

# SHORT LEAD TIMES www.fci.com/basicsleadtimes



Product Catalog



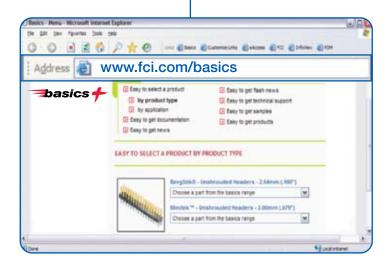
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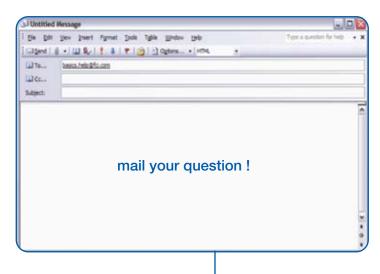


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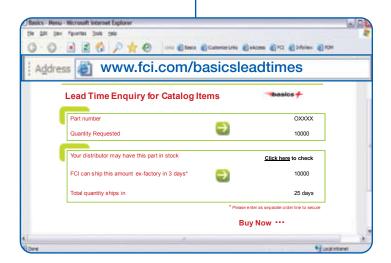
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### WHAT'S NEW?



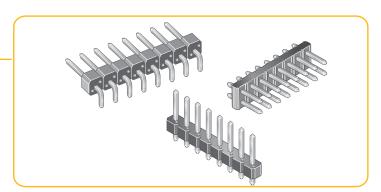


Pick an item from anywhere in the catalog. Most parts available to ship from our factory to you in 3 days.

Check online at www.fci.com/basics leadtimes

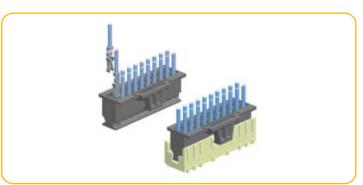
#### Pin-in-Paste

Our new PiP range has been specifically designed to meet the requirements of this process, complete with paste stencil design Pages 56, 68



#### Minitek Active Latch

A latching crimp-to-wire system for demanding environments Pages 64, 74



#### ■ Minitek Eject Latch Header

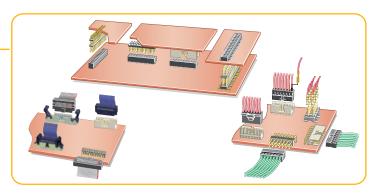
This ribbon cable connector mates securely, but can be unmated with no difficulty.

Pages 70, 76

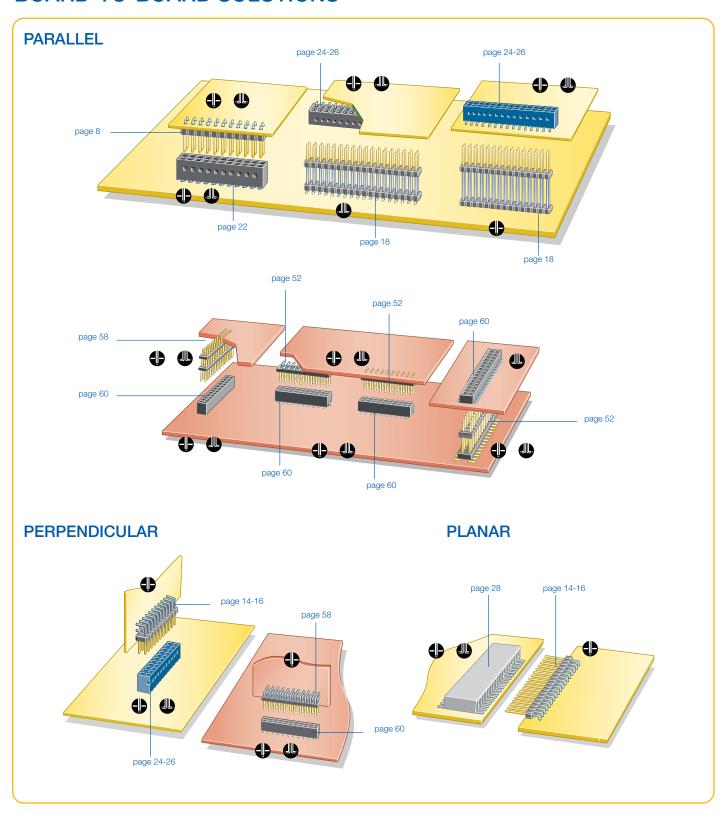


#### ► The Minitek 2mm Modular System

Now the most complete and versatile system available: intermateable, high temperature compatible, low coplanarity and space saving Pages 52 - 76



#### **BOARD-TO-BOARD SOLUTIONS**



= 2.54 mm



= Through Mount

= 2.00 mm

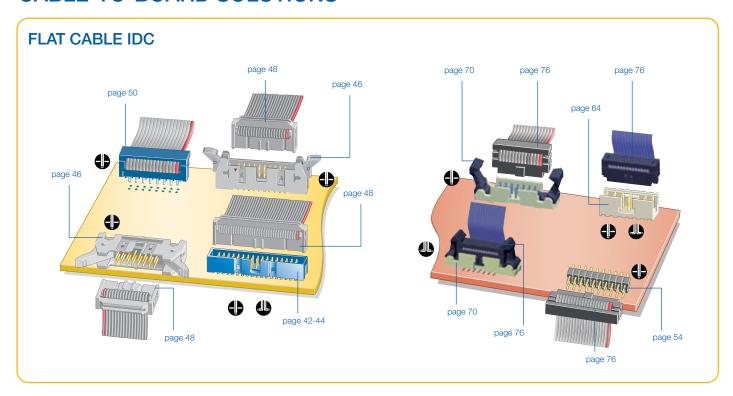


= Surface Mount

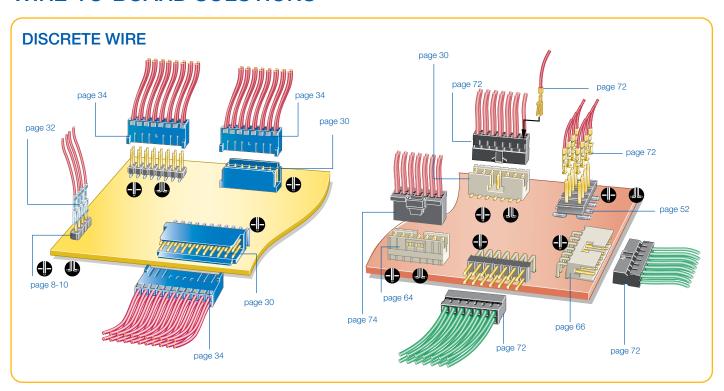




#### **CABLE-TO-BOARD SOLUTIONS**



#### **WIRE-TO-BOARD SOLUTIONS**



= 2.54 mm

= Through Mount

= 2.00 mm

= Surface Mount

#### **TECHNICAL DATA**

#### **PHYSICAL**

- ► Housing: High temperature, black thermoplastic
- ► Flammability rating: UL 94 V-0
- Pin: Phosphor-bronze
- Plating: Gold or tin over 1.27 μm (50 μ") nickel

#### ELECTRICAL PERFORMANCE

- Current rating: 3 A continuous
- ▶ Insulation resistance: 5000 M $\Omega$  min.
- Dielectric withstanding voltage: 1500 V

#### MECHANICAL PERFORMANCE

Pin retention to housing: 9 N min.

#### OPERATING TEMPERATURE RANGE

► -65°C to +125°C

#### PACKAGING

- Standard: Bags
- Optional: Tubes or

Tape-and-reel with pick-up cap (SMT pin style 01 only)

#### REFERENCE INFORMATION

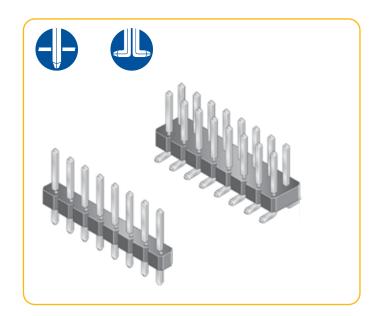
- File no. E66906
- File no. LR46923
- ► Product drawing: By 5-digit base part number
- ► Product specification: BUS-12-114
- Tape and Reel packaging data: TA-840

#### PROCESSING INFORMATION

- Compatible with wave, vapor-phase, and (for SMT) IR reflow soldering processes
- ▶ Recommended IR profile TA 842 for SMT

#### RoHs INFORMATION

■ This product is RoHs compatible according to the European Union Directive 2002/95/IEC



#### **MATING DATA**

 Dubox™ Crimp-to-wire contacts
 32

 Dubox™ Crimp-to-wire housings
 34

 Dubox™ Vertical receptacles
 22

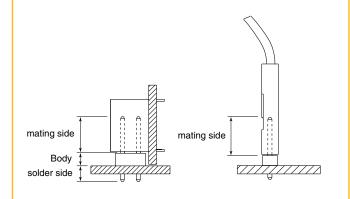
 Dubox™ Low profile vertical receptacles
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 Dubox™ Horizontal receptacles
 28

