ENGINEERING DATA SHEET

SERIES JC AND JCA
RELAY - NONLATCH
1 PDT, 25 AMP

APPLICATION NOTES:
101 (JC)
102 (JCA)
103E
007

APPLICABLE SOCKETS:
SO-1063-9033/9034

All welded construction
Contact arrangement 1 PDT
Qualified to MIL-PRF-6106

PRINCIPLE TECHNICAL CHARACTERISTICS
Contacts rated at 28 Vdc; 115 Vac, 400 Hz, 1Ø
Weight 0.10lb max
Dimensions 1.01in x .51in x 1.00in (JC)
1.01in x .51in x 1.12in (JCA)

Special models available upon request.
Hermetically sealed, corrosion resistant metal can.

CONTACT ELECTRICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Contact rating per pole and load type [1]</th>
<th>@28 Vdc</th>
<th>@115 Vac, 400 Hz, 1Ø</th>
<th>@115/200 Vac, 60 Hz, 1Ø [9]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inductive [5]</td>
<td>12</td>
<td>15</td>
<td>2.5</td>
</tr>
<tr>
<td>Motor</td>
<td>10</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Lamp</td>
<td>4</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Overload</td>
<td>50</td>
<td>80</td>
<td>N/A</td>
</tr>
<tr>
<td>Rupture</td>
<td>60</td>
<td>100</td>
<td>N/A</td>
</tr>
</tbody>
</table>

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Data sheets are for initial product selection and comparison. Contact Esterline Power Systems prior to choosing a component.

Date of issue: 06/10

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COIL CHARACTERISTICS (Vdc)  

<table>
<thead>
<tr>
<th>CODE</th>
<th>A (VDC)</th>
<th>B (VDC)</th>
<th>C (VDC)</th>
<th>M (VDC)</th>
<th>N [7] (VDC)</th>
<th>E (400 Hz)</th>
<th>F (400 Hz)</th>
<th>J (50 Thru 400 Hz)</th>
<th>K (50 Thru 400 Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>28</td>
<td>12</td>
<td>6</td>
<td>48</td>
<td>28</td>
<td>28</td>
<td>115</td>
<td>28</td>
<td>115</td>
</tr>
<tr>
<td>Nominal operating voltage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>29</td>
<td>14.5</td>
<td>7.3</td>
<td>50</td>
<td>29</td>
<td>30</td>
<td>122</td>
<td>30</td>
<td>122</td>
</tr>
<tr>
<td>Maximum operating voltage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum pickup voltage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Cold coil at +125°C</td>
<td>18</td>
<td>9</td>
<td>4.5</td>
<td>36</td>
<td>18</td>
<td>22</td>
<td>90</td>
<td>23</td>
<td>95</td>
</tr>
<tr>
<td>- During high temp test at +125°C</td>
<td>19.8</td>
<td>9.9</td>
<td>5</td>
<td>38</td>
<td>19.8</td>
<td>24.4</td>
<td>95.4</td>
<td>24.6</td>
<td>100</td>
</tr>
<tr>
<td>Drop-out voltage (maximum)</td>
<td>7</td>
<td>4.5</td>
<td>2.5</td>
<td>14</td>
<td>7</td>
<td>10</td>
<td>30</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>Coil resistance Ω ±10% +25°C or max coil current (Amps) at +25°C</td>
<td>320Ω</td>
<td>80Ω</td>
<td>20Ω</td>
<td>20Ω +20% +10%</td>
<td>1000Ω</td>
<td>320Ω</td>
<td>.240A</td>
<td>.040A</td>
<td>.100A</td>
</tr>
</tbody>
</table>

GENERAL CHARACTERISTICS

Temperature range | -70°C to 125°C
Minimum operating cycles (life) at rated load | 50,000
Minimum operating cycles (life) at 25% rated load | 200,000
Dielectric strength at sea level
- All circuits to ground and circuit to circuit | 1250 Vrms
- Coil to ground | 1000 Vrms
Dielectric strength at altitude 80,000 ft | 500 Vrms [2]
Insulation resistance
- Initial (500 Vdc) | 100 M Ω min
- After environmental tests (500 Vdc) | 50 M Ω min
Sinusoidal vibration (A, D and J mounting) | 0.12DA / 10 to 70 Hz 30G / 70 to 3000 Hz
Random vibration
- Applicable specification | MIL-STD-202
- Method | 214
- Test condition - A, D, and J mounting | 1G (0.4G²/Hz, 50 to 2000 Hz)
- Duration | 15 minutes each plane
Shock (A, D and J mounting) | 200G / 6 ms
Maximum contact opening time under vibration and shock | 10 µs
Operate time at nominal voltage (either coil)
- Series JC | 10 ms max
- Series JCA | 15 ms max
Release time at nominal voltage (either coil)
- Series JC | 10 ms max
- Series JCA | 50 ms max
Contact make bounce at nominal voltage@25°C | 1 ms max
Contact release break bounce at nominal voltage@25°C | 0.1 ms max [8]
Weight maximum | 0.10lb

Unless otherwise noted, the specified temperature range applies to all relay characteristics.
[2] 500 Vrms with silicone gasket compressed, 350 Vrms all other conditions.
[4] Special models available dry circuit, established reliability testing, etc.
[5] Inductive load life, 20,000 cycles for AC 10,000 cycles DC.
[6] For full rated load, max temp and altitude use no. 12 wire or larger, solder hook relays to be mounted to limit
mounting bracket temperature to 160° C for JC series and 135° C for JCA series.
[7] "N" coil has back EMF suppression to 42 volts maximum.
[8] Applicable to JCA, Applicable to JC with "N" coil only.
[9] 60 Hz load life, 10,000 cycles.
10. Time current relay characteristics per MIL-PRF-6106.
11. JC series: Relay will not operate, but will not be damaged by application of reverse polarity to coil.

NUMBERING SYSTEM

Basic series designation ____________________________ | JC OR JCA - A 2 A |
1-Mounting Style (A,D or J) ____________________________ |  |
2-Terminal Types (1,2,4,7) _____________________________ |  |
3-Coil Voltage see coil characteristics (A,B,C,E,F,J,K,M or N)____ |

MOUNTING STYLES

DIMENSION OF JCA IS 1.125 MAX.
MOUNTING STYLE A

DIMENSION OF JCA IS 1.125 MAX.
MOUNTING STYLE D

DIMENSION OF JCA IS .550.
MOUNTING STYLE J

DIMENSION OF JCA IS 1.125 MAX.
MOUNTING STYLE W
TERMINAL TYPES

SERIES JC AND JCA

TERMINAL TYPE 1
FINISH:
CASE-PAINTED LEACH BLUE
TERMINALS-TIN/LEAD

TERMINAL TYPE 2
FINISH:
CASE-PAINTED LEACH BLUE
TERMINALS-TIN/LEAD

TERMINAL TYPE 4
FINISH:
CASE-PAINTED LEACH BLUE
TERMINALS-GOLD PLATED
POLARIZING PIN-TIN/LEAD

TERMINAL TYPE 7
FINISH:
CASE-PAINTED LEACH BLUE
TERMINALS-TIN/LEAD

SCHEMATIC DIAGRAM
COIL POLARITY NOT APPLICABLE TO AC VERSIONS

STANDARD TERMINAL LAYOUT
COIL POLARITY NOT APPLICABLE TO AC VERSIONS

WIRING DIAGRAM
COIL POLARITY NOT APPLICABLE TO AC VERSIONS

CONTRASTING BEAD

STANDARD TOLERANCE: .XX ± .03, XXX ± .010

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