Contents

<table>
<thead>
<tr>
<th>Chapter</th>
<th>From page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>4</td>
<td>17</td>
</tr>
</tbody>
</table>

**Description:**
The ODU MINI-FLAKAFIX® series is the right choice for connecting PCBs across larger distances and at any angle or changeable angles. The connection between board and cable can be handled in either pluggable or permanently soldered versions.

**Board-to-wire connector,**
*Pitch 1.27 × 2.54 mm. ODU also offer cable assemblies.*

**Features:**
- Detachable connection using IDC sockets and headers
- Non-detachable connection using IDC PCB connector
- 2-row
- 10, 20, 30, 40 and 50 contacts
- Fully automatic placement (pick-and-place) in the SMT versions using vacuum adapter plate and tape-and-reel packaging
- Extensive accessories and processing tools
- Assembly directly by ODU also possible

All dimensions in mm.
Some of the pictures are illustrations.
Errors and omissions excepted.

Issue: 2014-03
## Contents

IDC sockets, Series 525

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Section</th>
<th>From page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>IDC sockets</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>with double action spring contact</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Accessories</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Locking latch for IDC sockets and pin header</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Locking latch for IDC sockets and SMT pin headers</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Strain relief for IDC sockets</td>
<td>8</td>
</tr>
</tbody>
</table>
IDC sockets with IDC termination, Series 525

Double action spring contact in pitch 1.27 × 2.54 mm, for flat cable termination

Features

– IDC contact
– With keying pin
– Available with metal locking latch or plastic locking latch
– 10, 20, 30, 40 and 50 contacts

Technical data

Electrical specification

Contact resistance: \( \leq 6 \, \text{m}\Omega \)
Test voltage: 500 V eff.
Operating voltage: 30 V
Nominal current: 0.5 A (single contact at 25 °C)

Mechanical specification

Operating temperature: -40 °C to +125 °C
Humidity level: 75% rel. humidity in accordance with DIN EN 60721-3-3
Mating force per contact: 0.18 N
Mating cycles: > 100

Material and surface plating

Contact surface

Mating area: 0.75 μm Au on 1.25 μm Ni / MIL-G-45 204B Class 00
Termination area: 1.0 μm Sn on 1.25 μm Ni
Insulator material: PBT grey GF in accordance with UL94 V-0
Contact material: Copper alloy

Order information and dimensional table

(All dimensions are in mm)

<table>
<thead>
<tr>
<th>Number of contacts</th>
<th>Part number</th>
<th>Dimension A</th>
<th>Dimension B</th>
<th>Packaging unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>525.060.035.010.010</td>
<td>5.08</td>
<td>10.88</td>
<td>100</td>
</tr>
<tr>
<td>20</td>
<td>525.060.035.020.010</td>
<td>11.43</td>
<td>17.23</td>
<td>60</td>
</tr>
<tr>
<td>30</td>
<td>525.060.035.030.010</td>
<td>17.78</td>
<td>23.58</td>
<td>40</td>
</tr>
<tr>
<td>40</td>
<td>525.060.035.040.010</td>
<td>24.13</td>
<td>29.93</td>
<td>30</td>
</tr>
<tr>
<td>50</td>
<td>525.060.035.050.010</td>
<td>30.48</td>
<td>36.28</td>
<td>20</td>
</tr>
</tbody>
</table>

\( \text{010 (last block) = Packaging: cardboard box} \)
Locking latch

Locking latch for pin headers (solder version)
Series 515.067 ... and 515.267 ...

Features
For locking pin headers, Series 515 (solder version), straight and angled design, with IDC sockets, Series 525

Dimensional drawing (schematic)

Order information and dimensional table
(All dimensions are in mm)

<table>
<thead>
<tr>
<th>Number of contacts</th>
<th>Part number</th>
<th>Dimension A</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>515.067.710.700.000</td>
<td>14.35</td>
</tr>
<tr>
<td>20</td>
<td>515.067.720.700.000</td>
<td>20.70</td>
</tr>
<tr>
<td>30</td>
<td>515.067.730.700.000</td>
<td>27.05</td>
</tr>
<tr>
<td>40</td>
<td>515.067.740.700.000</td>
<td>33.40</td>
</tr>
<tr>
<td>50</td>
<td>515.067.750.700.000</td>
<td>39.75</td>
</tr>
</tbody>
</table>

General information
These locking latches are made of high-grade spring steel. Special features are the absolutely solid fit and simple assembly and disassembly (with small screwdriver).