 Quickie™ IDC receptacles
 48

 PV™ Crimp-to-Wire Contacts
 38

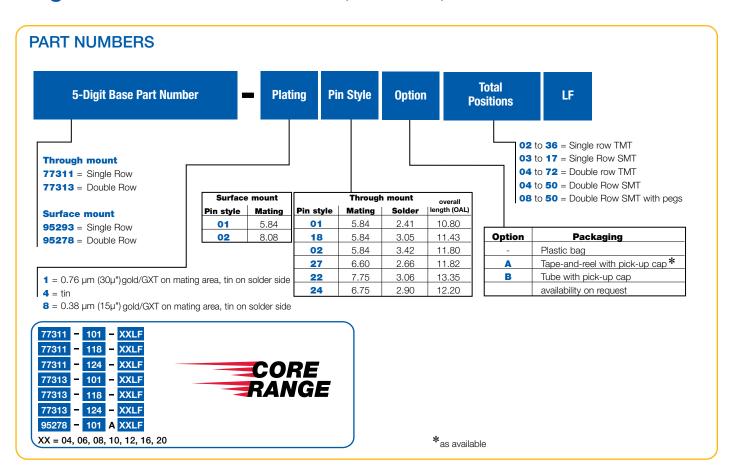
 PV™ Crimp-to-Wire Housings
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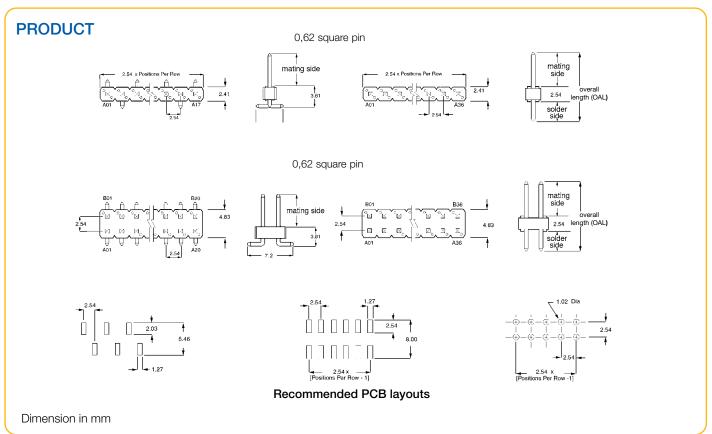






# BergStik® Unshrouded Header, Vertical, Standard Sizes





#### **TECHNICAL DATA**

#### **PHYSICAL**

- ► Housing: High temperature, black thermoplastic
- ► Flammability rating: UL 94 V-0
- Pin: Phosphor-bronze
- Plating: Gold or tin over 1.27 μm (50 μ") nickel



#### **ELECTRICAL PERFORMANCE**

- Current rating: 3 A continuous
   Insulation resistance: 5000 MΩ min.
- Dielectric withstanding voltage: 1500 V

#### MECHANICAL PERFORMANCE

- Pin retention to housing: 9 N min.
- Retentive leg insertion force: >44.48 N max.
- Retentive leg board retention: 2.22 N

#### OPERATING TEMPERATURE RANGE

► -65°C to +125°C

#### PACKAGING

- Standard: Bags
- Optional: Tubes or

Tape-and-reel with pick-up cap (SMT pin style 01 only)

#### REFERENCE INFORMATION

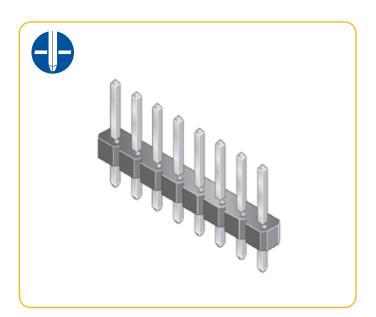
- File no. E66906
- File no. LR46923
- Product drawing: By 5-digit base part number
- ► Product specification: BUS-12-114

#### PROCESSING INFORMATION

Compatible with wave, vapor-phase, and IR reflow soldering processes

#### RoHs INFORMATION

■ This product is RoHs compatible according to the European Union Directive 2002/95/IEC



#### **MATING DATA**

 Dubox™ Crimp-to-wire contacts
 32

 Dubox™ Crimp-to-wire housings
 34

 Dubox™ Vertical receptacles
 22

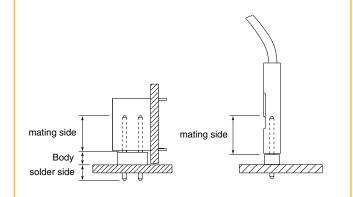
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 Dubox™ Horizontal receptacles
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 Quickie™ IDC receptacles
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 PV™ Crimp-to-Wire Contacts
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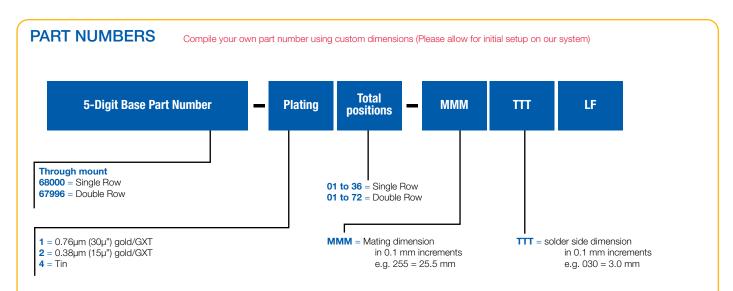
 PV™ Crimp-to-Wire Housings
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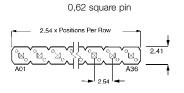


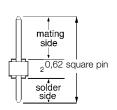
# BergStik® Unshrouded Header, Vertical, Custom Sizes

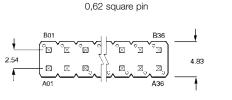


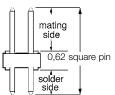
- Note: 1. The total combined dimension for mating and solder side may not exceed 27 mm
  - 2. Standard packaging in bulk
  - 3. Special packaging availability upon request

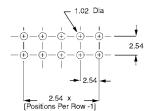
#### **PRODUCT**











Recommended PCB layouts

Dimension in mm

- Continuously molded and reeled
- ▶ High temperature plastic
- Various lengths cut from 1 part number
- Benchtop machine cuts, polarizes, and applies retentive leg

#### **TECHNICAL DATA**

#### **PHYSICAL**

- ► Housing: High temperature, black thermoplastic
- ► Flammability rating: UL 94 V-0
- Pin: Phosphor-bronze
- Plating: Gold or tin over 1.27 μm (50 μ") nickel



#### **■ ELECTRICAL PERFORMANCE**

- Current rating: 3 A continuous
- ▶ Insulation resistance: 5000 M $\Omega$  min.
- Dielectric withstanding voltage: 1500 V

#### MECHANICAL PERFORMANCE

Pin retention to housing: 9 N min.

#### OPERATING TEMPERATURE RANGE

► -65°C to +125°C

#### PACKAGING

Reel

#### REFERENCE INFORMATION

- File no. E66906
- File no. LR46923
- Product drawing: 54101 or 54102
- ► Product specification: BUS-12-059

#### PROCESSING INFORMATION

Compatible with wave, vapor-phase, and IR reflow soldering processes

#### RoHs INFORMATION

This product is RoHs compatible according to the European Union Directive 2002/95/IEC



#### **MATING DATA**

 Dubox™ Crimp-to-wire contacts
 32

 Dubox™ Crimp-to-wire housings
 34

 Dubox™ Vertical receptacles
 22

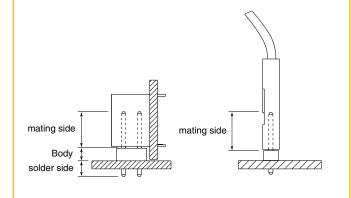
 Dubox™ Low profile vertical receptacles
 24, 26

 Dubox™ Horizontal receptacles
 28

 Quickie™ IDC receptacles
 48

 PV™ Crimp-to-Wire Contacts
 38

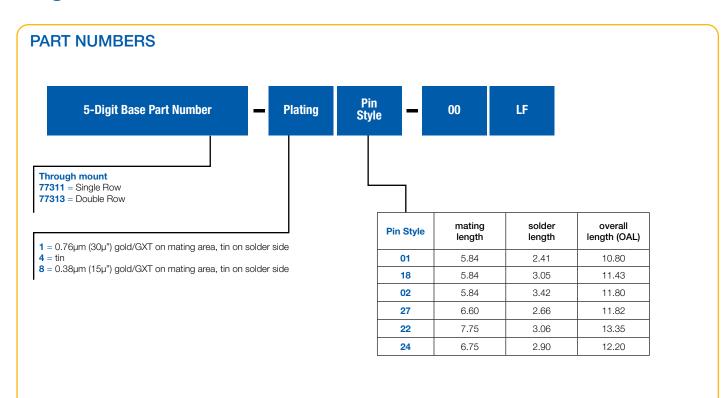
 PV™ Crimp-to-Wire Housings
 40

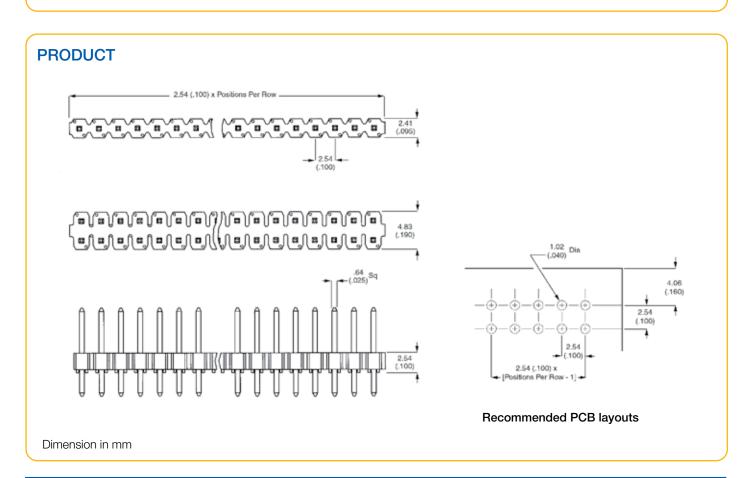






# BergStik® Unshrouded Header, Continuous





- High temperature plastic
- Selective plating

#### **TECHNICAL DATA**

#### PHYSICAL

- ► Housing: High temperature, black thermoplastic
- ► Flammability rating: UL 94 V-0
- Pin: Phosphor-bronze
- Plating: Gold or tin over 1.27 μm (50 μ") nickel



#### **ELECTRICAL PERFORMANCE**

- Current rating: 3 A continuous
- ▶ Insulation resistance: 5000 M $\Omega$  min.
- Dielectric withstanding voltage: 1500 V

#### MECHANICAL PERFORMANCE

Pin retention to housing: 9 N min.

