

CAR&CART80 SERIES

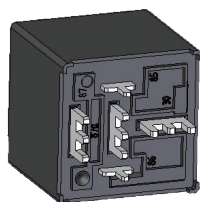
AUTOMOTIVE RELAY



File No.:E75887



File No.:R 50304236



FEATURES

- High contact rating 80A
- 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.:80A/14VDC N.C.:60A/14VDC
Max. Switching Voltage	75VDC
Max. Switching Current	On: 200A, Off: 80A (Resistive), 14VDC
Max. Switching Power	1120W
Mechanical Life	1×10 ⁷ operations(300 times/minute)
Electrical Life	See more details at "safety approval ratings"

ORDERING INFORMATION

CAR F T 1C P 80 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	
80:80A	
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.)		≤15ms
Release time (at nomi. volt.)		≤10ms
Humidity		85% RH
Operation temperature		-40°C~+85°C
UL Class B/F		Insulation System Class B/F
Shock Resistance		294m/s ²
Vibration resistance		10Hz ~ 55Hz 3mm DA
Unit weight		46g(CAR); 48g(CART)
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.
- 5) It is recommended when switching maximum load the vent hole be opened by removing the protrusion for removing inside gasses created by heat.

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.



* SINCE 1976 *

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RELAYS

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COIL

Coil Power	1800mW
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SAFETY APPROVAL RATINGS

UL&CUL	N.O.:80A/14VDC, General Use/Resistive, 6×10^3 OPS N.C.:60A/14VDC, General Use/Resistive, 6×10^3 OPS
TüV	N.O.:80A/14VDC, 1×10^5 OPS N.C.:80A/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, WIRING DIAGRAM AND PC BOARD LAYOUT.

Unit: inch(mm)

Outline Dimensions

Wiring Diagram (Bottom view)

PCB Layout (Bottom view)

PC Pin		
1A		
1C		
1A		
1C		
1A		
1C		
* The tolerance without indicating for PCB layout is always ± 0.1 mm.		
Unless otherwise specified tolerances are:		
≤ 1 mm	> 1 mm and ≤ 5 mm	> 5 mm
± 0.2 mm	± 0.3 mm	± 0.4 mm

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OUTLINE DIMENSIONS, WIRING DIAGRAM AND LAYOUT.

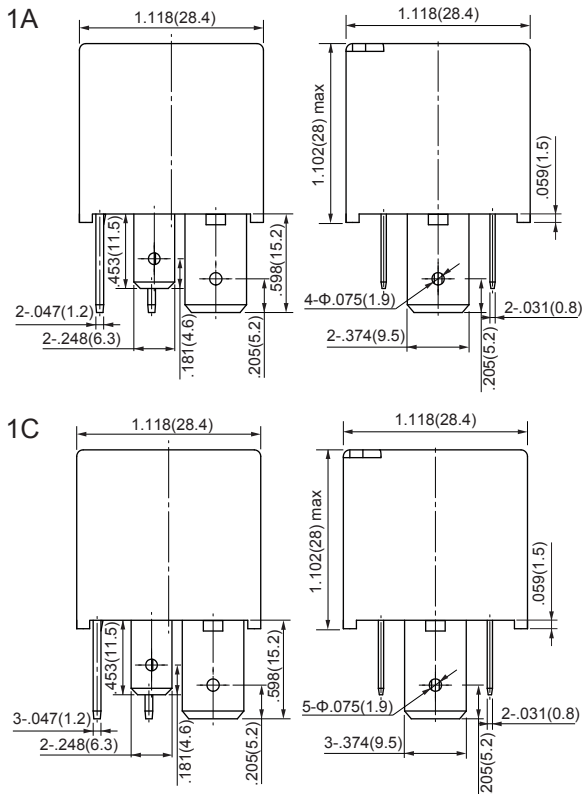
Unit: inch(mm)

Outline Dimensions

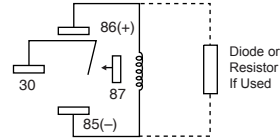
Wiring Diagram (Bottom view)

Layout (Bottom view)