Locking latch for SMT pin headers
Series 515.568 ...

Features
For locking pin headers, Series 515 (SMT version) with IDC sockets, Series 525

Dimensional drawing (schematic)

Order information and dimensional table
(All dimensions are in mm)

<table>
<thead>
<tr>
<th>Number of contacts</th>
<th>Part number</th>
<th>Dimension A</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>515.568.710.700.000</td>
<td>11.0</td>
</tr>
<tr>
<td>20</td>
<td>515.568.720.700.000</td>
<td>17.3</td>
</tr>
<tr>
<td>30</td>
<td>515.568.730.700.000</td>
<td>23.7</td>
</tr>
<tr>
<td>40</td>
<td>515.568.740.700.000</td>
<td>30.0</td>
</tr>
<tr>
<td>50</td>
<td>515.568.750.700.000</td>
<td>36.4</td>
</tr>
</tbody>
</table>
Plastic locking latch for SMT pin headers

Material: PA
Part number: 525.060.105.923.000
Strain relief for IDC sockets with IDC termination, Series 525.060. …

Material: spring steel wire

1. Metal latch as strain relief

2. Metal latch as demating aid

Order information and dimensional table
(All dimensions are in mm)

<table>
<thead>
<tr>
<th>Number of contacts</th>
<th>Part number Without latch</th>
<th>Dimension A</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>525.060.710.700.000</td>
<td>9.10</td>
</tr>
<tr>
<td>20</td>
<td>525.060.720.700.000</td>
<td>15.45</td>
</tr>
<tr>
<td>30</td>
<td>525.060.730.700.000</td>
<td>21.80</td>
</tr>
<tr>
<td>40</td>
<td>525.060.740.700.000</td>
<td>28.15</td>
</tr>
<tr>
<td>50</td>
<td>525.060.750.700.000</td>
<td>34.50</td>
</tr>
</tbody>
</table>
ODU MINI-FLAKAFIX®
Pin headers
Series 515
## Contents

**Pin headers, Series 515**

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Description</th>
<th>From page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Number codes for ODU MINI-FLAKAFIX®, Series 515</td>
<td>11</td>
</tr>
<tr>
<td>2</td>
<td>THT pin header, straight assembly</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>THT pin header, angled assembly</td>
<td>13</td>
</tr>
<tr>
<td>4</td>
<td>SMT pin header, straight assembly</td>
<td>14</td>
</tr>
</tbody>
</table>
Explaination of number codes for ODU MINI-FLAKAFIX®, Series 515

<table>
<thead>
<tr>
<th>No.</th>
<th>Meaning</th>
<th>Coding</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Series</td>
<td>515</td>
</tr>
<tr>
<td>B</td>
<td>Type</td>
<td>067</td>
</tr>
<tr>
<td>C</td>
<td>Surface plating</td>
<td>035</td>
</tr>
<tr>
<td>D</td>
<td>Number of contacts</td>
<td>010</td>
</tr>
<tr>
<td>E</td>
<td>Packaging</td>
<td>010</td>
</tr>
</tbody>
</table>

Ordering example for Series 515

A = Series: 515 pin header
B = Type: straight THT model
C = Surface plating: in mating area 0.75 μm Au on Ni
    in termination area 2.0 μm Sn on Ni
D = Number of contacts: 10
E = Packaging: cardboard (box)
THT pin header, Series 515
2-row, straight with solder pins, in pitch 1.27 × 2.54 mm

Features
– Closed style
– Central polarisation
– Pin cross-section: 0.38 × 0.38 mm
– 10, 20, 30, 40 and 50 contacts

Technical data

Electrical specification
Contact resistance: ≤ 6 mΩ
Test voltage: 500 V eff.
Operating voltage: 30 V
Nominal current: 0.5 A
(single contact at 25 °C)

Mechanical specification
Operating temperature: -40 °C to +125 °C
Humidity level: 75 % rel. humidity in accordance with DIN EN 60721-3-3
Mating force per contact: 0,18 N
Mating cycles: > 100