#### OPERATING TEMPERATURE RANGE

► -65°C to +125°C

#### **PACKAGING**

Bags

#### REFERENCE INFORMATION

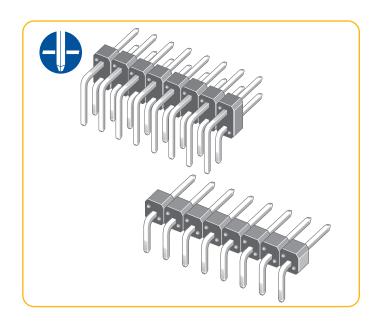
- File no. E66906
- File no. LR46923
- Product drawing: By 5-digit base part number
- ► Product specification: BUS-12-114

#### PROCESSING INFORMATION

Compatible with wave, vapor-phase, and IR reflow soldering processes

#### RoHs INFORMATION

This product is RoHs compatible according to the European Union Directive 2002/95/IEC



#### **MATING DATA**

 Dubox™ Crimp-to-wire contacts
 32

 Dubox™ Crimp-to-wire housings
 34

 Dubox™ Vertical receptacles
 22

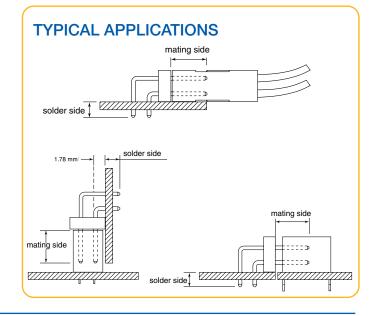
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 Dubox™ Horizontal receptacles
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 Quickie™ IDC receptacles
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 38

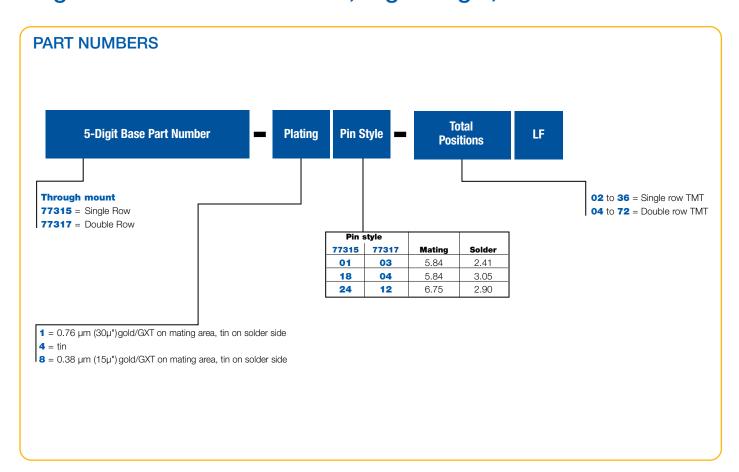
 PV™ Crimp-to-Wire Housings
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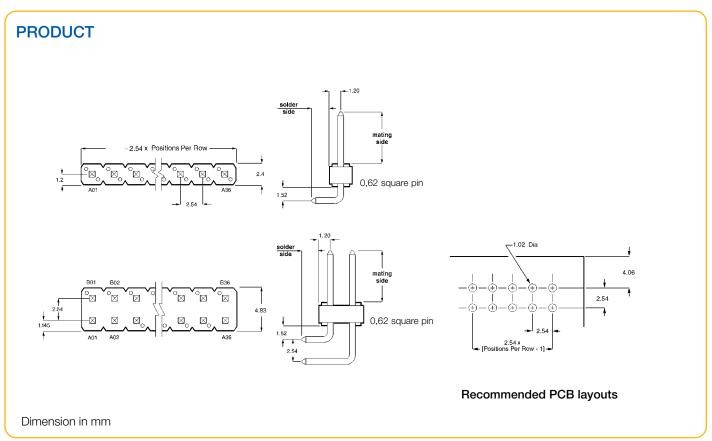






# BergStik® Unshrouded Header, Right Angle, Standard Sizes





#### **TECHNICAL DATA**

#### **PHYSICAL**

- ► Housing: High temperature, black thermoplastic
- ► Flammability rating: UL 94 V-0
- ► Pin: Phosphor-bronze
- Plating: Gold or tin over 1.27 μm (50 μ") nickel



#### ELECTRICAL PERFORMANCE

Current rating: 3 A continuous
 Insulation resistance: 5000 MΩ min.
 Dielectric withstanding voltage: 1500 V

#### MECHANICAL PERFORMANCE

- Pin retention to housing: 9 N min.
- ▶ Retentive leg insertion force: >44.48 N max.
- Retentive leg board retention: 2.22 N

#### OPERATING TEMPERATURE RANGE

► -65°C to +125°C

#### PACKAGING

Bags

#### REFERENCE INFORMATION

File no. E66906
File no. LR46923

Product drawing: 55101 or 55102

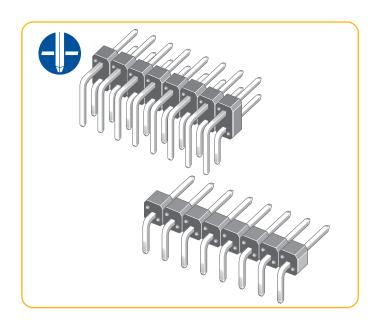
► Product specification: BUS-12-114

#### PROCESSING INFORMATION

Compatible with wave, vapor-phase, and IR reflow soldering processes

#### RoHs INFORMATION

This product is RoHs compatible according to the European Union Directive 2002/95/IEC



#### **MATING DATA**

 Dubox™ Crimp-to-wire contacts
 32

 Dubox™ Crimp-to-wire housings
 34

 Dubox™ Vertical receptacles
 22

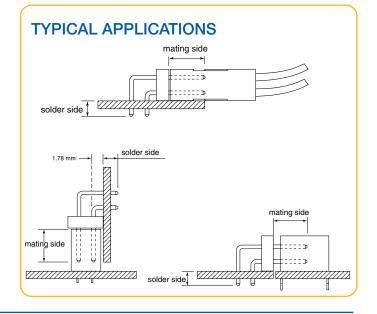
 Dubox™ Low profile vertical receptacles
 24, 26

 Dubox™ Horizontal receptacles
 28

 Quickie™ IDC receptacles
 48

 PV™ Crimp-to-Wire Contacts
 38

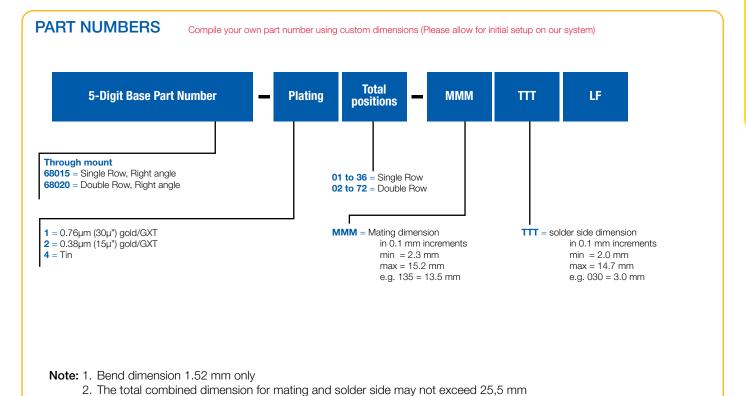
 PV™ Crimp-to-Wire Housings
 40





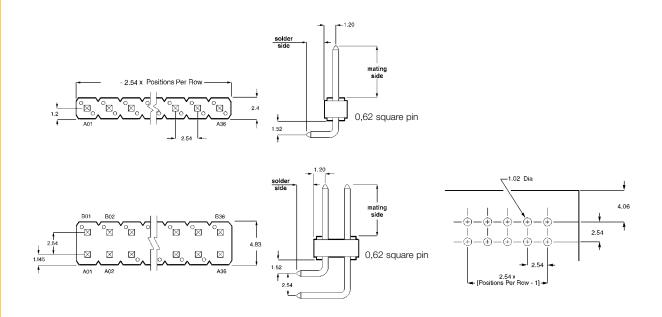


# BergStik® Unshrouded Header, Right Angle, Custom Sizes



#### **PRODUCT**

Dimension in mm



www.fci.com/basics

Recommended PCB layouts

- ▶ Wide variety of stack heights in 0.5 mm increments
- High temperature plastic
- Selective plating

#### **TECHNICAL DATA**

#### **PHYSICAL**

- ► Housing: High temperature, black thermoplastic
- Flammability rating: UL 94 V-0
- ► Pin: Phosphor-bronze
- Plating: Gold or tin over 1.27 μm (50 μ") nickel



#### **ELECTRICAL PERFORMANCE**

- Current rating: 3 A continuous
- Insulation resistance: 5000 M $\Omega$  min.
- Dielectric withstanding voltage: 1500 V

#### MECHANICAL PERFORMANCE

Pin retention to housing: 9 N min.

