

CAR&CART40 SERIES

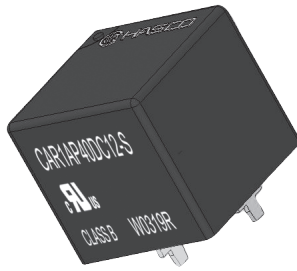
AUTOMOTIVE RELAY



File No.:E75887



File No.:R 50451203



FEATURES

- High contact rating 40A
- High temperature design
- 1 Form A and 1 Form C arrangements
- Quick connect and P.C.Board terminals
- Mounting Tab option

CONTACT RATINGS

Contact Arrangement	1A, 1C
Contact Resistance	≤50mΩ (1A 24VDC)
Contact Material	AgSnO
Contact Rating(Resistive)	N.O.:40A/14VDC N.C.:30A/14VDC
Max. Switching Voltage	75VDC
Max. Switching Current	40A
Max. Switching Power	560W
Mechanical Life	1×10 ⁶ operations
Electrical Life	See more details at "safety approval ratings"

ORDERING INFORMATION

CAR F T 1C P 40 DC12-S-SH-680R-D-M-XXXX

Model	
F:Class F	
Blank:Class B	
T:Mounting Tab	
Blank:No Mounting Tab	
1A=1 Form A	
1C=1 Form C	
P:PC Pin	
Blank:Quick Connect	
40:40A	
Coil Voltage	
S:Sealed Type	
Blank:Dust Cover Type	
E:Flux Tight Type	
SH:Shrouded W:Weatherproof	
Blank:Standard Housing	
Resistor 680Ω 12V Coil & 2700Ω 24V Coil	
Blank:No Resistor	
D:Diode	
Blank:No Diode	
M:Metal tab	
Blank:Plastic tab	
Customer Code	

CHARACTERISTICS

Insulation Resistance	100MΩ (at 500VDC)	
Dielectric Strength	Between coil & contacts	500VAC 1min
	Between open contacts	500VAC 1min
Operate time (at nomi. volt.)	≤10ms	
Release time (at nomi. volt.)	≤10ms	
Operation temperature	-40°C~+85°C	
UL Class B/F	Insulation System Class B/F	
Shock Resistance	147m/s ²	
Vibration resistance	10Hz ~ 40Hz 1.27mm DA	
Unit weight	Approx. 30g	
Construction	Sealed Type, Dust Cover Type, Flux Tight Type	

Notes:1) The data shown above are initial values.
2) Please find coil temperature curve in the characteristic curves.

Notes:

- 1) Shrouded and weather proof available only in metal tab.
- 2) For more details, please contact us directly.
- 3) PC board assembled with dust cover type and flux tight type relays can not be washed and/or coated.
- 4) Dust cover type and flux tight type relays can not be used in the environment with dust, or H₂S, SO₂, NO₂ or similar gaseous environment etc.

COIL DATA

at 25°C

Nominal Voltage VDC	Operate Voltage (Max.) VDC	Release Voltage (Min.) VDC	*Max. Allowable Voltage VDC	Coil Resistance Ω±10%
6	4.2	0.6	7.8	20
12	8.4	1.2	15.6	80
24	16.8	2.4	31.2	320
36	25.2	3.6	46.8	720
48	33.6	4.8	62.4	1280

Note:**Max Allowable Voltage**: The relay coil can endure max allowable voltage for a short period time only.

This datasheet is for customers' reference. All the specifications are subject to change without notice.



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RELAYS

CAR&CART40 SERIES

AUTOMOTIVE RELAY

COIL

Coil Power	1800mW
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SAFETY APPROVAL RATINGS

