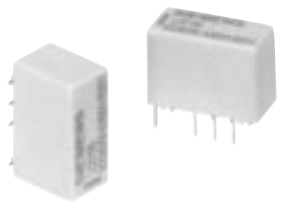
Through Hole or Surface Mount



V23079 series

5 Amp, High Dielectric
2 Pole Polarized
FCC Part 68
PC Board Relay

File E48393
File LR45064
CECC 16 100/16 200/16 500

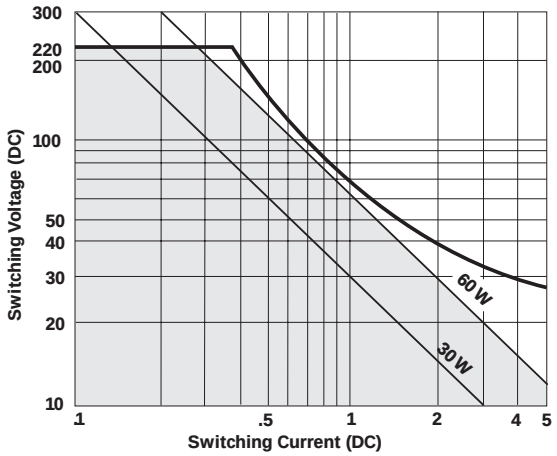
Features

- Surface and through hole mounting types.
- Breakdown voltage between contacts and coil: 1,500Vrms.
- Surge withstand between contacts and coil: 2,500V (Bellcore).
- High capacity contact: 2A @ 30VDC.
- 2 Form C contact arrangement.
- Board space saving, vertical mount (14.6 x 7.2mm surface area).
- Immersion cleanable, plastic sealed case.
- Single and dual coil latching versions available.
- Basic insulation (coil-to-contact) according to EN 60950 / UL 1950.

Contact Data

Arrangement: 2 Form C (DPDT).
Material: Stationary and Movable Contacts:
Gold overlay on silver nickel.
Rating:
Max. Switching Voltage: 250VAC, 220VDC.
Max. Switching Current: 5A.
Max Carrying Current: 2A.
Max Switching Power: 60W, DC, resistive.
62.5VA, AC, resistive.
Min. Permissible Load: 100µV.
Expected Mechanical Life: Approx. 100 million ops.
Expected Electrical Life: 1 million ops. @ 1A, 30VDC,
10 million ops. @ 100mA, 6VDC.
Initial Contact Resistance: 50 milliohms @ 10mA, 20mV.

Figure 1 - Limiting Curve for Contact Loads



= *Recommended field of application*

Definition load limit curve: Quenching of arc during transit time.

Initial Dielectric Strength

Between Open Contacts: 1,000V rms for 1 min.
Between Adjacent Contact Terminals: 1,000V rms for 1 min.
Between Contact and Coil: 1,500V rms for 1 min.
Surge Voltage:
Between Contact and Coil (10 x 700 µs): 1,500V (FCC Part 68).
Between Contact and Coil (2 x 10 µs): 2,500V (Bellcore).

Initial Insulation Resistance

Between Mutually Insulated Conductors: 10^9 ohms @ 500VDC.

Coil Data @ 20°C

Voltage: 3-48V.
Nominal Power:
Non-Latching: 140mW.
Single Coil Latching: 70mW.
Dual Coil Latching: 140mW.

Nominal Voltage (VDC)	Operating Range @ 20°C: Must Operate Voltage (VDC)	Operating Range @ 20°C: Max. Voltage (VDC)	@ 85°C: Max. Voltage (VDC)	Coil Resistance @ 20°C
Non-Latching, 140mW Nominal Power				
3	2.25	6.5	3.4	64 ± 6
4.5	3.375	9.8	5.1	145 ± 15
5	3.75	10.9	5.7	178 ± 18
6	4.50	13.0	6.8	257 ± 26
9	6.75	19.6	10.3	578 ± 58
12	9.0	26.1	13.8	1,029 ± 103
24	18.0	52.3	27.7	4,114 ± 411
Single Coil Latching, 70mW Nominal Power				
3	2.25	9.2	4.8	128 ± 13
4.5	3.375	13.8	7.3	289 ± 29
5	3.75	15.3	8.1	357 ± 36
6	4.5	18.5	9.8	514 ± 51
9	6.75	27.7	14.6	1,157 ± 116
12	9.0	37.0	19.6	2,057 ± 206
24	18.0	74.0	39.2	8,228 ± 823
Dual Coil Latching, 140mW Nominal Power				
3	2.25	6.5	–	64 ± 6
4.5	3.375	9.8	–	145 ± 15
5	3.75	10.9	–	178 ± 18
6	4.5	13.0	–	257 ± 26
9	6.75	19.6	–	578 ± 58
12	9.0	26.1	–	1,029 ± 103
24	18.0	52.3	–	4,114 ± 411

Operate Data @ 20°C

Must Operate Voltage: 75% of nominal or less.
Must Release Voltage: 10% of nominal or more.
Operate Time (Excluding Bounce): 3ms, typical.
Release Time (Excluding Bounce): 3ms, typical.
Bounce Time: 2ms, typical.

Environmental Data

Temperature Range: -40 to +85°C
Vibration, Operational: 35g, 10-1,000 Hz.
Shock, Functional: 50g, 11ms 1/2 sinusoidal impulse.
Destructive: 150g, 11ms 1/2 sinusoidal impulse.

Mechanical Data

Termination: Through hole or surface mount printed circuit terminals.
Enclosure: Immersion cleanable sealed plastic case.
Weight: 2.5g approximately.