#### OPERATING TEMPERATURE RANGE

► -65°C to +125°C

#### PACKAGING

Bags

#### REFERENCE INFORMATION

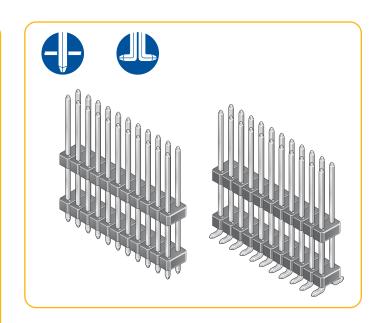
- File no. E66906
- File no. LR46923
- Product drawing: By 5-digit base part number
- ► Product specification: BUS-12-114

#### **▶** PROCESSING INFORMATION

Compatible with wave, vapor-phase, and IR reflow soldering processes

#### RoHs INFORMATION

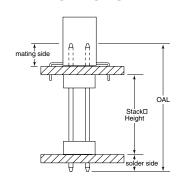
This product is RoHs compatible according to the European Union Directive 2002/95/IEC

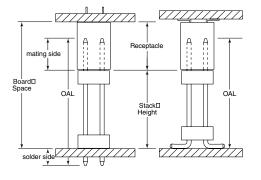


#### **MATING DATA**

- Dubox™ Vertical receptacles
- Dubox<sup>™</sup> Low profile vertical receptacles 24, 26

22

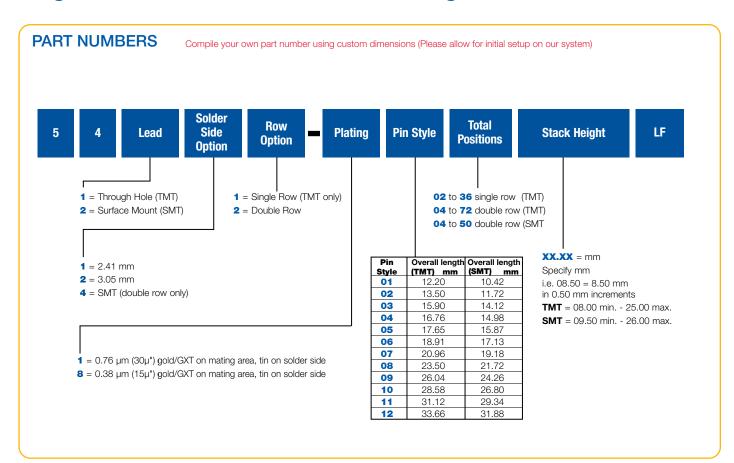




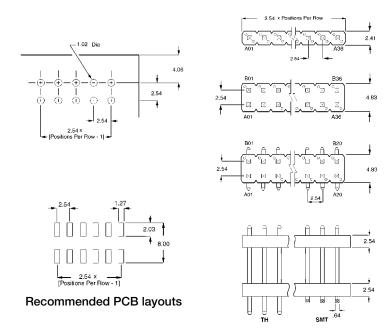




# BergStik® Unshrouded Header, Stacking



#### **PRODUCT**



#### The board spacing

is the stack height of this header, plus the height of the receptacle (see application drawings on opposite page)

Dimension in mm

- Dual-beam contacts for added reliability
- Slotted cutout in low profile housing simplifies electrical testing
- Side-by-side and end-to-end stackable

#### **TECHNICAL DATA**

#### **PHYSICAL**

▶ Housing: Black thermoplastic

Flammability rating: UL 94 V-0

■ Contact: Phosphor-bronze

Plating: Gold or tin over 1.27 μm (50 μ") nickel

#### **ELECTRICAL PERFORMANCE**

- Current rating: 2.5 A max. per contact
- ▶ Insulation resistance: 50,000 M $\Omega$  min.
- ▶ Contact resistance: 15 M $\Omega$  max. initial, 20 M $\Omega$  max. after environmental tests

Dielectric withstanding voltage: 800 V

#### MECHANICAL PERFORMANCE

Mating cycles (durability): 50-Gold, 25-Tin.

▶ Insertion force: 450 gf max. per gold contact

500 gf max. per tin-lead contact

Withdrawal force: 30 gf min. per gold contact

30 gf min. per tin-lead contact.

#### OPERATING TEMPERATURE RANGE

► -65°C to +125°C

#### PACKAGING

Plastic bags

#### REFERENCE INFORMATION

File no. E66906

File no. LR46923

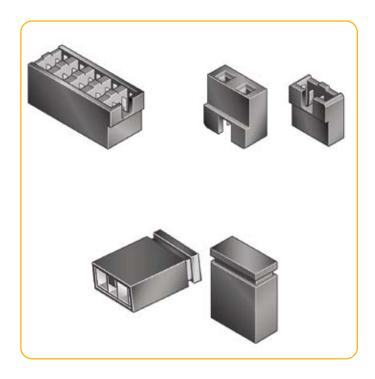
Product drawing: By 5-digit base part number

▶ Product specification: BUS-12-071-gold

BUS-12-070-tin

#### RoHs INFORMATION

This product is RoHs compatible according to the European Union Directive 2002/95/IEC



#### **MATING DATA**

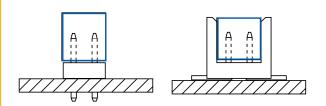
Continuous unshrouded headers 12

Unshrouded vertical headers 8, 10

■ Unshrouded right angle headers 1 14, 16

#### **INSERTION DEPTH**

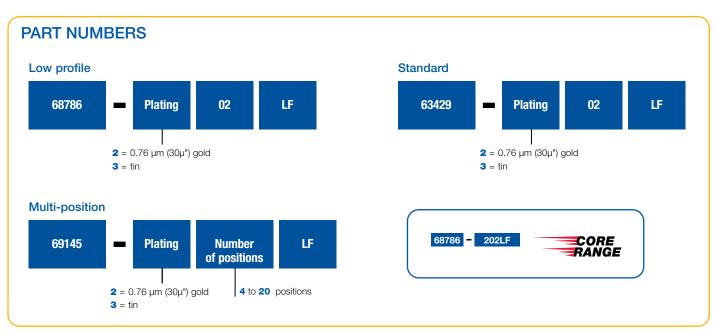
4.85 mm (.191") min.[provides 3.81 mm (.015") wipe] - Low profile

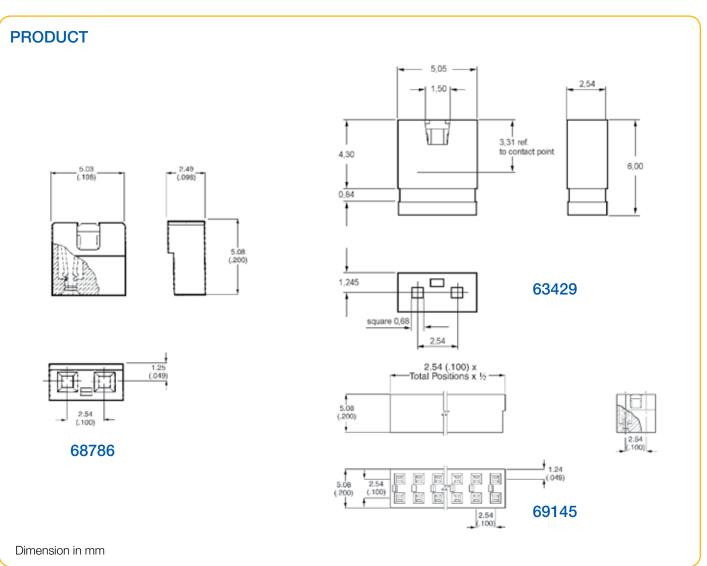






# **SHUNTS**





- The Dubox™ contact has a pre-stressed, dual beam design to enable low insertion force
- ▲ 4-wall contact design for signal protection

#### **TECHNICAL DATA**

#### **PHYSICAL**

- ► Housing: Glass filled thermoplastic polyester, blue
- ► Flammability rating: UL 94 V-0
- Contact: Phosphor-bronze
- ▶ Plating: Gold or tin in accordance with IEC 603-8I

#### **ELECTRICAL PERFORMANCE**

- Current rating: 3 A dc max. per individual contact 2 A dc max. per contact for fully energized connector
- Insulation resistance: 1x 10<sup>5</sup> MΩ min.
- Contact resistance: 15 M $\Omega$  max. initial, 20 M $\Omega$  max. after environmental tests
- Dielectric withstanding voltage: 1000 V rms

#### MECHANICAL PERFORMANCE

- Mating cycles (durability): 200
- Insertion force per gold contact: 1.50 N (150 gf) max.
- ▶ Withdrawal force per gold contact: 0.30 N (30 gf) min.

