

# AZ975/976

## 20 AMP MINIATURE AUTOMOTIVE RELAY

### FEATURES

- Up to 20 Amp switching capability in a compact size
- Open, covered or sealed
- Coils to 24 VDC
- Small footprint
- Six different contact arrangements available
- Vibration and shock resistant
- ISO/TS 16949, ISO9001, ISO14000
- Tested in accordance with SAE J2544
- Cost effective
- Designed for high in-rush applications

### CONTACTS

<b>Arrangement</b>	SPSTNO (1 Form A)    SPST NO DM (1 Form U) SPSTNC (1 Form B)    SPST NC DB (1 Form V) SPDT (B-M) (1 Form C)    SPDT NC-NO DM (1 Form W)
<b>Ratings</b>	Max. switched power: 200 W (See power curve) 500 VA  Max. switched voltage: 100 VDC Max. switched current (make/break), continuous: 1 Form A: 60A/20A, 15A 1 Form B: 12A/10A, 10A 1 Form C (NO): 60A/20A, 15A 1 Form C (NC): 12A/10A, 10A 1 Form U: 2X40A/2X20A, 2X10A 1 Form V: 2X8A/2X7A, 2X7A 1 Form W (NO): 2X30A/2X15A, 2X7A 1 Form W (NC): 2X5A/2X5A, 2X5A
<b>Material</b>	Silver nickel or silver tin oxide
<b>Resistance</b>	< 100 milliohms at 1A, 5 VDC

### COIL

<b>Power</b>	
<b>At Pickup Voltage (typical)</b>	514 mW (12 and 24 VDC Coil) 573 mW (6 VDC Coil)
<b>Max. Continuous Dissipation</b>	3.4 W 20°C (68°F) ambient - AZ975 3.1 W 20°C (68°F) ambient - AZ976
<b>Temperature Rise</b>	50°C (90°F) nominal coil VDC
<b>Max. Temperature</b>	155°C (311°F)



AZ975



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### GENERAL DATA

<b>Life Expectancy</b> <b>Mechanical</b> <b>Electrical</b>	Minimum operations 1 x 10 <sup>7</sup> operations 1 x 10 <sup>5</sup> at 12 A 14 VDC Res.
<b>Operate Time (typical)</b>	3 ms at nominal coil voltage
<b>Release Time (typical)</b>	1.5 ms at nominal coil voltage (with no coil suppression)
<b>Dielectric Strength</b> (at sea level for 1 min.)	500 Vrms coil to contact 500 Vrms between open contacts
<b>Insulation Resistance</b>	100 megohms min. at 20°C, 500 VDC, 50% RH
<b>Dropout</b>	> 6% (for B&V), > 11% (for ACUW) of nominal coil voltage
<b>Ambient Temperature</b> <b>Operating</b> <b>Storage</b>	At nominal coil voltage -40°C (-40°F) to 115°C (239°F) -40°C (-40°F) to 155°C (311°F)
<b>Vibration</b>	0.062" DA at 10–55Hz
<b>Shock</b>	10 g, 11 ms, functional
<b>Terminals</b>	Tinned copper alloy, P.C.
<b>Max. Solder Temp.</b>	270°C (518°F)
<b>Max. Solder Time</b>	5 seconds
<b>Max. Solvent Temp.</b>	80°C (176°F)
<b>Max. Immersion Time</b>	30 seconds
<b>Weight</b>	AZ975 = 8g, AZ976 = 12g, approx.

### NOTES

1. All values at 20°C (68°F).
2. Maximum make current refers to in-rush current of lamp load.
3. Electrical life obtained at resistive or inductive load of 10A, 15 VDC for A, B, C, U, V contacts, 7A, 15 VDC for W contacts with suitable arc-suppression circuit attached with operating frequency of 1 ops/sec.
4. Relay may pull in with less than "Must Operate" value.
5. Specifications subject to change without notice.



**AMERICAN ZETTLER, INC.**

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9/30/04W

# AZ975/976

## RELAY ORDERING DATA – AZ 975 - Open Style

COIL SPECIFICATIONS - DC Coil					ORDER NUMBER*		
Nominal Coil VDC	Must Operate VDC		Max. Continuous VDC	Coil Resistance $\pm 10\%$	Form A [SPST NO]	Form B [SPST NC]	Form C [SPDT]
	A.B.C.U.V.	W.					
6	3.75	4.5	9.75	28	AZ975-1A-6D	AZ975-1B-6D	AZ975-1C-6D
12	7.5	9.0	21.0	130	AZ975-1A-12D	AZ975-1B-12D	AZ975-1C-12D
24	15.0	18.0	42.0	520	AZ975-1A-24D	AZ975-1B-24D	AZ975-1C-24D

