Cradle Relay Accessories and Mounting

Sockets with hand solder terminals

Size I

- Approx. weight 3.5 g

Size II

- Approx. weight 4.5 g

Size III

- Approx. weight 5.5 g

Sockets with PCB terminals

Size I

- Approx. weight 4.5 g

Size II

- Approx. weight 5.5 g

Size III

- Approx. weight 6.5 g

European Directive conformance:

Cradle Accessories product conformance according to:
- Directive 2002/95/EC: ROHS (Restrictions of the use of certain hazardous substances in electrical and electronic equipment)

Compliance is evidenced by written declaration from all raw material suppliers.
Tyco Electronics AXICOM only has responsibility for the proper processing of these materials.
Confirmation is valid for date codes ≥ 0501
Cradle Relay Accessories and Mounting

Sockets with hand solder terminals

Sockets with PCB terminals

Dimension drawing (in mm)
with hold-down spring for cradle relays N, S and P

<table>
<thead>
<tr>
<th>Socket</th>
<th>Size I</th>
<th>Size II</th>
<th>Size III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimension a</td>
<td>26.6</td>
<td>32.5</td>
<td>38</td>
</tr>
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</table>

with hold-down spring for cradle relay W
### Ordering Code

<table>
<thead>
<tr>
<th>Version</th>
<th>Size</th>
<th>Ordering Code</th>
<th>Tyco Part Number</th>
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<tbody>
<tr>
<td><strong>Sockets</strong></td>
<td></td>
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<td></td>
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<tr>
<td>for printed circuit mounting, terminals silver-plated</td>
<td>I</td>
<td>V23154-Z1001</td>
<td>0-1393824-1</td>
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<tr>
<td>with earth terminal</td>
<td>II</td>
<td>V23154-Z1002</td>
<td>0-1393824-2</td>
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<td>III</td>
<td>V23154-Z1028</td>
<td>0-1393824-3</td>
<td></td>
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<tr>
<td>for solder terminals, hand solder terminals, silver-plated</td>
<td>I</td>
<td>V23154-Z1005</td>
<td>0-1393824-4</td>
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<tr>
<td>II</td>
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<td>0-1393824-5</td>
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<td>III</td>
<td>V23154-Z1015</td>
<td>0-1393824-6</td>
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<tr>
<td><strong>Hold-down springs</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>for cradle relays N, S and P</td>
<td>I</td>
<td>V23154-Z1021</td>
<td>0-1393827-1</td>
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<tr>
<td>II</td>
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<td>0-1393827-2</td>
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<td>III</td>
<td>V23154-Z1034</td>
<td>0-1393760-2</td>
<td></td>
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<tr>
<td>for cradle relay W</td>
<td>I</td>
<td>V23154-Z1023</td>
<td>0-1393827-3</td>
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<tr>
<td>II</td>
<td>V23154-Z1024</td>
<td>0-1393760-1</td>
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</tbody>
</table>

Gold plated terminals on request

### General Data

| Terminal material | CuSn8 FB 390 plated with min. 3 μm silver or min. 1 μm gold |
| Socket material with solder terminals | Phenolformaldehyde - type 31 (DIN 7708, part 2) |
| Socket material with PCB terminals | Makroban (polycarbonate) |
| Maximum continuous current at 70° C | 5 A |
Minimum spacings between sockets

Dimension drawing (in mm)
with hold-down spring for cradle relays N, S and P

<table>
<thead>
<tr>
<th>Socket</th>
<th>Dimension c</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size I</td>
<td>27</td>
</tr>
<tr>
<td>Size II</td>
<td>33</td>
</tr>
<tr>
<td>Size III</td>
<td>39</td>
</tr>
</tbody>
</table>

for cradle relay P
Relays oriented in the same direction

<table>
<thead>
<tr>
<th>Socket</th>
<th>Dimension b</th>
<th>Dimension c</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size I</td>
<td>27</td>
<td>42</td>
</tr>
<tr>
<td>Size II</td>
<td>33</td>
<td>48</td>
</tr>
<tr>
<td>Size III</td>
<td>39</td>
<td>54</td>
</tr>
</tbody>
</table>

Relays oriented inversely to each other

When mounting cradle relay P consideration should be given to magnetic fields. Strong DC magnetic fields, possibly caused by adjacent relays, and large iron masses are the most common causes of interference. Experience has shown that under normal operating conditions the minimum spacings specified for cradle relay P are sufficient to prevent cross interference.
Cradle Relay Accessories and Mounting

Mounting hole layout for cradle relays and sockets with hand solder terminals

Dimension drawing (in mm)
with hold-down spring for cradle relays N, S and P

Size I

Size II

Size III

*) This hole is omitted when the mounting hole layout is intended for the socket.