#### OPERATING TEMPERATURE RANGE

► -65°C to +125°C

#### PACKAGING

Plastic boxes or tubes

#### PROCESSING INFORMATION

■ Compatible with wave soldering processes

#### REFERENCE INFORMATION

File no. E66906

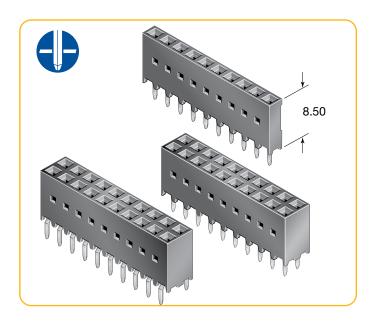
File no. LR46923

Product drawing: By 5-digit base part number

► Product specification: HE 13/14 and IEC 603-8

#### RoHs INFORMATION

■ This product is RoHs compatible according to the European Union Directive 2002/95/IEC



#### **MATING DATA**

■ BergStik® Unshrouded vertical headers 8, 10

BergStik® Unshrouded right angle headers 14, 16

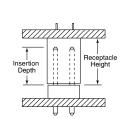
▶ BergStik® Unshrouded stacking headers 18

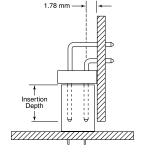
■ BergStik® continuous Unshrouded headers 12

#### **INSERTION DEPTH**

- Top Entry: 3.6 mm min. to 6.81 mm max. [provides .381 mm wipe]
- Bottom Entry: 7 mm min. [provides .381 mm wipe] plus board thickness

#### TYPICAL APPLICATIONS



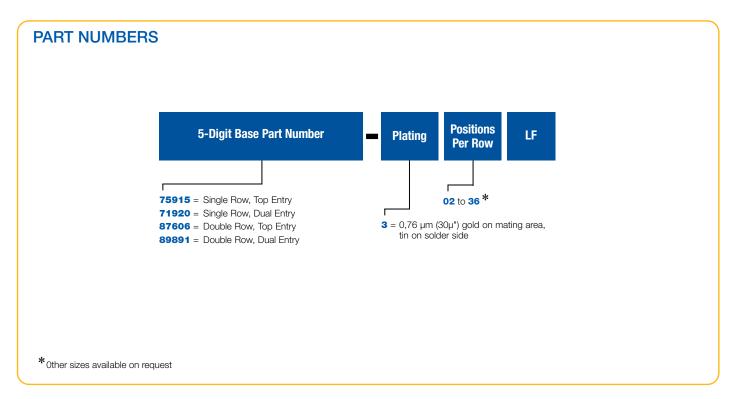


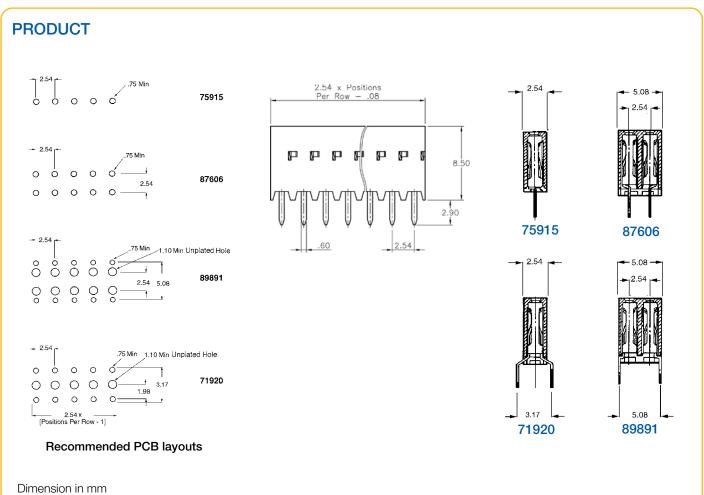
www.fci.com/basics





# **Dubox™ Vertical Receptacles**





- The Dubox™ contact has a pre-stressed, dual beam design to enable low insertion force
- ▲ 4-wall contact design for signal protection

#### **TECHNICAL DATA**

#### **PHYSICAL**

- ► Housing: Glass filled thermoplastic polyester, blue
- Flammability rating: UL 94 V-0
- Contact: Phosphor-bronze
- Plating: Gold or tin over 1.27 μm (50 μ") nickel

#### **ELECTRICAL PERFORMANCE**

- Current rating: 3 A dc max. per individual contact 2 A dc max. per contact for fully energized connector
- Insulation resistance: 1x 105 MΩ min.
- Contact resistance: 15 M $\Omega$  max. initial, 20 M $\Omega$  max. after environmental tests
- Dielectric withstanding voltage: 1000 V rms

#### MECHANICAL PERFORMANCE

- ► Mating cycles (durability): 200
- Insertion force per gold contact: 1.50 N (150 gf) max.
- ▶ Withdrawal force per gold contact: 0.30 N (30 gf) min.

#### OPERATING TEMPERATURE RANGE

► -65°C to +125°C

#### PACKAGING

Plastic boxes or tubes

#### PROCESSING INFORMATION

■ Compatible with wave soldering processes

#### REFERENCE INFORMATION

File no. E66906

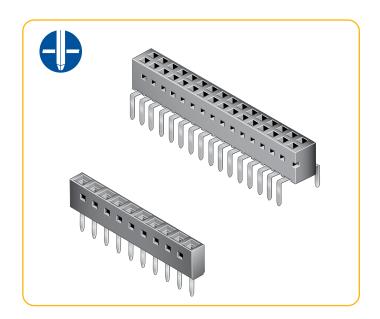
File no. LR46923

Product drawing: By 5-digit base part number

► Product specification: BUS-12-055

#### RoHs INFORMATION

■ This product is RoHs compatible according to the European Union Directive 2002/95/IEC



#### **MATING DATA**

■ BergStik® Unshrouded vertical headers

8, 10 ers 14, 16

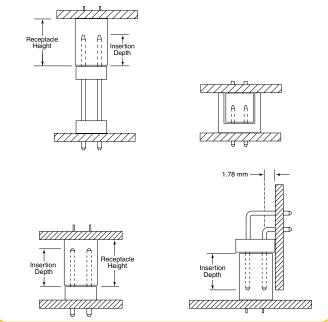
BergStik® Unshrouded right angle headers
 BergStik® Unshrouded stacking headers

18

► BergStik® continuous Unshrouded headers

#### **INSERTION DEPTH**

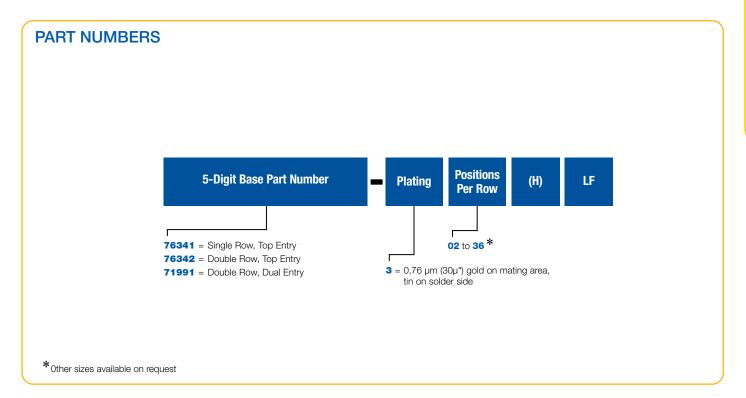
- Top Entry: 3.6 mm min. to 6.7 mm max. [provides .381 mm wipe]
- Bottom Entry: 6 mm min. [provides .381 mm wipe] plus board thickness





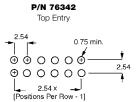


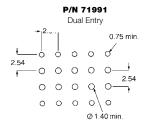
# Dubox™ Vertical Receptacles, Low Profile

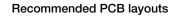


#### **PRODUCT**

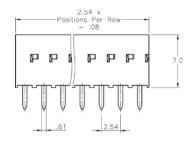
#### P/N 76341 Top Entry 0.75 min. ⊕ ⊕ ○ ○ ○ ●

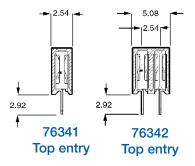


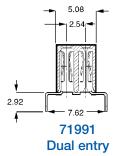




Dimension in mm







- The Dubox™ contact has a pre-stressed, dual beam design to enable low insertion force
- ▲ 4-wall contact design for signal protection

#### **TECHNICAL DATA**

#### **PHYSICAL**

- Housing: High temperature body, grey
- Flammability rating: UL 94 V-0
- Contact: Phosphor-bronze
- Plating: Gold or tin over 1.27 μm (50 μ") nickel



#### **■ ELECTRICAL PERFORMANCE**

- Current rating: 3 A dc max. per individual contact 2 A dc max. per contact for fully energized connector
- Insulation resistance: 1x 10<sup>5</sup> MΩ min.
- Contact resistance: 15 M $\Omega$  max. initial, 20 M $\Omega$  max. after environmental tests
- Dielectric withstanding voltage: 1000 V rms

#### MECHANICAL PERFORMANCE

- ► Mating cycles (durability): 200
- Insertion force per gold contact: 1.50 N (150 gf) max.
- ▶ Withdrawal force per gold contact: 0.30 N (30 gf) min.