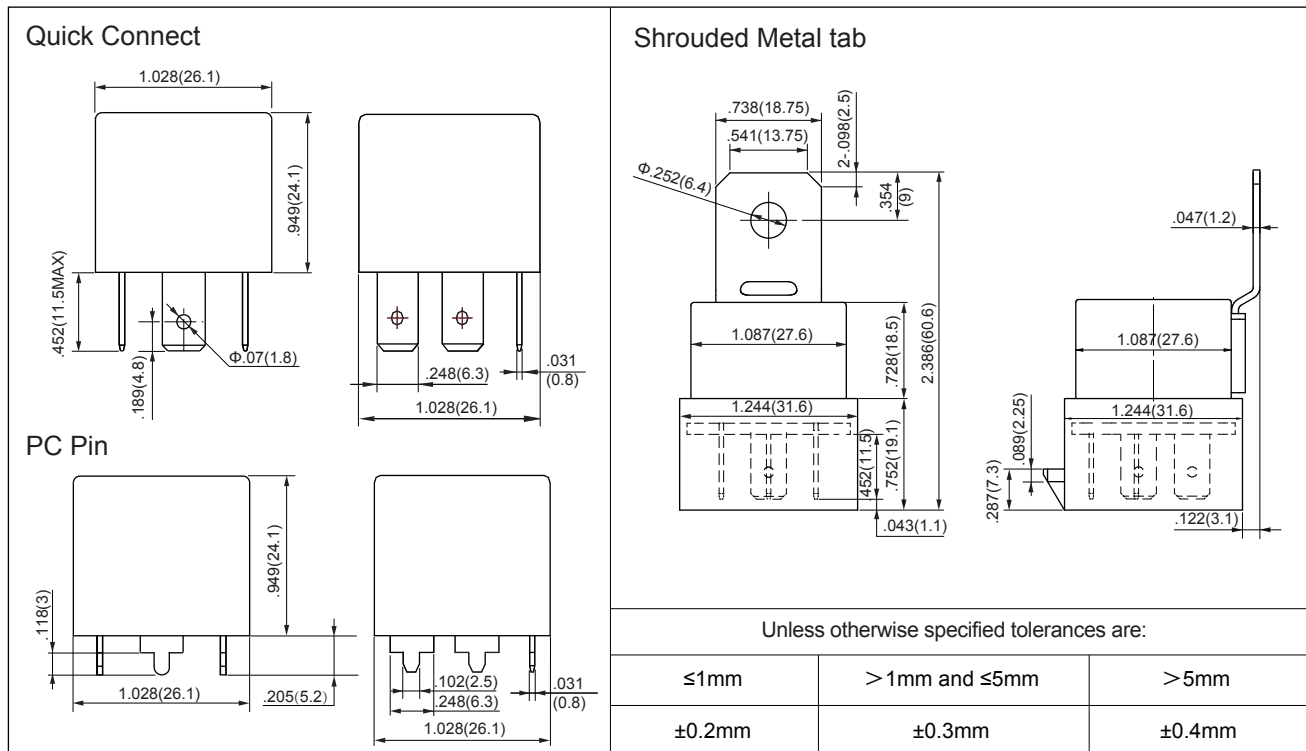
UL&CUL	N.O.:40A 14VDC, Resistive, 6×10 ⁵ OPS N.O.:15A 24VDC, Resistive, 6×10 ³ OPS N.C.:30A 14VDC, Resistive, 6×10 ³ OPS N.C.:15A 24VDC, Resistive, 6×10 ³ OPS CAR1A40DC12-S: N.O.:5.83A 18VDC, Pilot duty.
TüV	N.O.:20A 28VDC, 1×10 ⁵ OPS N.O.:40A 14VDC, 1×10 ⁵ OPS N.O./N.C.:20A/10A 28VDC, 1×10 ⁵ OPS N.O./N.C.:40A/20A 14VDC, 1×10 ⁵ OPS

NOTES:

1. All values without specified temperature are at 25°C.
2. The above lists the typical loads only. Other loads may be available upon request.

OUTLINE DIMENSIONS

Unit: inch(mm)



