

PART NO:GPB-1A24VDC-40A

HIGH POWER PCB RELAY



FEATURES

- ▶ 32.2 X 27.5 X 27.8(H) MM.
- ▶ WIDELY USED CUBE TYPE HIGH POWER RELAY.
- ▶ UP TO 50A MAX SWITCHING CAPACITY.
- ▶ WITHSTAND 6KV IMPLUSE VOLTAGE.
- ▶ UL CLASS F INSULATION AVAILABLE.

CONTACT RATINGS

Contact Form	1A, 1B, 1C		
Contact Resistance	≤50mΩ (1A 24VDC)		
Contact Material	Ag Alloy (AgSnO ₂ , AgSnO ₂ In ₂ O ₃ , AgCdO)		
Rated Load (Resistive)	1A	1C	
		NO	NC
	50A 240VAC 50A 28VDC	50A 240VAC 50A 28VDC	35A 240VAC 35A 28VDC
Max. Switching Current	50A		35A
Max. Switching Power	12,000VA / 1,400W		8,400VA / 980W
Max. Switching Voltage	240VAC / 28VDC		
Min. Permissible Load	500mA at 5VDC		

CHARACTERISTICS

Operate Time	≤ 15ms		
Release Time	≤ 10ms		
Insulation Resistance	100MΩ (500VDC)		
Dielectric Strength	I / O	O / O	
		4,500VAC 1min	1,500VAC 1 min
Impulse Withstand Voltage	6.0 kV (1.2 x 50μs)		
Shock Resistance	Non-energized	Destruction	Malfunction
	100 m/s ² (10G)	1,000 m/s ² (100G)	100 m/s ² (10G)
Vibration Resistance	Destruction		Malfunction
	10 to 55 Hz, (1.5mm double amplitude)		10 to 55 Hz, (1.5mm double amplitude)
Ambient Temperature	Operating: -55°C to 105°C with no icing or condensation		
Ambient Humidity	Operating: 5% to 85%		
Pin Type	PCB Pins and Quick Connector		
Weight	Approx. 35g		

COIL DATA

DC Coil	Approx. 900mW				
Rated Voltage (VDC)	Operate Voltage (VDC)	Release Voltage (VDC)	Max. Voltage (VDC)	Nominal Current (mA)	Coil Resistance (Ω) ±10%
5	≤3.75	≥0.5	6.5	180	27.8
6	≤4.5	≥0.6	7.8	150	40
9	≤6.75	≥0.9	11.7	100	90
12	≤9	≥1.2	15.6	75	160
18	≤13.5	≥1.8	23.4	50	360
24	≤18	≥2.4	31.2	37.5	640
48	≤36	≥4.8	62.4	18.75	2,560
110	≤82.5	≥11	143	8.18	13,444.4
AC Coil	Approx. 2VA				
Rated Voltage (VAC)	Operate Voltage (VAC)	Release Voltage (VAC)	Max. Voltage (VAC)	Nominal Current (mA)	Coil Resistance (Ω) ±10%
24	≤19.2	≥4.8	31.2	83.33	100
120	≤96	≥24	156	16.67	2,500
220	≤176	≥44	286	9.09	13,490

LIFE EXPECTANCY DATA

Mechanical Life Expectancy	10,000,000 Operations	
Electrical Life Expectancy	FORM A	FORM C
	100,000 Operations (30A 250VAC Resistive Load, 1s ON / 9s OFF)	20,000 Operations (NO: 30A / NC: 20A 250VAC Resistive Load, 1s ON / 9s OFF)
	120,000 Operations (20A 250VAC Resistive Load, 1s ON / 9s OFF)	

NOTE: The electrical life data items shown are possible at 23°C.

NOTE: The data shown above are initial values.

PART NO:GPB-1A24VDC-40A

SAFETY APPROVALS

ULus / cUL	Coil Rating	Contact Rating	
		NO	NC
6 to 48VDC	40A 240VAC / 28VDC 85°C / 105°C 30A 240VAC / 28VDC 85°C / 105°C	40A 240VAC / 28VDC 85°C / 105°C	30A 240VAC / 28VDC 85°C / 105°C
		30A 240VAC / 28VDC 85°C / 105°C	20A 240VAC / 28VDC 85°C / 105°C
TUV	Coil Rating	Contact Rating	
		NO	NC
6 to 48VDC	40A 240VAC / 28VDC 85°C / 105°C 30A 240VAC / 28VDC 85°C / 105°C	40A 240VAC / 28VDC 85°C / 105°C	30A 240VAC / 28VDC 85°C / 105°C
		30A 240VAC / 28VDC 85°C / 105°C	20A 240VAC / 28VDC 85°C / 105°C