#### OPERATING TEMPERATURE RANGE

► -65°C to +125°C

#### PACKAGING

- Plastic boxes or tubes
- Tape and reel as available

#### PROCESSING INFORMATION

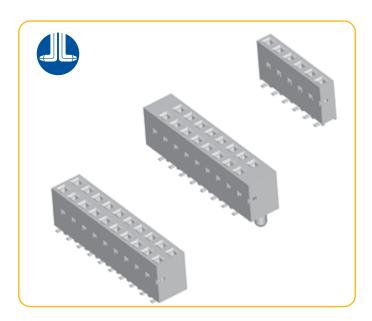
Compatible with vapor-phase, and IR reflow soldering processes

#### REFERENCE INFORMATION

- File no. E66906
- File no. LR46923
- Product drawing: By 5-digit base part number
- ► Product specification: BUS-12-055

#### RoHs INFORMATION

This product is RoHs compatible according to the European Union Directive 2002/95/IEC

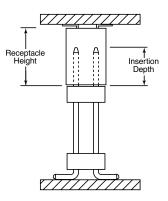


#### **MATING DATA**

- BergStik® Unshrouded vertical headers 8, 10
- BergStik® Unshrouded right angle headers 14, 16
- BergStik® Unshrouded stacking headers 18
- ▶ BergStik® continuous Unshrouded headers

#### **INSERTION DEPTH**

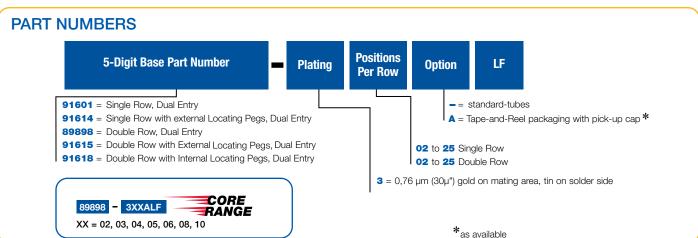
- ► Top Entry: 3.6 mm min. to 6.7 mm max. [provides .381 mm wipe]
- Bottom Entry: 6 mm min. [provides .381 mm wipe] plus board thickness

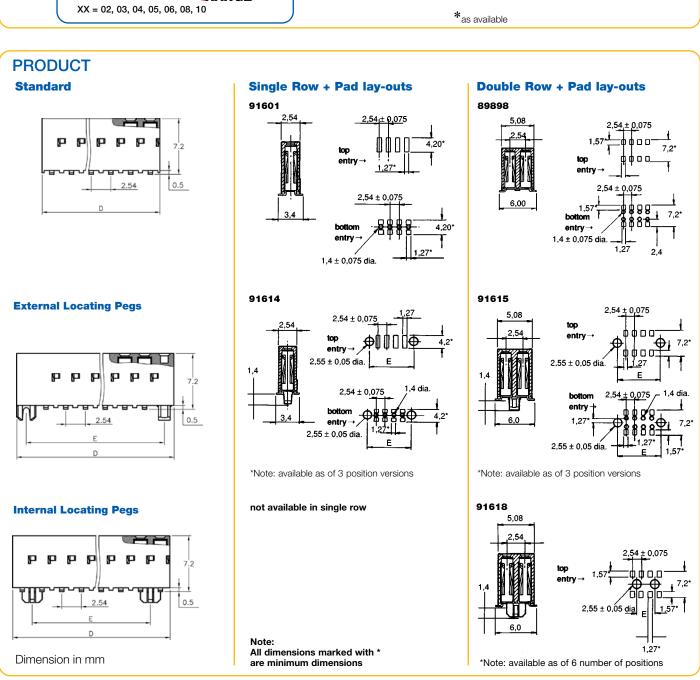






# Dubox™ Vertical Receptacles, Low Profile





- The Dubox™ contact has a pre-stressed, dual beam design to enable low insertion force
- Floating solder tails self-center on circuit pads and assure coplanarity
- ▲ 4-wall contact design for signal protection

#### **TECHNICAL DATA**

#### PHYSICAL

- Housing: Blue thermoplastic -Through hole High temp. grey thermoplastic - Surface mount
- ► Flammability rating: UL 94 V-0
- Contact: Phosphor-bronze
- Plating: Gold or tin over 1.27 μm (50 μ") nickel



#### ELECTRICAL PERFORMANCE

- Current rating: 3 A dc max. per individual contact 2 A dc max. per contact for fully energized connector
- Insulation resistance: 1x 10<sup>5</sup> MΩ min.
- Contact resistance: 15 M $\Omega$  max. initial, 20 M $\Omega$  max. after environmental tests
- Dielectric withstanding voltage: 1000 V rms

#### MECHANICAL PERFORMANCE

- Mating cycles (durability): 200
- Insertion force per gold contact: 1.50 N (150 gf) max.
- ▶ Withdrawal force per gold contact: 0.30 N (30 gf) min.

#### OPERATING TEMPERATURE RANGE

► -65°C to +125°C

#### PACKAGING

Standard: Tubes

Optional: Tape-and-reel

#### PROCESSING INFORMATION

- Series 89882, 89883: compatible with wave soldering processes
- Series 71607, 71609: compatible with vapor-phase and IR reflow soldering processes

#### REFERENCE INFORMATION

- File no. E66906
- File no. LR46923
- Product drawing: 71607, 71609, 89882, 89883
- ▶ Product specification: HE 13/14 and IEC 603-8
- Application specification: TA-842 for SMT
- Tape and Reel packaging data : TA-856

#### RoHs INFORMATION

This product is RoHs compatible according to the European Union Directive 2002/95/IEC





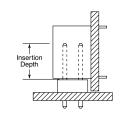


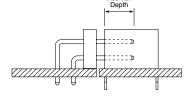
#### **MATING DATA**

- BergStik® Unshrouded vertical headers 8, 10
- BergStik® Unshrouded right angle headers 14, 16
- BergStik® continuous Unshrouded headers 12

#### **INSERTION DEPTH**

3,6 mm min. to 7.50 mm max. [provides .381 mm wipe]

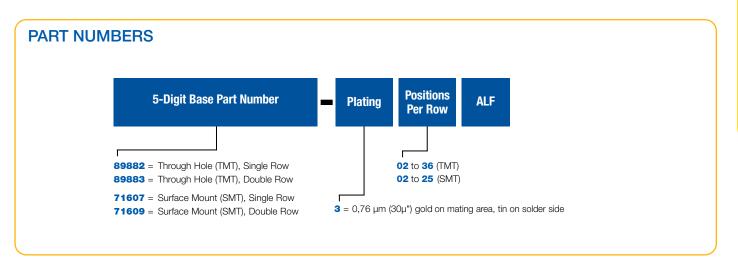


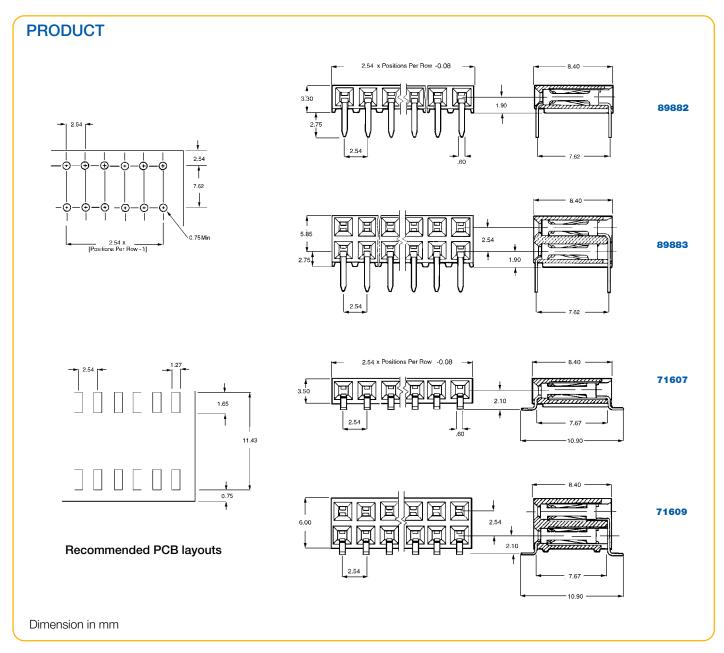






# **Dubox™ Horizontal Receptacles**





- For use with Dubox™ crimp-to-wire housings
- Stackable end-to-end
- Passive latching, anti-reverse and anti-miss-match when used with Dubox™ crimp-to-wire housings
- Selective plating

#### **TECHNICAL DATA**

#### **PHYSICAL**

- Housing: Glass filled thermoplastic polyester
- ► Housing color for series 76382, 76383: blue Housing color for series 76384, 76385: black
- ► Flammability rating: UL 94 V-0
- Contact: copper Alloy
- Plating: Gold or tin over 1.27 μm (50μ") nickel

#### ELECTRICAL PERFORMANCE

- Current rating: 3 A continuous
- ▶ Insulation resistance:  $1x 10^5 MΩ$  min.
- Dielectric withstanding voltage: 1000 V rms

#### MECHANICAL PERFORMANCE

Contact retention to housing: 20 N min.