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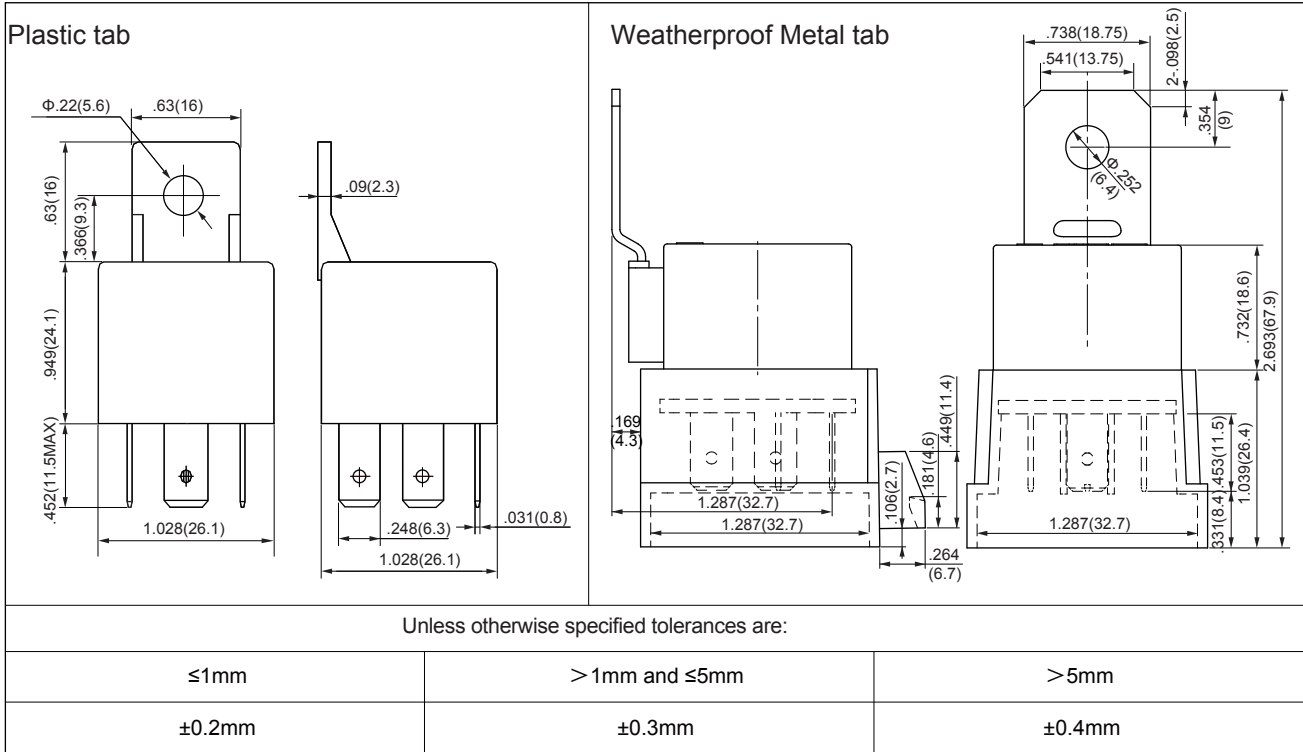
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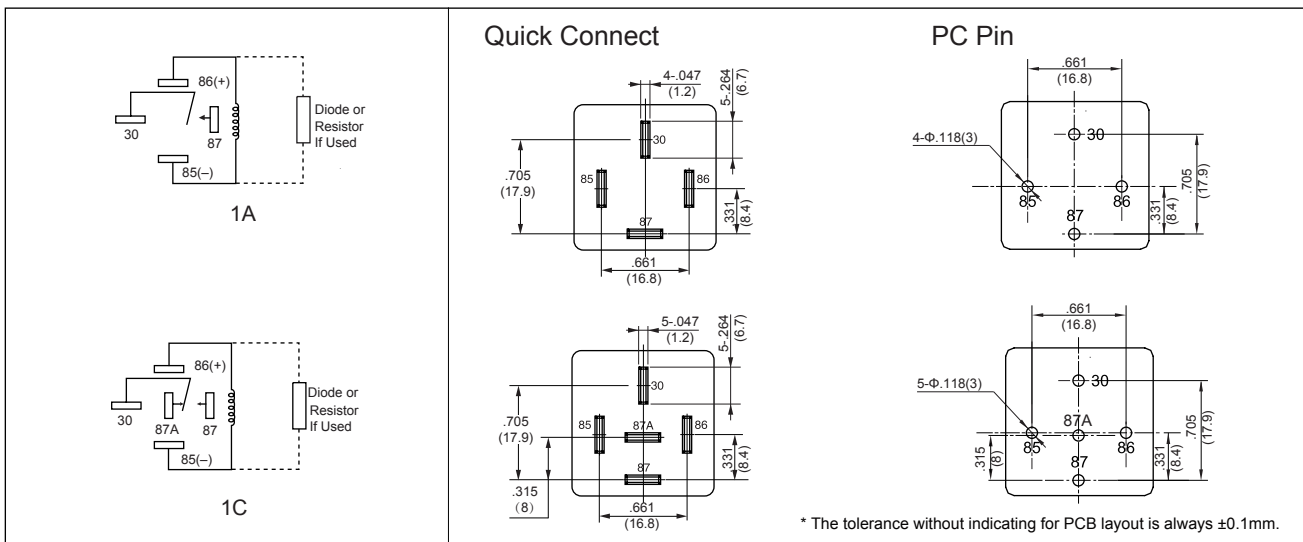