Ordering Information

Typical Part Number ▶	V23079	A10	01	B301

1. Basic Series:
V23079 = Miniature, printed circuit board relay.

2. Termination:

	Non-Latching Normal Ht.	Non-Latching Reduced Ht.	Dual Coil Latching	Single Coil Latching
Through-Hole	**A10**	**A20**(1)	**B12**	**C11**
SMD Extended Terminal	**D10**	**D20**(1)	**E12**	**F11**
SMD Short Terminal	**G10**	**G20**(1)	**H12**	**J11**

3. Coil Voltage:
08 = 3VDC 11 = 4.5VDC 01 = 5VDC 02 = 6VDC 06 = 9VDC 03 = 12VDC 05 = 24VDC(2)

4. Contact Type:
B301 = Bifurcated, 2 Form C (DPDT), Silver Nickel.

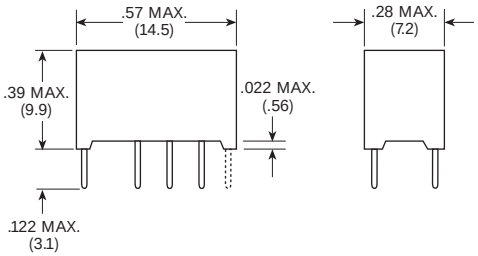
(1) Reduced mounting height of 10.0 mm, as opposed to 10.4 mm (SMD) or 9.9 mm as opposed to 10.0 (through-hole). Non-latching only, not available with 24V coil.
(2) Not available with Termination A20, D20 or G20.

Stock Items - The following items are normally maintained in stock for immediate delivery.

V23079A1001B301	V23079A2001B301	V23079D1001B301	V23079D2001B301
V23079A1003B301	V23079A2003B301	V23079D1003B301	V23079D2003B301
V23079A1005B301	V23079A2011B301	V23079D1005B301	V23079D2011B301
V23079A1011B301		V23079D1011B301	

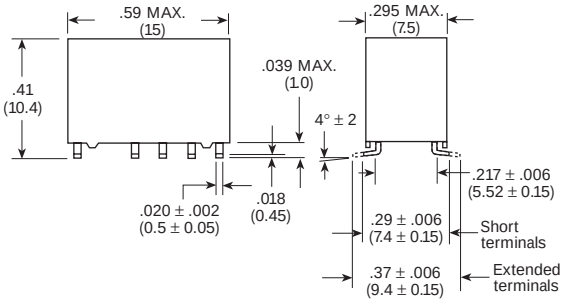
Outline Dimensions

Through-Hole



Note: Mounting height varies dependent upon Termination type selected in step 2 of Ordering Information

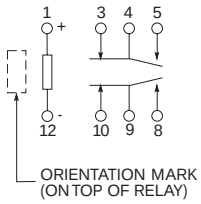
SMD



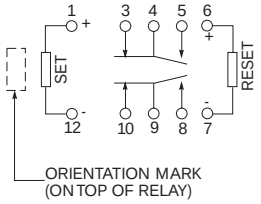
Note: Mounting height varies dependent upon Termination type selected in step 2 of Ordering Information

Wiring Diagrams (Bottom Views)

Single Coil Latching* and Single Coil Non-latching**



Dual Coil Latching***



Note: All diagrams shown in de-energized or reset position.

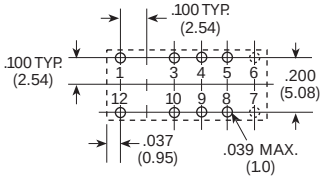
***Note:** For non-latching versions, coil polarity must be observed.

****Note:** For single coil latching versions, polarity shown results in "set" condition. Reverse polarity results in "reset" condition.

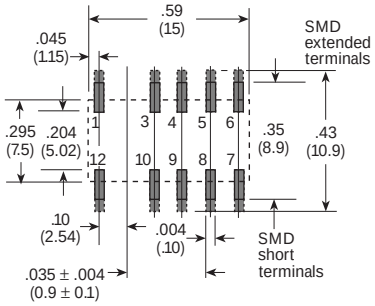
*****Note:** The contact position illustrated shows the reset condition. If a positve potential is applied to terminal 1 or 7, the relay adopts the set position.

PC Board Layout (Bottom View)

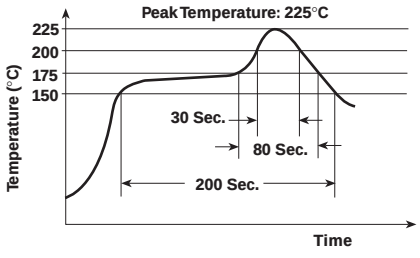
Through-Hole



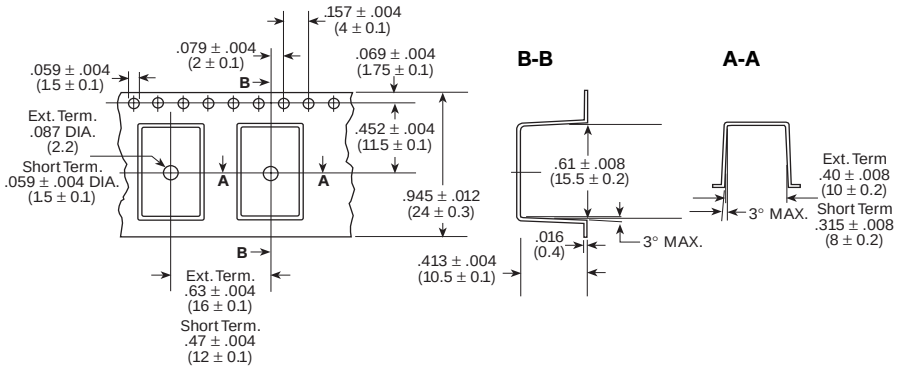
SMD (Solder Pad)



SMD Soldering Profile



SMD Packaging



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