200 (X 10^3 operations min.)
G4F-11123T	110 VAC (cosϕ = 0.7) Inrush: 60 A (0.2 sec.) Break: 20 A		

■ Approved Standard

UL508 484 Recognitions (File No. E41643)

Model	Coil ratings	Contact ratings	Operations
G4F-( )-US	5 to 100 VDC	15 A, 250 VAC (Resistive) 15 A, 30 VDC (Resistive) 10 A, 250 VAC (General use)	6 x 10^3
		12 FLA 150 VAC, 72 LRA 150 VAC 10 FLA 240 VAC, 60 LRA 240 VAC	30 x 10^3

CSA C22.2 No. 14 (File No. LR 35535)

Model	Coil ratings	Contact ratings	Operations
G4F-( )-US	5 to 100 VDC	15 A, 250 VAC (Resistive) 15 A, 30 VDC (Resistive)	6 x 10^3
		1 HP 125/250 VAC (Motor load) TV-3 AC	25 x 10^3

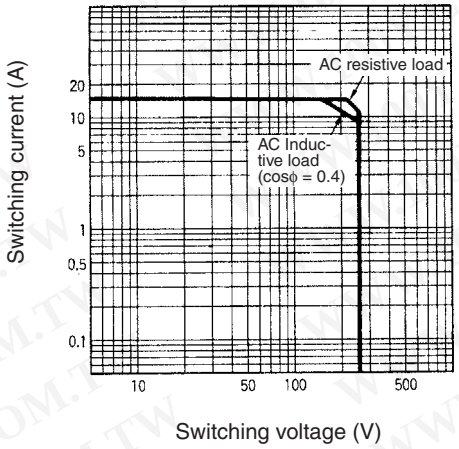
TÜV File No. R9151218 (IEC 255, EN 60335-1, VDE 0435)

Model	Coil ratings	Contact ratings	Operations
G4F-( )-TU	5 to 100 VDC	15 A, 250 VAC (cosϕ=1) 10 A, 250 VAC (cosϕ=0.4) 20 A, 250 VAC (cosϕ=1) 15 A, 250 VAC (cosϕ=0.4)	100 x 10^3

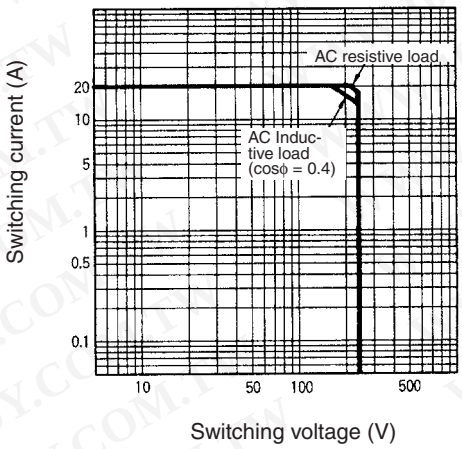
Engineering Data

Maximum Switching Power

G4F-1123T(-US) (-TU)

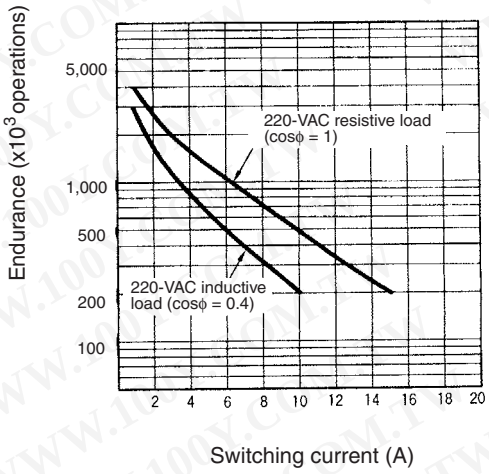


G4F-11123T(-US) (-TU)

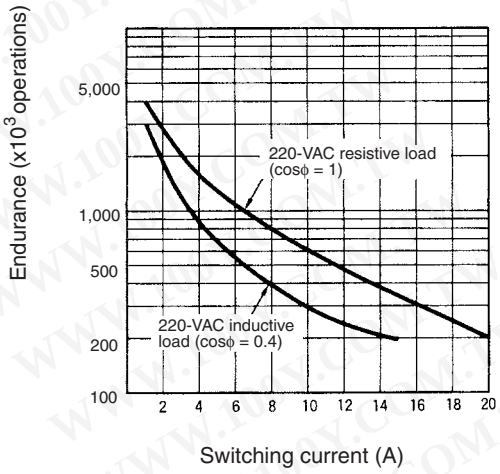


Electrical Endurance

G4F-1123T(-US) (-TU)



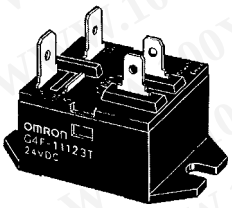
G4F-1112TP(-US) (-TU)

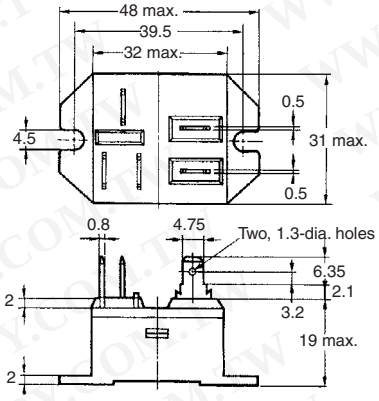


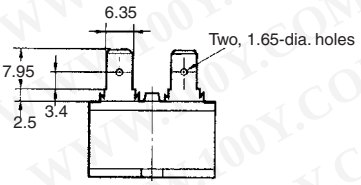
Dimensions

Note: All units are in millimeters unless otherwise indicated.

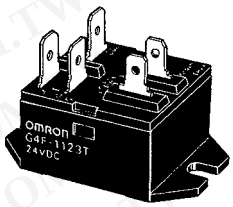
G4F-11123T(-US) (-TU)

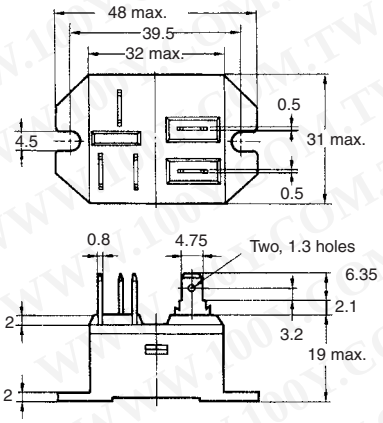


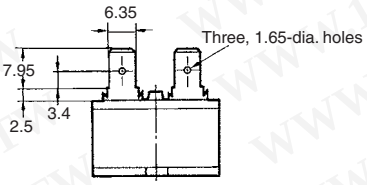




G4F-1123T(-US) (-TU)

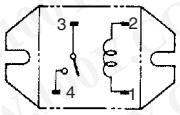




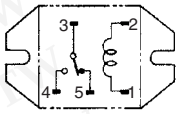


Terminal Arrangement/Internal Connections (Top View)

G4F-11123T(-US) (-TU)



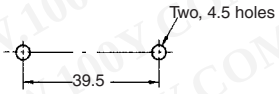
G4F-1123T(-US) (-TU)



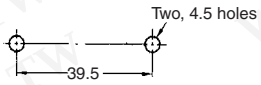
Note: This type has no polarity.

Mounting Holes

G4F-11123T(-US) (-TU)



G4F-1123T(-US) (-TU)



ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

Cat. No. J041-E1-06