#### OPERATING TEMPERATURE RANGE

► -40°C to +125°C

#### **PACKAGING**

- 1x2 to 1x6 and 2x2 to 2x6: plastic bags
- Other in tube

#### **▶** PROCESSING INFORMATION

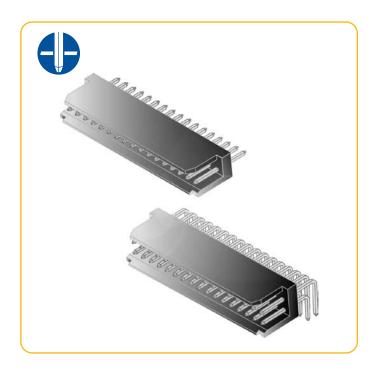
■ Compatible with wave soldering processes

#### REFERENCE INFORMATION

- File no. E66906
- File no. LR46923
- Product drawing: By 5-digit base part number
- ▲ Application specification: TA-531

#### RoHs INFORMATION

This product is RoHs compatible according to the European Union Directive 2002/95/IEC



#### **MATING DATA**

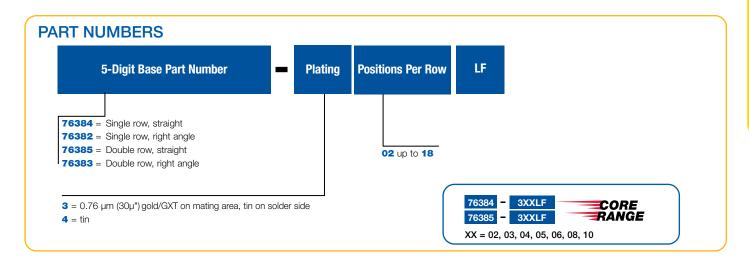
- Dubox<sup>™</sup> Crimp-to-wire contacts 32
- Dubox<sup>™</sup> Crimp-to-wire housings 34

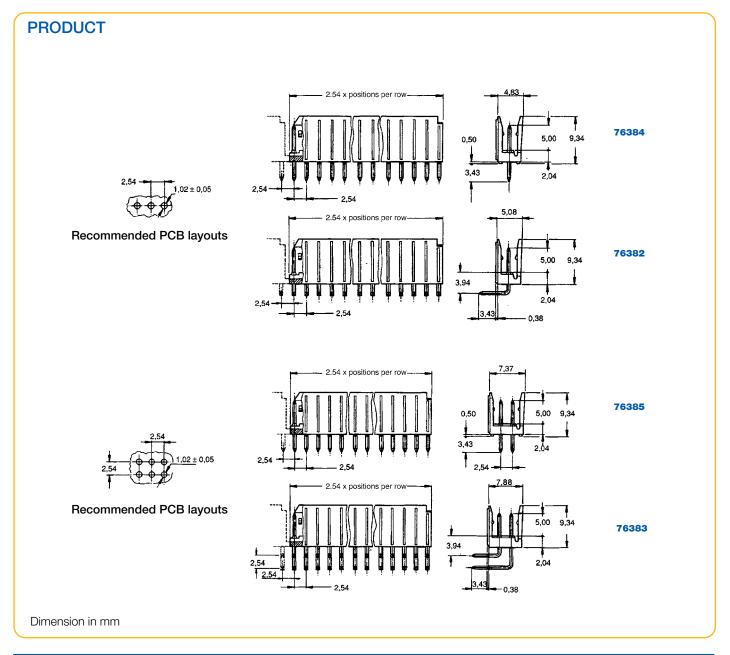
# TYPICAL APPLICATIONS Insertion Depth Dept





### **Dubox™ Shrouded Headers**





- The Dubox™ contact has a pre-stressed, dual beam design to enable low insertion force.
- Mates with very short pins (5 mm)
- Universal crimp barrel accomodates wires from AWG 22-30
- Selective plating

#### **TECHNICAL DATA**

#### **PHYSICAL**

- Contact: phosphor bronze
- Plating: 0.76 μm (30μ") Gold over 1.27 μm (50 μ") nickel

#### **■ ELECTRICAL PERFORMANCE**

- Current rating: 3 A continuous
- Contact resistance after environmental test: 15Ω m max. – Contact
- Dielectric withstanding voltage: 1000 V rms

#### MECHANICAL PERFORMANCE

- Mating cycles (durability): 200 Gold
- Insertion force gold finish contact: 1.3 N
- ▶ Withdrawal force (min) gold finish contact: 0.3 N.
- contact retention force to housing: 15 N per contact.

#### OPERATING TEMPERATURE RANGE

► -65°C to +125°C

#### PACKAGING

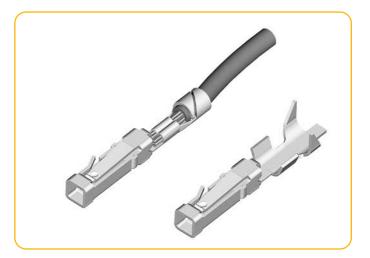
- 1Reels
- Boxes Loose piece

#### REFERENCE INFORMATION

- File no. E66906
- ▶ **ઉ**⁻ File no. LR46923
- Product drawing: By 5-digit base part number
- ► Product specification: BUS-12-055
- Application specification: TA-317, TA-340

#### RoHs INFORMATION

This product is RoHs compatible according to the European Union Directive 2002/95/IEC

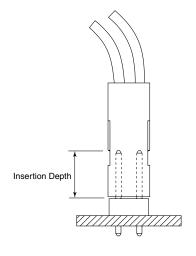


#### **MATING DATA**

- BergStik® unshrouded straight headers 8, 10
- BergStik® unshrouded right angle headers 14, 16
- Dubox<sup>™</sup> shrouded vert./ra. headers
- BergStik® continuous unshrouded headers 12

#### **INSERTION DEPTH**

- Discrete Wire: 3.6 mm min. to 5.6 mm max. [provides .381 mm wipe]
- Crimp-to-Wire Housing: 5.1 mm min. to 6.2 mm max. [provides .381 mm wipe in housing]







# **Dubox™ Crimp-to-Wire Contacts**

#### **PART NUMBERS**

#### Part numbers / Contacts on Reel

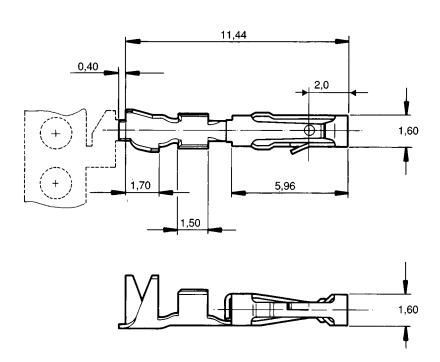
Wire size	insulation O.D.	Selective Gold Plated	Tin plated	Packaging
22-30	0.90 - 1.50	76347-301LF	76347-401LF	15.000/reel
22-30	0.90 - 1.50	76347-302 LF•	76347-402LF•	15.000/reel
22-30	0.90 - 1.50	76347-303 LF	76347-403LF	500/reel
20-22	1.10 - 1.60	76347-311LF	76347-411LF	15.000/reel
20-22	1.10 - 1.60	76347-312 LF•	76347-412LF•	15.000/reel

#### Part numbers / Contacts loose Piece

Wire size	insulation O.D.	Selective Gold Plated	Tin plated	Packaging		
22-30	0.90 - 1.50	76357-301LF	76357-401LF	1000/box		
Notes: • = reeled for application machine with left-to-right feeding						



#### **PRODUCT**



Contacts to be used with housing = 65239-xxx / 65240-xxx

Wire strip length =  $3,00 \pm 0,25 \text{ mm}$ 

Mating pin size = 0,62 mm square

**Mating pin recommended length** = 5,00 mm min.

- ► For use with Dubox<sup>™</sup> crimp-to-wire contacts
- Stackable end-to-end
- ▶ Passive latching, anti-reverse and anti-miss-match when used with Dubox<sup>™</sup> shrouded headers
- Contacts removable for easy repairability

#### **TECHNICAL DATA**

#### **PHYSICAL**

- Housing: Glass filled thermoplastic polyester
- Housing color blue
- ► Flammability rating: UL 94 V-0

#### **ELECTRICAL PERFORMANCE**

- Insulation resistance: 1x 10<sup>5</sup> MΩ min.
- Dielectric withstanding voltage: 1000 V rms

#### OPERATING TEMPERATURE RANGE

► -65°C to +125°C

#### **PACKAGING**

Bulk

#### PROCESSING INFORMATION

■ Compatible with wave soldering processes

#### REFERENCE INFORMATION

File no. E66906

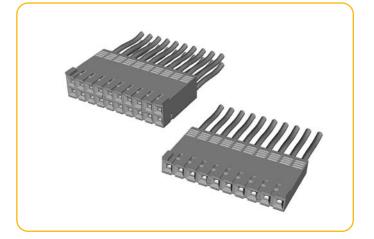
File no. LR46923

Product drawing: By 5-digit base part number

Application specification: TA-317, TA-340

#### RoHs INFORMATION

■ This product is RoHs compatible according to the European Union Directive 2002/95/IEC



#### **MATING DATA**

- BergStik® unshrouded straight headers 8, 10
- BergStik® unshrouded right angle headers 14, 16
- Dubox<sup>™</sup> shrouded vert./ra. headers

#### **INSERTION DEPTH**

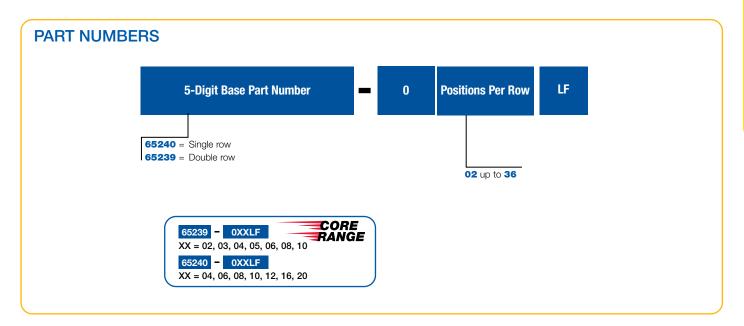
≥ 3.6 mm min. to 6.0 mm max.