Material and surface plating
Contact surface
Mating area: 0.75 μm Au on 1,25 μm Ni / MIL-G-45 204B Class 00
Termination area: 2.0 μm Sn on 1.25 μm Ni
Insulator material: PBT grey
GF in accordance with UL94 V-0
Contact material: Copper alloy

Order information and dimensional table
(All dimensions are in mm)

<table>
<thead>
<tr>
<th>Number of contacts</th>
<th>Part number</th>
<th>Dimension A</th>
<th>Dimension B</th>
<th>Packaging unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>515.067.035.010.010</td>
<td>5.08</td>
<td>13.88</td>
<td>100</td>
</tr>
<tr>
<td>20</td>
<td>515.067.035.020.010</td>
<td>11.43</td>
<td>20.23</td>
<td>120</td>
</tr>
<tr>
<td>30</td>
<td>515.067.035.030.010</td>
<td>17.78</td>
<td>26.58</td>
<td>80</td>
</tr>
<tr>
<td>40</td>
<td>515.067.035.040.010</td>
<td>24.13</td>
<td>32.93</td>
<td>60</td>
</tr>
<tr>
<td>50</td>
<td>515.067.035.050.010</td>
<td>30.48</td>
<td>39.28</td>
<td>60</td>
</tr>
</tbody>
</table>

Number codes, see page 11. * rounded in solder area
THT pin header, Series 515
2-row, angled with with solder pins, in pitch 1.27 × 2.54 mm

Features
- Closed style
- Central polarisation
- Pin cross-section: 0.38 × 0.38 mm
- 10, 20, 30, 40 and 50 contacts

Technical data

Electrical specification
Contact resistance: \(\leq 6 \, \text{mΩ}\)
Test voltage: 500 V eff.
Operating voltage: 30 V
Nominal current: 0.5 A
(single contact at 25 °C)

Mechanical specification
Operating temperature: -40 °C tp +125 °C
Humidity level: 75 % rel. humidity in accordance with DIN EN 60721-3-3
Mating force per contact: 0.18 N
Mating cycles: > 100

Material and surface plating
Contact surface
- Mating area: 0.75 μm Au on 1.25 μm Ni / MIL-G-45 204B Class 00
- Termination area: 2.0 μm Sn on 1.25 μm Ni
Insulator material: PBT grey GF in accordance with UL94 V-0
Contact material: Copper alloy

Order information and dimensional table
(All dimensions are in mm)

<table>
<thead>
<tr>
<th>Number of contacts</th>
<th>Part number</th>
<th>Dimension A</th>
<th>Dimension B</th>
<th>Packaging unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>S15.267.035.010.010</td>
<td>5.08</td>
<td>13.88</td>
<td>100</td>
</tr>
<tr>
<td>20</td>
<td>S15.267.035.020.010</td>
<td>11.43</td>
<td>20.23</td>
<td>120</td>
</tr>
<tr>
<td>30</td>
<td>S15.267.035.030.010</td>
<td>17.78</td>
<td>26.58</td>
<td>80</td>
</tr>
<tr>
<td>40</td>
<td>S15.267.035.040.010</td>
<td>24.13</td>
<td>32.93</td>
<td>60</td>
</tr>
<tr>
<td>50</td>
<td>S15.267.035.050.010</td>
<td>30.48</td>
<td>39.28</td>
<td>60</td>
</tr>
</tbody>
</table>

1) 010 (last block) = Packaging: cardboard box

Number codes, see page 11.

* rounded in solder area
SMT pin header, Series 515
2-row, straight, in pitch 1.27 × 2.54 mm

Features
– With vacuum adapter plate
– Termination type: SMT
– Pin cross-section: 0.38 × 0.38 mm
– 10, 20, 30, 40 and 50 contacts
– 2 moulded-on guiding pins

Technical data

Electrical specification
Contact resistance: ≤ 6 mΩ
Test voltage: 500 V eff.
Operating voltage: 30 V
Nominal current: 0.5 A
(single contact at 25 °C)

Mechanical specification
Operating temperature: -40 °C to +125 °C
SMT solder temperature: 260 °C
at solder point max. 30 s:
Humidity level: 75 % rel. humidity in accordance with DIN EN 60721-3-3
Mating force per contact: 0.18 N
Mating cycles: > 100