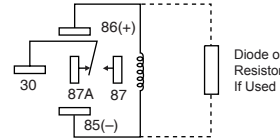
Quick Connect



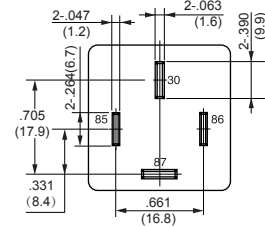
1A



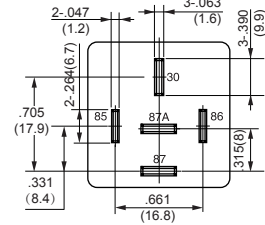
1C



1A



1C

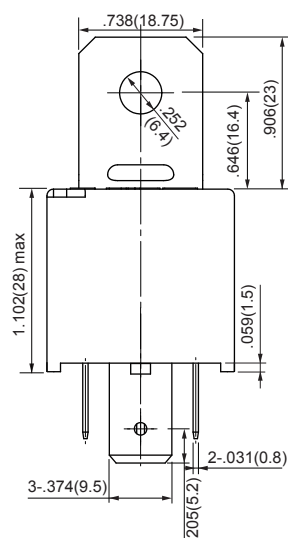
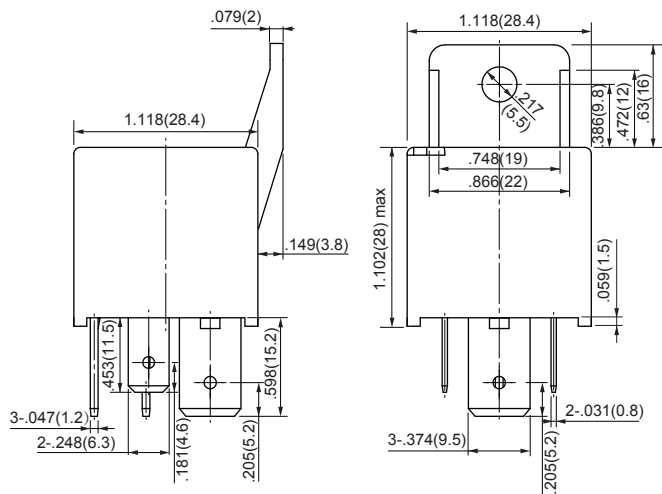


* The tolerance without indicating for PCB layout is always ± 0.1 mm.

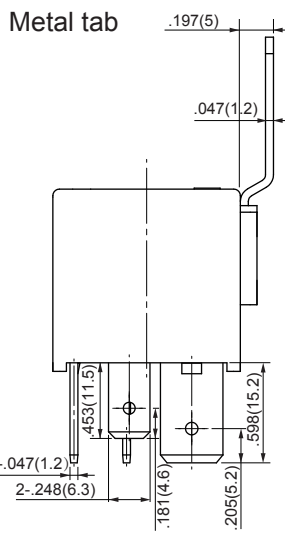
Unless otherwise specified tolerances are:

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± 0.2 mm	± 0.3 mm	± 0.4 mm

Plastic tab



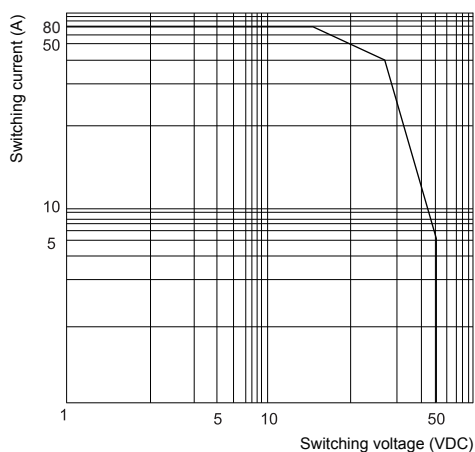
Metal tab



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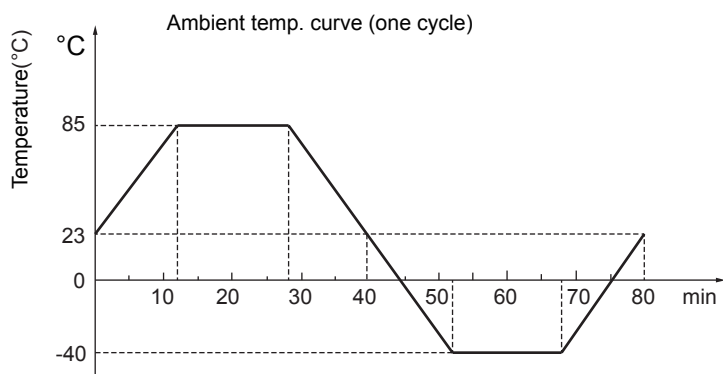
CHARACTERISTIC CURVES

1. Load limit curve



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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