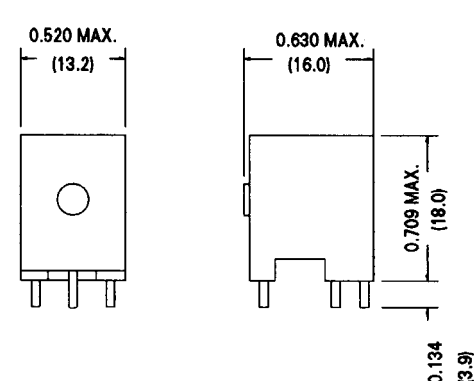
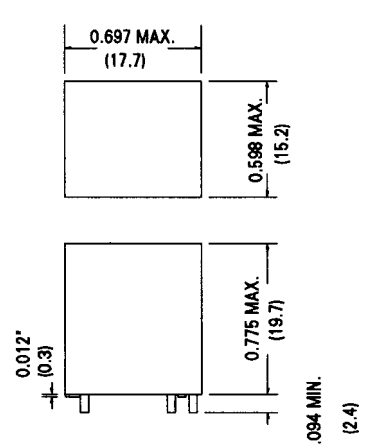
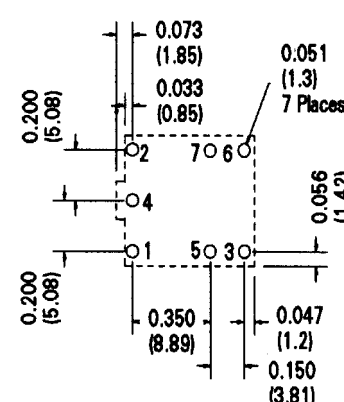
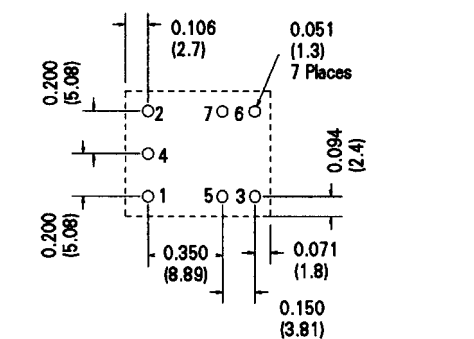
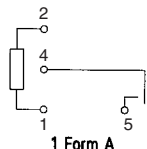
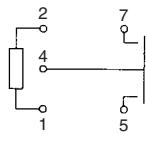
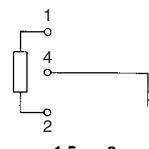
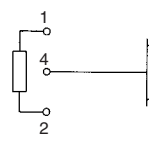
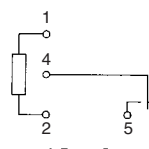
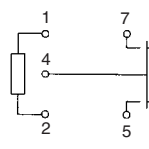
\* Use "U", "V" or "W" in place of "A" for Form U, Form V or Form W relays. Add suffix "T" for silver tin oxide.

## RELAY ORDERING DATA – AZ 976 - With Dust Cover

COIL SPECIFICATIONS - DC Coil					ORDER NUMBER*		
Nominal Coil VDC	Must Operate VDC		Max. Continuous VDC	Coil Resistance $\pm 10\%$	Form A [SPST NO]	Form B [SPST NC]	Form C [SPDT]
	A.B.C.U.V.	W.					
6	3.75	4.5	9.2	28	AZ976-1A-6D	AZ976-1B-6D	AZ976-1C-6D
12	7.5	9.0	20.0	130	AZ976-1A-12D	AZ976-1B-12D	AZ976-1C-12D
24	15.0	18.0	40.0	520	AZ976-1A-24D	AZ976-1B-24D	AZ976-1C-24D

\* Add suffix "E" for epoxy sealed version. Use "U", "V" or "W" in place of "A" for Form U, Form V or Form W relays. Add suffix "T" for silver tin oxide.

## MECHANICAL DATA

<p><b>AZ975 Outline Dimensions</b></p> 	<p><b>AZ976 Outline Dimensions</b></p> 	<p><b>AZ975 Suggested PCB Layout</b></p>  <p><b>Bottom View</b></p>
<p><b>AZ976 Suggested PCB Layout</b></p>  <p><b>Bottom View</b></p>	<p><b>Wiring Diagrams (Bottom View)</b></p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="714 1491 860 1827">  <p>1 Form A</p>  <p>1 Form U</p> </div> <div data-bbox="1006 1491 1153 1827">  <p>1 Form B</p>  <p>1 Form V</p> </div> <div data-bbox="1282 1491 1429 1827">  <p>1 Form C</p>  <p>1 Form W</p> </div> </div>	

Dimensions in inches with metric equivalents in parentheses. Tolerance:  $\pm 0.010$ "



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