WIRING DIAGRAM AND PC BOARD LAYOUT.

Unit: inch(mm)

Wiring Diagram
(Bottom view)

PCB Layout
(Bottom view)



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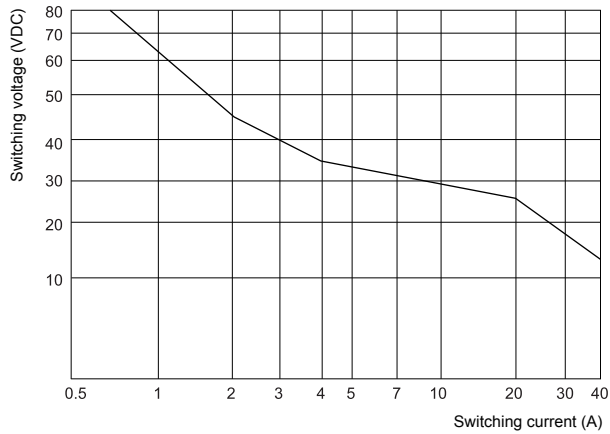
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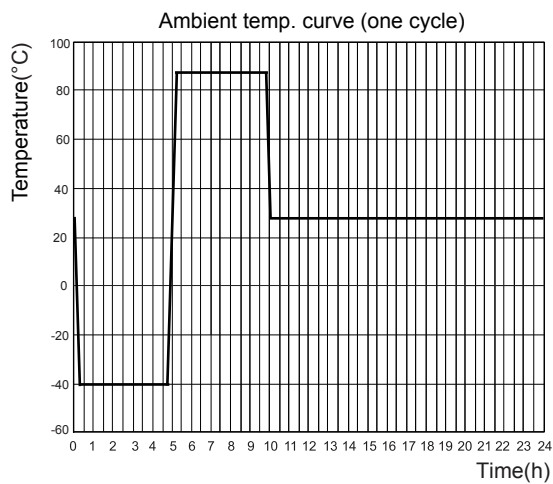
CHARACTERISTIC CURVES

1. Load limit curve(at 25°C)



This chart takes NO contact, resistive load as example.

2. Ambient temperature curve of the electrical endurance test



(1) The minimum temperature is -40°C.

(2) The maximum temperature is 85°C.

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PACKAGING SPECIFICATION

BLISTER BOX	INNER CARTON	OUTER CARTON	OUTER CARTON SIZE
20PCS	100PCS	400PCS	L375mm*W280mm*H400mm

APPLICATION GUIDELINES

Automatic Wave Soldering

- * Wave solder is the optimum method for soldering.
- * Adjust the level of solder so that it does not overflow onto the top of the PC board.
- * Unless otherwise specified, solder under the following conditions depending on the type of relay.

Preheat time 20°C-100°C	Rising slope 20°C-120°C	Decreasing slope Peak-150°C	Soldering temperature 255°C-265°C
90±5 seconds	<3°C/s	<4°C/s	3~5s

Hand Soldering

- * Keep the tip of the soldering iron clean.

Solder Iron	30W or 60W
Iron Tip Temperature	Approx. 350°C 662°F
Solder Time	Within approx. 3 seconds

- * Immediate air cooling is recommended to prevent deterioration of the relay and surrounding parts due to soldering heat.
- * Although the sealed type relay can be cleaned, avoid immersing the relay into cold liquid (such as washing solvent) immediately after soldering. Doing so may deteriorate the sealing performance.

Discard the dropped product

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