ORDERING INFORMATION

Contact / Seal Key		Variation Key		Coil Key	
S	1	A	H	-	K F
24	VDC or VAC				
Seal Type Nil: Flux Proof (RTII); S: Fully Sealed (RTIII)		NO of Pole 1: Single Pole		Contact Form A: Form A / Normally Open; B: Form B / Normally Close; C: Form C / Change Over	
		Insulation Class Nil: Standard Insulation; F: Class F Insulation		Power Consumption Nil: Standard DC Coil: 0.9W; K: High Power Coil: 1.2W	
		Coil Voltage X / XX / XXX (5 ~ 220): DC / AC Coil Voltage Value		Contact Capacity Nil: Standard Switching Capacity (up to 40A); H: High Switching Capacity (above 40A)	

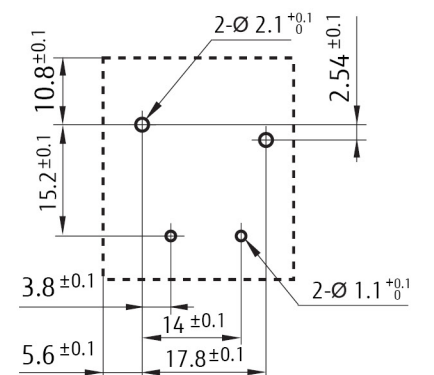
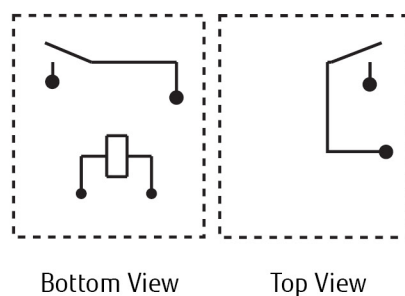
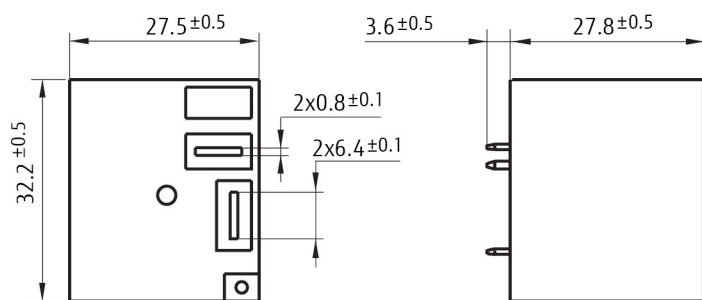
DIMENSIONS (UNIT: MM)

Outline Dimensions

Wiring Diagram

PCB Layout (Bottom View)

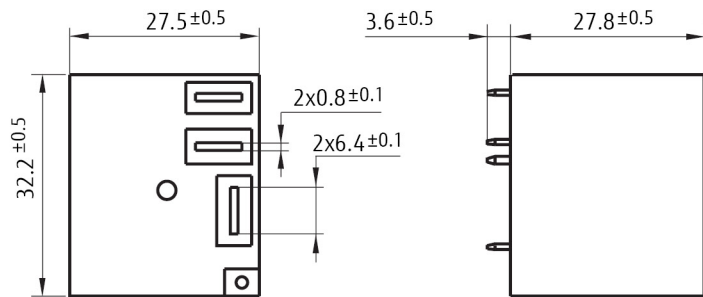
1 FORM A



PART NO:GPB-1A24VDC-40A

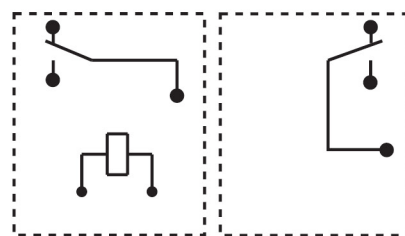
DIMENSIONS CONT.

