For more than a decade, insulation displacement contacts (IDC) and press-fit or compliant pin technology have been proven to be two of the most reliable contact systems in critical automotive systems such as: airbag, engine and transmission control units.

AVX has combined these two contact technologies into a new and unique, high reliability WTB connection system to replace traditional 2-Piece solutions, offering designers a new packaging option.

### APPLICATIONS
- Automotive electronic systems

### FEATURES AND BENEFITS
- Proven “gas tight” cold welded wire termination to PCB
- Redundant contact systems provides enhanced wire retention and PCB attachment
- Replace costly 2-Piece connector solutions

### ELECTRICAL
- Current Rating:
  - AWG 18: 10 Amps
  - AWG 20: 9 Amps
  - AWG 22: 7 Amps
  - AWG 24: 6 Amps
- Voltage Rating: 125 VAC

### ENVIRONMENTAL
- Operating Temperature: -40°C to +125°C

### MECHANICAL
- Contact Material: Tin Plated Copper Alloy
- Contact Plating: Pure tin over nickel
- Durability: 1 termination cycles

### HOW TO ORDER

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Series</th>
<th>Number of Rows</th>
<th>Number of Ways</th>
<th>Hole Size</th>
<th>Serialized Project Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>53</td>
<td>8702</td>
<td>X</td>
<td>005</td>
<td>0XX</td>
<td>096</td>
</tr>
<tr>
<td>53 = Finished Part</td>
<td>8702 = Series</td>
<td>X = Number of Rows</td>
<td>005 = Number of Ways</td>
<td>0XX = Hole Size</td>
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</tr>
</tbody>
</table>

- 1XX = 1
- 2XX = 2
- 018 = 18 AWG
- 020 = 20 AWG
- 022 = 22 AWG
- 024 = 24 AWG

*7 and 8 way only available in dual row version

**ENGINEERING SAMPLES NOW AVAILABLE FOR TEST AND VALIDATION**
Consult AVX for more details.
**WIRE-TO-PCB CONNECTOR – DUAL ROW IDC TO COMPLIANT TAIL**

<table>
<thead>
<tr>
<th>Positions</th>
<th>Dim. A</th>
<th>Dim. B</th>
<th>Approx. Parts/Tube</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5.6</td>
<td>N.A.</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>10.1</td>
<td>4.50</td>
<td>56</td>
</tr>
<tr>
<td>3</td>
<td>14.6</td>
<td>9.00</td>
<td>40</td>
</tr>
<tr>
<td>4</td>
<td>19.1</td>
<td>13.50</td>
<td>30</td>
</tr>
<tr>
<td>5</td>
<td>23.6</td>
<td>18.00</td>
<td>24</td>
</tr>
<tr>
<td>6</td>
<td>28.1</td>
<td>22.50</td>
<td>20</td>
</tr>
<tr>
<td>7</td>
<td>32.6</td>
<td>27.00</td>
<td>17</td>
</tr>
<tr>
<td>8</td>
<td>37.1</td>
<td>31.50</td>
<td>15</td>
</tr>
</tbody>
</table>

**Wire Gauge**

- **18 Awg Stranded**: 2.1, 1.6 - 2.1
- **20 Awg Solid/Stranded**: 2.1, 1.6 - 2.1
- **22 Awg Solid/Stranded**: 1.6, 1.1 - 1.6
- **24 Awg Solid/Stranded**: 1.6, 1.1 - 1.6

**NOTES:**

1. **HOUSING MATERIAL**: GLASS-FILLED PBT.
2. **CONTACT MATERIAL**: TIN PLATED COPPER ALLOY.
3. **PART CONTAINS TWO CONTACTS PER POSITION.**
4. **PLATED-THROUGH PCB HOLES TO MEET THE FOLLOWING**: DRILL DIAMETER: 1.150/1.125; COPPER PLATING: 0.025 MIN; FINAL PLATED HOLE DIAMETER: 0.95/1.05. REF IEC 60352-5.
6. **PARTS TO BE PACKAGED IN 699MM LONG ANTI-STATIC TUBES; NUMBER OF PARTS PER TUBE IS AS SHOWN IN THE TABLE.**
7. **GENERAL TOLERANCE 0.20 UNLESS OTHERWISE STATED.**
WIRE-TO-PCB CONNECTOR – SINGLE ROW IDC TO COMPLIANT TAIL

<table>
<thead>
<tr>
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<tr>
<td>6</td>
<td>28.1</td>
<td>22.50</td>
<td>20</td>
</tr>
</tbody>
</table>

RECOMMENDED PCB PATTERN

NOTES:
1. HOUSING MATERIAL: GLASS-FILLED PBT.
2. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
3. PART CONTAINS TWO CONTACTS PER POSITION.
4. PLATED-THROUGH PCB HOLES TO MEET THE FOLLOWING: DRILL DIAMETER: 1.150/1.125; COPPER PLATING: 0.025 MIN; FINAL PLATED HOLE DIAMETER: 0.95/1.05. REF IEC 60352-5.
5. FOR INSTALLATION OPTIONS AND FIXTURES, SEE PAGE 4.
6. PARTS TO BE PACKAGED IN 699MM LONG ANTI-STATIC TUBES; NUMBER OF PARTS PER TUBE IS AS SHOWN IN THE TABLE.
7. GENERAL TOLERANCE 0.20 UNLESS OTHERWISE STATED.

Wire Gauge | Dim. C | Wire Insulation
-----------|-------|----------------|
18 Awg Stranded | 2.1 | 1.6 - 2.1 |
20 Awg Solid/Stranded | 1.8 | 1.1 - 1.6 |
22 Awg Solid/Stranded | 1.8 | 1.1 - 1.6 |
24 Awg Solid/Stranded | 1.8 | 1.1 - 1.6 |
IDC/Press-Fit WTB: 18-24AWG

53-8702

TERMINATION/MOUNTING OPTION 1
WIRES FIRST, PCB SECOND

PLACE CONNECTOR INTO SAWTOOTH Fixture
AVX TOOL NUMBER 1800.

INSERT WIRES INTO HOUSING,
0.5 mm MINIMUM PROTRUSION
FROM BACK SIDE OF PLASTIC.

PRESS HOUSING FLUSH TO Fixture,
NO SPECIAL PRESS TOOL REQUIRED.

TERMINATION/MOUNTING OPTION 2
PCB FIRST, WIRES SECOND

PLACE CONNECTOR INTO PRESS FIXTURE
AVX TOOL NUMBER T800.

PRESS CONNECTOR ONTO PC BOARD
UNLESS Fixture IS FLUSH TO BOARD.

INSERT WIRES INTO HOUSING,
0.5 mm MINIMUM PROTRUSION
FROM BACK SIDE OF PLASTIC.

PRESS CONNECTION FLUSH TO PC BOARD,
NO SPECIAL PRESS TOOL REQUIRED.