

# AZ9421A

## 20 AMP MINIATURE AUTOMOTIVE RELAY

### FEATURES

- High switching capacity — 20 Amps
- DC coils to 24 VDC
- Epoxy sealed versions available
- Class F insulation for high temperature operation
- QS9000, ISO9001, ISO14001
- Extremely cost effective



### CONTACTS

<b>Arrangement</b>	SPST (1 Form A) SPDT (1 Form C)
<b>Ratings</b> <b>Medium Duty</b>	Resistive load Max. switched power: 420 W or 2500 VA Max. switched current: 20 A Max. switched voltage: 30 VDC or 250 VAC
<b>Material</b>	Silver tin oxide
<b>Resistance</b>	<100 milliohms initially (24 V, 1 A voltage drop method)

### COIL

<b>Power</b> <b>At Pickup Voltage</b> (typical)	450 mW
<b>Max Continuous</b> <b>Dissipation</b>	1.3 W at 20°C (68°F) ambient
<b>Temperature Rise</b>	40°C (72°F) at nominal coil voltage
<b>Temperature</b>	Max. 155°C (311°F)

### NOTES

1. All values at 20°C (68°F).
2. Relay may pull in with less than "Must Operate" value.
3. Unsealed relays should not be dip cleaned.
4. Specifications subject to change without notice.

### GENERAL DATA

<b>Life Expectancy</b> <b>Mechanical</b> <b>Electrical</b>	Minimum operations 1x10 <sup>7</sup> 1 x 10 <sup>5</sup> at 20 A 14 VDC Res.
<b>Operate Time</b> (typical)	10 ms at nominal coil voltage
<b>Release Time</b> (typical)	5 ms at nominal coil voltage (with no coil suppression)
<b>Dielectric Strength</b> (at sea level for 1 min.)	2500 Vrms contact to coil 1000 Vrms across contacts
<b>Insulation Resistance</b>	100 megohms min. at 20°C, 500 VDC, 50% RH
<b>Dropout</b>	Greater than 10% of nominal coil voltage
<b>Ambient Temperature</b> <b>Operating</b> <b>Storage</b>	At nominal coil voltage -40°C(-40°F) to 85°C(185°F) -55°C(-67°F) to 155°C(311°F)
<b>Vibration</b>	0.039" DA at 10–55Hz
<b>Shock</b>	10 g operational, 100 g damage
<b>Enclosure</b>	P.B.T. polyester
<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>	10 g

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## RELAY ORDERING DATA

STANDARD RELAYS				ORDER NUMBER*	
COIL SPECIFICATIONS				Unsealed	Sealed
Nominal Coil VDC	Must Operate VDC	Max. Continuous VDC	Coil Resistance $\pm 10\%$		
6	4.5	7.8	45	AZ9421A-1CT-6D	AZ9421A-1CT-6DE
12	9.0	15.6	180	AZ9421A-1CT-12D	AZ9421A-1CT-12DE
24	18.0	31.2	720	AZ9421A-1CT-24D	AZ9421A-1CT-24DE

\*Substitute "1AT" in place of "1CT" to indicate 1 Form A contact.

## MECHANICAL DATA

### Outline Dimensions

Top View Dimensions:  
 .768MAX [19.5] (width)  
 .673MAX [17.1] (height)  
 .083 [2.1] (lead width)  
 .480 [12.2] (lead spacing)  
 .079 [2.0] (lead offset)

Side View Dimensions:  
 .630MAX [16.0] (width)  
 .138 [3.5] (coil height)  
 2- $\varnothing$ .028 [0.7] (coil diameter)  
 3-.039X.016 [1.0X0.4] (coil pitch)  
 .472 [12.0] (coil length)

Bottom View Dimensions:  
 .480 [12.2] (width)  
 .236 [6.0] (lead spacing)

BOTTOM VIEW

### PC Board Layout

PC Board Layout Dimensions:  
 .480 [12.2] (width)  
 .079 [2.0] (lead offset)  
 .472 [12.0] (height)  
 .236 [6.0] (lead spacing)  
 5- $\varnothing$ .051 [01.3] (mounting holes)

### Wiring Diagram

1A

1C

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