Outline Dimensions



Wiring Diagram

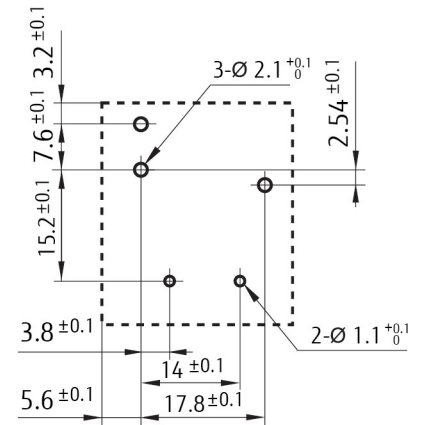
1 FORM C



Bottom View

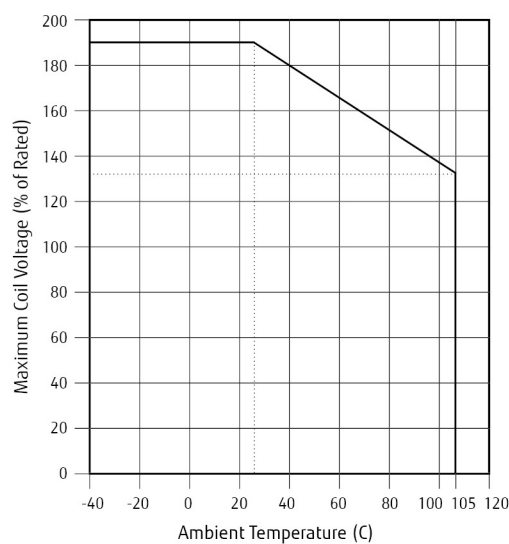
Top View

PCB Layout

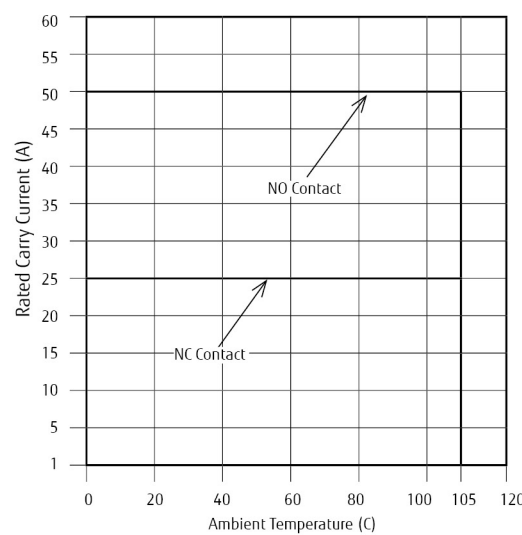


ENGINEERING DATA

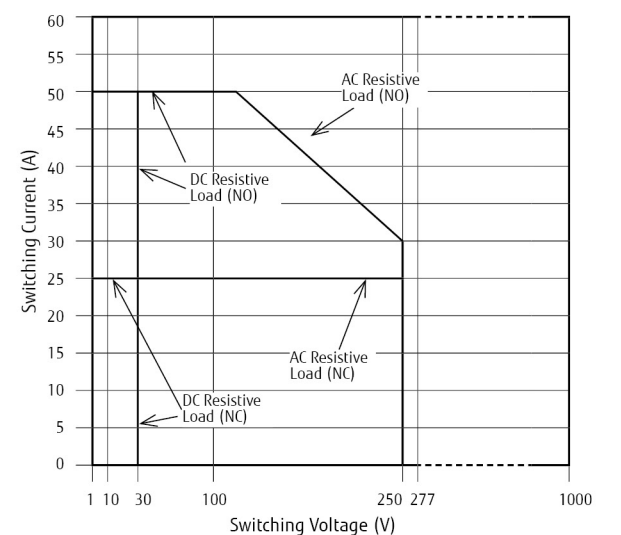
Ambient Temperature VS. Maximum Voltage



Ambient Temperature VS. Rated Carry Current



Maximum Switching Capacity

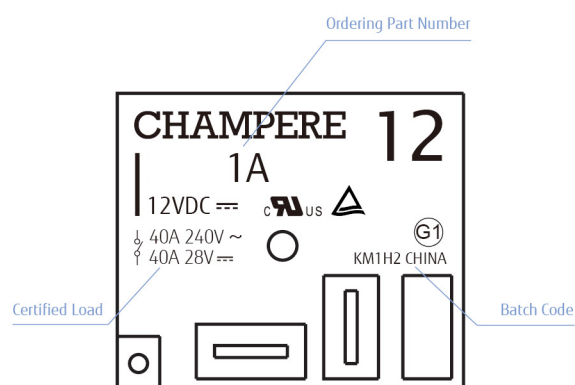


PRINT LAYOUT

Below layout is for reference only.

TOP PRINTING

LASER PRINTED ON BLACK / WHITE CASE



PACKAGE INFORMATION

Package 1 - Foam Tray	
Inner Package Type & Quantity	50Pcs Per Foam Tray
Outer Package Type & Quantity	500pcs per Carton with Logo and Sticker
Outer Package Dimension & Weight G.W. / N.W.	50 x 32 x 30 cm; 18.5Kgs / 17.5Kgs
Package 2 - PVC Tray	
Inner Package Type & Quantity	25Pcs Per PVC Tray
Outer Package Type & Quantity	500pcs per Carton with Logo and Sticker
Outer Package Dimension & Weight G.W. / N.W.	47 x 35 x 19 cm; 18Kgs / 17Kgs