Material and surface plating
Contact surface
Mating area: 0.75 μm Au on 1.25 μm Ni / MIL-G-45 204B Class 00
Termination area: 2.0 μm Sn on 1.25 μm Ni
Insulator material: LCP black
GF in accordance with UL94 V-0
Contact material: Copper alloy

Order information and dimensional table
(All dimensions are in mm)

<table>
<thead>
<tr>
<th>Number of contacts</th>
<th>Part number</th>
<th>Dimension A</th>
<th>Dimension B</th>
<th>Dimension C</th>
<th>Packaging unit</th>
<th>Packaging unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>515.568.035.010._</td>
<td>5.08</td>
<td>10.88</td>
<td>3.81</td>
<td>003 Tube</td>
<td>003 Tube</td>
</tr>
<tr>
<td>20</td>
<td>515.568.035.020._</td>
<td>11.43</td>
<td>17.23</td>
<td>10.16</td>
<td>050 Tape-and-reel</td>
<td>050 Tape-and-reel</td>
</tr>
<tr>
<td>30</td>
<td>515.568.035.030._</td>
<td>17.78</td>
<td>23.58</td>
<td>16.51</td>
<td>050 Tape-and-reel</td>
<td>050 Tape-and-reel</td>
</tr>
<tr>
<td>40</td>
<td>515.568.035.040._</td>
<td>24.13</td>
<td>29.93</td>
<td>22.86</td>
<td>050 Tape-and-reel</td>
<td>050 Tape-and-reel</td>
</tr>
<tr>
<td>50</td>
<td>515.568.035.050._</td>
<td>30.48</td>
<td>36.28</td>
<td>29.21</td>
<td>050 Tape-and-reel</td>
<td>050 Tape-and-reel</td>
</tr>
</tbody>
</table>

Number codes, see page 11.
ODU MINI-FLAKAFIX®
IDC PCB connector
Series 533
IDC PCB connector Series 533
2-row, flat cable termination, in pitch 1.27 × 2.54 mm

Features
- 10, 20, 30, 40 and 50 contacts

Technical data

Electrical specification
Contact resistance: ≤ 6 mΩ
Test voltage: 500 V eff.
Operating voltage: 30 V
Nominal current: 0.5 A
(single contact at 25 °C)

Mechanical specification
Operating temperature: -40 °C to +125 °C
Humidity level: 75 % rel. humidity in accordance with DIN EN 60721-3-3

Material and surface plating
Contact surface
Termination area: 1 μm Sn on 1.25 μm Ni
Insulator material:
- PBT grey
- GF in accordance with UL94 V-0
Contact material: Copper alloy

Order information and dimensional table
(All dimensions are in mm)

<table>
<thead>
<tr>
<th>Number of contacts</th>
<th>Part number</th>
<th>Dimension A</th>
<th>Dimension B</th>
<th>Packaging unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>533.040.024.010.010</td>
<td>5.08</td>
<td>8.28</td>
<td>100</td>
</tr>
<tr>
<td>20</td>
<td>533.040.024.020.010</td>
<td>11.43</td>
<td>14.63</td>
<td>60</td>
</tr>
<tr>
<td>30</td>
<td>533.040.024.030.010</td>
<td>17.78</td>
<td>20.98</td>
<td>80</td>
</tr>
<tr>
<td>40</td>
<td>533.040.024.040.010</td>
<td>27.33</td>
<td>33.68</td>
<td>60</td>
</tr>
<tr>
<td>50</td>
<td>533.040.024.050.010</td>
<td>30.48</td>
<td>33.68</td>
<td>60</td>
</tr>
</tbody>
</table>

010 (last block) = Packaging: cardboard box
ODU MINI-FLAKAFIX®
Flat cable and processing tools
## Contents

### MINI-FLAKAFIX® flat cable and processing tools

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Description</th>
<th>From page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MINI-FLAKAFIX flat cable AWG 30</td>
<td>19</td>
</tr>
<tr>
<td>2</td>
<td>FLAKAFIX processing tools</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>FLAKAFIX benchtop press, size 2</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Tool inserts for benchtop press</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>FLAKAFIX hand cutting tool</td>
<td>20</td>
</tr>
</tbody>
</table>
Flat cable AWG 30, MINI-FLAKAFIX® series
Monochrome grey, UL style 2678, in pitch 0.635 mm

