AZSR190

90/100 AMP MINIATURE POWER RELAY

FEATURES:

- Dielectric strength 5000 Vrms
- 90 Amp switching (version “T” 100 Amp)
- Contact gap >3.6 mm
- Clearance / creepage >10 mm
- Insulation: class F
- UL: E365652
- TUV: B0887930008
- CQC: 17002178200

CONTACTS

<table>
<thead>
<tr>
<th>Arrangement</th>
<th>SPST (1 Form A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ratings</td>
<td></td>
</tr>
<tr>
<td>Resistive load:</td>
<td></td>
</tr>
<tr>
<td>Max. switched power: 44000 VA</td>
<td></td>
</tr>
<tr>
<td>48000 VA (&quot;T&quot; version)</td>
<td></td>
</tr>
<tr>
<td>Max. switched current: 90A</td>
<td></td>
</tr>
<tr>
<td>100A (&quot;T&quot; version)</td>
<td></td>
</tr>
<tr>
<td>Max. continuous current: 90A</td>
<td></td>
</tr>
<tr>
<td>100A (&quot;T&quot; version)</td>
<td></td>
</tr>
<tr>
<td>Max. switched voltage: 800VAC</td>
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</tbody>
</table>

Ratings

90A at 277 VAC, Res., 1k cycles, 85°C [1]
100A at 277 VAC, Res., 1k cycles, 85°C [1]
(T version only)
55A at 480 VAC, Res., 30k cycles, 85°C [1]
30A at 480 VAC, Res., 50k cycles, 85°C [1]
55A at 690 VAC, Res., 20k cycles, 85°C [1]
90A at 480 VAC, Res., 1k cycles, 85°C [2]
100A at 480 VAC, Res., 1k cycles, 85°C [2]
(T version only)
55A at 690 VAC, Res., 30k cycles, 85°C [2]
80A at 277VAC Res., 10k cycles, 85°C [2]
55A at 800 VAC, Res., 1k cycles, 85°C [1][2]

Rated Load UL/TUV/CQC

Material
Silver Nickel [1], Silver Tin Oxide [2]

Resistance
<100mΩ initially
(at 6V, 1A, voltage drop method)
<10 mΩ initially
(at 10A, voltage drop method)

COIL

<table>
<thead>
<tr>
<th>Power</th>
<th>1080 mW (typical)</th>
</tr>
</thead>
<tbody>
<tr>
<td>At pickup Voltage</td>
<td>2.32 W at 20°C (68°F) ambient</td>
</tr>
<tr>
<td>Max. Continuous</td>
<td>70 °C Max. at Rated voltage, 85°C</td>
</tr>
<tr>
<td>Dissipation</td>
<td></td>
</tr>
<tr>
<td>Temperature Rise</td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td>Max. 155°C (311°F) class F</td>
</tr>
</tbody>
</table>

NOTES

1. All values at 20°C (68°F)
2. Relay may pull in with less than "Must Operate" value
3. Specifications subject to change without notice.

GENERAL DATA

<table>
<thead>
<tr>
<th>Life Expectancy</th>
<th>Minimum operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical</td>
<td>1000,000 cycles Min.</td>
</tr>
<tr>
<td>Electrical</td>
<td></td>
</tr>
<tr>
<td></td>
<td>55A at 480 VAC, Res., 30k cycles, 85°C [1]</td>
</tr>
<tr>
<td></td>
<td>55A at 690 VAC, Res., 30k cycles, 85°C [1]</td>
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<tr>
<td></td>
<td>100A at 480 VAC, Res., 30k cycles, 85°C [2]</td>
</tr>
<tr>
<td></td>
<td>(T version only)</td>
</tr>
<tr>
<td></td>
<td>55A at 690 VAC, Res., 30k cycles, 85°C [2]</td>
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<tr>
<td></td>
<td>80A at 277VAC Res., 10k cycles, 85°C [2]</td>
</tr>
<tr>
<td></td>
<td>55A at 800 VAC, Res., 1k cycles, 85°C [1][2]</td>
</tr>
</tbody>
</table>

Operate Time
40 ms Max. at nominal coil voltage

Release Time
10 ms Max. at nominal coil voltage
(with no coil suppression)

Dielectric Strength
5000 Vrms (coil to contacts)
2500 Vrms (between open contacts)

Surge Voltage
10 kV @1.2/50μs (coil to contacts)

Insulation Resistance
1,000 MΩ min. at 20°C 500VDC 50% RH

Holding voltage
Greater than 40% of nominal coil voltage

Dropout
Greater than 10% of nominal coil voltage

Ambient Temperature
Operating Storage

| 40°C(-40°F) to 85°C(185°F) |
| 40°C(-40°F) to 105°C(221°F) |

Vibration
1.5mm DA at 10-55 Hz

Shock
10 g

Enclosure
P.B.T, Polyester

Terminals
Tinned copper alloy, P.C.

Max. Solder Temp.
270°C (518°F)

Max. solder time
5 seconds

Weight
85 g

08/05/20
AZSR190

RELAY ORDERING DATA

**COIL SPECIFICATIONS @ 20°C**

<table>
<thead>
<tr>
<th>Nominal Coil VDC</th>
<th>Must Operate VDC</th>
<th>Min. holding VDC</th>
<th>Max. Continuous VDC</th>
<th>Coil Resistance Ω ±10%</th>
<th>ORDER NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>4.5</td>
<td>2.4</td>
<td>6.6</td>
<td>18.8</td>
<td>AZSR190-1A-6D</td>
</tr>
<tr>
<td>9</td>
<td>6.75</td>
<td>3.6</td>
<td>9.9</td>
<td>42.2</td>
<td>AZSR190-1A-9D</td>
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<tr>
<td>12</td>
<td>9</td>
<td>4.8</td>
<td>13.2</td>
<td>75</td>
<td>AZSR190-1A-12D</td>
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<tr>
<td>24</td>
<td>18</td>
<td>9.6</td>
<td>26.4</td>
<td>300</td>
<td>AZSR190-1A-24D</td>
</tr>
</tbody>
</table>

*Add suffix “T” to AZSR190 for high current version. Add suffix “L” for short version (see mechanical data).*

**NOMENCLATURE**

AZSR190 - 1A E -12D L (XXX)

I. Basic Series

II. Contact Form

1A: 1 form A

III. Contact Material

Blank: AgNi  E: AgSnO2

IV. Coil Voltage

6, 9, 12, 24VDC.

V. Base height

Blank: basic height  L: short height (see mechanical data)

VI. Special code

Additional numbers or letters, which does not designate construction features or ratings

**MECHANICAL DATA**

**PC BOARD LAYOUT**

**WIRING DIAGRAM**

Nominal version: L=43, D=3  
Short version:  L=41.5, D=1.5  
Tolerance: ±0.5mm

Disclaimer: The specification is for reference only. We could not evaluate all the performance and all the parameters for every possible application. Thus the user should evaluate and select the suitable product for their own application. If there is any query, please contact ZETTLER. However, it is the user's responsibility to determine which product should be used only.

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