Fixing of the socket

Direct mounting of relays without socket requires a fixing nut M2.5 DIN 934-m6AU.
Ordering code: D00934-A0025-S001
Cradle Relay Accessories and Mounting

Mounting hole layout for sockets with PCB terminals

Basic grid 2.5 mm according to EN 60097

Dimension drawing (in mm)

View onto the terminals

M = Earth terminal

a) Hole for mechanical armature actuation, if required
b) Hole for the socket mounting with screw M1.6

Fixing of the socket

AM 1.6 x ... DIN 84
(Screw length = Dimension a + 7.5 mm)

1.7 DIN 433

BM 1.6 DIN 439
Cradle Relay Accessories and Mounting

**IM Relays**

4th generation slim line - low profile polarized 2 c/o telecom relay with bifurcated contacts, available as non latching or latching relay with 1 coil. Nominal voltage range from 3 ... 48 V, coil power consumption of 80 ... 260 mW for the high sensitive version, 140 ... 300 mW for the standard version, latching relays with 1 coil 100 mW. The FX2 relay is available as through hole or surface mount type and capable to switch currents up to 5 A. Dielectric strength fulfills the Bellcore requirements according GR 1089 (2,5 kV – 2 / 10 µs) and FCC part 68 (1,5 kV – 10 / 160 µs). The IM relay is CECC/IECC approved and certified in accordance with IEC/EN 60950 and UL1950. Dimensions approx. 15 x 7,5 mm board space and 10,7 mm height.

**D2n Relays**

2nd generation non polarized 2 c/o relay for telecom and various other applications. Nominal voltage range from 3 ... 48 V, coil power consumption from 150 ... 500 mW. The D2n relay is capable to switch currents up to 3 A. Dielectric strength fulfills the requirements according FCC part 68 (1,5 kV – 10 / 160 µs). Dimensions approx. 20 x 10 mm board space and 11,5 mm height.

**P1 Relays**

Extremely sensitive, polarized 1 c/o relay with bifurcated contacts for a wide range of applications, available as non latching or latching relay with 1 or 2 coils. Nominal voltage range from 3 ... 24 V, coil power consumption 65 mW, latching relays with 1 coil 30 mW. The P1 relay is available as through hole or surface mount type and capable to switch currents up to 1 A. Dielectric strength fulfills the requirements according FCC part 68 (1,5 kV – 10 / 160 µs). Dimensions approx. 13 x 7,6 mm board space and 7 mm height for THF or 8 mm height for SMT version.

**W11 Relays**

Low cost, non polarized 1 c/o relay for various applications. Nominal voltage range from 3 ... 24 V, coil power consumption 450 mW, sensitive versions 200 mW. The W11 relay is capable to switch currents up to 3 A. Dielectric strength 1000 Vrms. Dimensions approx. 15,6 x 10,6 mm board space and 11,5 mm height.

**Reed Relays**

High sensitive, non polarized relay for telecom and various other applications, available with 1 n/o, 2 n/o or 1 c/o contacts. Nominal voltage range from 5 ... 24 V, coil power consumption 50...280 mW for 1 n/o and 125 ... 280 mW for 2 n/o or 1 c/o versions. Reed relays are available in DIP or SIL housing and capable to switch currents up to 0.5 A. Integrated diode and/or electrostatic shield optional. Dielectric strength 1500 Vdc. Dimensions approx. 19,3 x 7 mm board space and 5 ... 7,5 mm height for DIP or 19,8 x 5 mm board space and 7,8 mm height for SIL version.

**Cradle Relays**

Extremely reliable and mature relay family of 1st generation for various signal switching applications. Available as non polarized, polarized / latching and relay with AC coil. The benefit is the possibility of combining various contact sets from 1 up to 6 poles, single and bifurcated contacts, different contact materials with a coil voltage range from 1,5 Vdc to 220 Vac. Cradle relays are available as dust protected and hermetically sealed versions, with plug in or solder terminals and are capable to switch currents up to 5 A. Forcibly guided (linked) contact sets optional. Dielectric strength 500 Vrms. Dimensions from approx. 19 x 24 to 19x35 mm board space and 30 mm height.

**Other Relays**

We offer a variety of different relay families for maintenance and replacement purposes. These relays are up to 60 years old now, such as Card Relay SN (V23030 / V23031 series), Small General Purpose Relay (V23006 series), Small Polarized Relay (V23063 ... V23067 and V23163 ... V23167 series). Accessories like sockets, hold down springs, etc. optional.

**HF3 Relay**

High performance low cost RF relay with excellent RF characteristics. Available with an impedance of 50 and 75 Ohm. Suitable for frequencies up to 3 GHz. Actually smallest RF relay available combining small size, excellent RF performance and SMD solderability. Available as non latching or latching relay with 1 or 2 coils and a nominal coil voltage range from 3 ... 24 V, coil power consumption 140 mW, latching relays with 1 coil 70 mW. Dimensions 14.6 x 7.3 x 10 mm.