Features
- Pitch 0.635 mm
- Stranded wire
- AWG 30
- Mini-flat conductor, monochrome

Technical data

Electrical specification
Cross-section: approx. 0.06 mm²
Conductor diameter: approx. 0.30 mm
Conductor structure: 7 pieces with Ø 0.102 mm
Test voltage: 500 V
Operating voltage: 30 V
Current carrying capacity: max. 1.2 A at 25 °C
Conductor resistance: 354 Ω/km max.
Insulation resistance: 100 MΩ × km
Capacitance (1 kHz): 50 pF/m

Mechanical specification
Operating temperature: -10 °C to +105 °C

Material and surface plating
Conductors: Cu wires: tin-plated (AWG 30)
Insulation: Special PVC, similar to Y18 acc. to VDE 0207
Colour: grey with edge wire in different colour
Flame resistance: acc. to UL VW-1 / CSA FT-1
Shore hardness A: 94 ± 3

Order information and dimensional table

<table>
<thead>
<tr>
<th>Number of contacts</th>
<th>Part number 1)</th>
<th>Dimension A</th>
<th>Dimension B</th>
<th>Tolerance in dimensions A and B</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>921.659.031.010.000</td>
<td>5.72</td>
<td>6.35</td>
<td>± 0.15</td>
</tr>
<tr>
<td>20</td>
<td>921.659.031.020.000</td>
<td>12.07</td>
<td>12.70</td>
<td>± 0.20</td>
</tr>
<tr>
<td>30</td>
<td>921.659.031.030.000</td>
<td>18.42</td>
<td>19.05</td>
<td>± 0.25</td>
</tr>
<tr>
<td>40</td>
<td>921.659.031.040.000</td>
<td>24.77</td>
<td>25.40</td>
<td>± 0.30</td>
</tr>
<tr>
<td>50</td>
<td>921.659.031.050.000</td>
<td>31.12</td>
<td>31.75</td>
<td>± 0.40</td>
</tr>
</tbody>
</table>

1) Order information: Delivery in 30.5-m rolls

ODU does more than just deliver individual assemblies and components.
Upon request, we also supply our customers with completely manufactured ODU MINI-FLAKAFIX sets comprising cables and connectors. Send us your drawing.
Processing tools

For time-saving and reliable processing of the different ODU MINI-FLAKAFIX® products, we offer high quality, functional, tested tools coordinated for the application area. They guarantee the user simple handling and effortless work thanks to optimal transmission. The trouble-free retrofitting in just seconds by replacing the press inserts for various connector types requires a minimum of time. It is also possible to press the connector parallel or at an angle of 90° to the tool. Thanks to its compact construction, the benchtop press is also suitable for especially high demands. This simplifies the tool selection for the user and also ensures that no bad investments result from tool compromises.

Cable processing tools / assembly tools

**FLAKAFIX benchtop press, size 2, mounted on a base plate, with tooling plate.**

**Features**
- Hand toggle press
- Suitable for processing small series from the entire ODU MIN-FLAKAFIX program

**Order information**
MINI-FLAKAFIX benchtop press, size 2
Part number: 099.100.000.000.000

**FLAKAFIX hand cutting tool**

**Features**
- For trimming flat cable up to 64 contact positions
- Easy to handle
- With lateral cable stop
- Cutting to the precise angle

**Order information**
MINI-FLAKAFIX hand cutting tool
Part number: 080.001.001.000.000
Tool inserts suitable for the MINI-FLAKAFIX® benchtop press

Size 2

The tools can be adjusted to any number of contacts!

Order information and dimensional table

<table>
<thead>
<tr>
<th>Model</th>
<th>For Series</th>
<th>Assembly plate</th>
<th>Upper die</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDC sockets single-V contact, double action spring contact</td>
<td>525.060..</td>
<td>598.120.005.600.000</td>
<td>598.120.019.600.000</td>
</tr>
<tr>
<td>IDC PCB connector 2-row</td>
<td>533.040..</td>
<td>598.120.005.600.000</td>
<td>598.120.018.600.000</td>
</tr>
</tbody>
</table>

ODU recommendation

On request we will gladly send you our processing recommendation 003.062.000.000.000 for assembly of flat cable connectors.
You can find additional qualified representatives on our website: www.odu.de/sales