# TYPICAL APPLICATIONS Insertion Depth Insertio

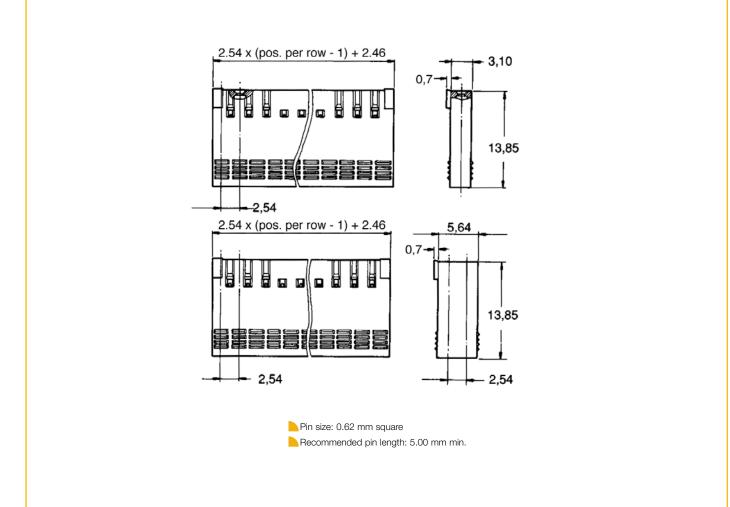




# **Dubox™ Crimp-to-Wire Housings**



#### **PRODUCT**



- Housing uses our high reliability contact
- High temperature headers
- Passive latching system

#### **TECHNICAL DATA**

#### **PHYSICAL**

- ▶ Housing: Black thermoplastic
- ► Flammability rating: UL 94 V-0
- Contact: Phosphor-bronze
- Plating: Gold or tin-lead over 1.27 μm (50 μ") nickel

#### **ELECTRICAL PERFORMANCE**

- Current rating: 3 A continuous
- ▶ Insulation resistance:  $1x 10^5 MΩ$  min.
- Dielectric withstanding voltage: 1000 V rms

#### MECHANICAL PERFORMANCE

■ Contact retention to housing: 17.76 N min.

#### OPERATING TEMPERATURE RANGE

► -40°C to +125°C

#### PACKAGING

Bags

#### PROCESSING INFORMATION

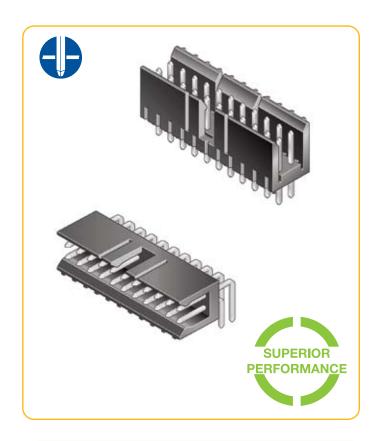
Compatible with wave soldering processes

#### REFERENCE INFORMATION

- File no. E66906
- File no. LR46923
- Product drawing: By 5-digit base part number
- ▶ Product specification: BUS-12-067, BUS-12-075
- ▲ Application specification: TA-531

#### RoHs INFORMATION

This product is RoHs compatible according to the European Union Directive 2002/95/IEC



#### **MATING DATA**

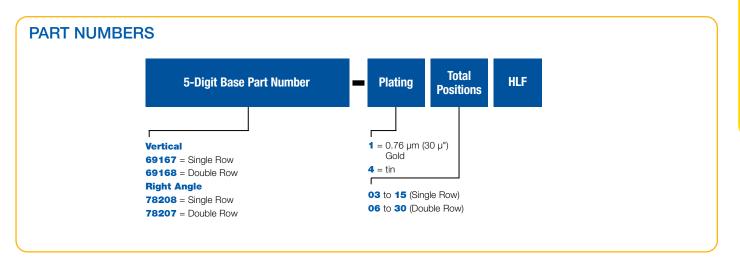
- PV™ Crimp-to-wire contacts 38
- Note: PV™ Crimp-to-wire housings 40

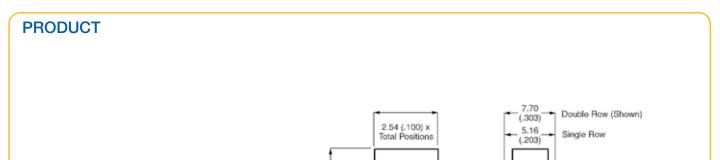
# TYPICAL APPLICATIONS Insertion Depth Dept

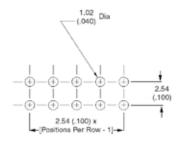




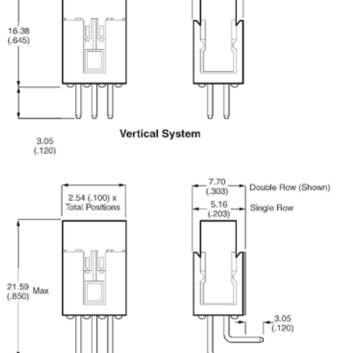
# PV™ Shrouded Headers







**Recommended PCB layouts** 



Right Angle System

Dimension in mm

- High reliability contacts for shock and vibration applications
- Three spring thickness options meet application specific insertion, withdrawal, and normal force requirements
- Leaf spring design provides constant retention force after repeated cycles

# **TECHNICAL DATA**

### **PHYSICAL**

- Contact: Brass body with beryllium-copper spring
- Pin: Brass
- Plating: Gold or tin over 1.27 μm (50 μ") nickel

# **ELECTRICAL PERFORMANCE**

- Current rating: 3 A continuous depending on wire size
- Insulation resistance: 5000 m $\Omega$  min.
- Contact resistance after environmental test: 15Ω m max. – Contact
- Dielectric withstanding voltage: 1000 V rms

# MECHANICAL PERFORMANCE

- Mating cycles (durability): 1000 Gold
- Insertion force per gold contact:

2.35 N (240 gf) - Standard spring 4.41 N (450 gf) - High spring 10.79 N (1100 gf) - Ultra high spring

# OPERATING TEMPERATURE RANGE

► -65°C to +125°C

# PACKAGING

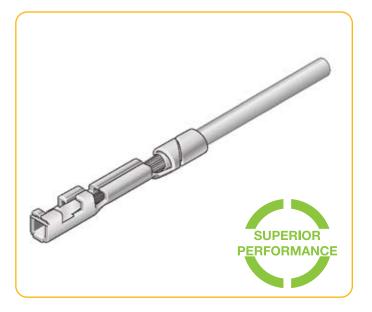
- 1Reels
- Boxes Loose piece

### REFERENCE INFORMATION

- File no. E66906
- File no. LR46923
- Product drawing: By 5-digit base part number
- ▶ Product specification: BUS-12-067 Contact
- Application specification: TA-75, TA-146 Contact, TA-295, TA-228 and TA-302

# RoHs INFORMATION

■ This product is RoHs compatible according to the European Union Directive 2002/95/IEC



# **MATING DATA**

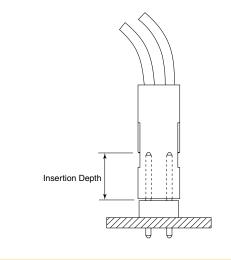
Continuous unshrouded headers 12

Unshrouded vertical headers 8, 10

■ Unshrouded right angle headers 14, 16

# **INSERTION DEPTH**

- Discrete Wire: 3.5 mm min. to 5.3 mm max. [provides .381 mm wipe]
- ➤ Crimp-to-Wire Housing: 4.2 mm min. to 5.3 mm max. [provides . 381 mm (.015") wipe in housing]







LF

# **PV™ Crimp-to-Wire Contacts**

# **PART NUMBERS**

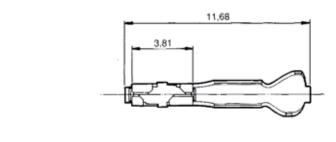
HOW TO SELECT
THE RIGHT CONTACT
Step 1 Select Application
Step 2 Select Spring Force

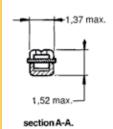
Step 3 Select Wire Size

# 5-Digit Base Part Number 1 2 Application Spring Force Housing 40-72 Contacts Per Housing Standard 10-50 Contacts Per Housing High 2-20 Contacts Per Housing Ultra High Discrete Contact Ultra High

Wire Size (AWG)	Application Spring Force	Part Number
18, 20	Standard	48276-002LF
or two 22	High	48047-002LF
or two 24	Ultra High	47566-002LF
22, 24, 26	Standard	47457-002LF
or two 26	High	47439-002LF
or two 28	Ultra High	47565-002LF
28, 30, 32	Standard	48048-002LF
or two 30	High	47437-002LF
or two 32	Ultra High	47564-002LF

# **PRODUCT**





# 0,00 - 0,89 0,508 ± 0,05 0,127 min. 1,32 max. Rear-bellmouth Crimp height Refer to TA75, TA146

Standard Mini-PV

3-Digit

**Dash Number** 



- Lowest profile housing in the industry
- Designed for use with our high reliability PV<sup>™</sup> Contact

# **TECHNICAL DATA**

### **PHYSICAL**

- Housing: Black thermoplastic
- Flammability rating: UL 94 V-0

## **ELECTRICAL PERFORMANCE**

- Insulation resistance: 1x 10<sup>5</sup> MΩ min.
- Dielectric withstanding voltage: 1000 V rms

# MECHANICAL PERFORMANCE

Contact retention to housing: 17.76 N min.

# OPERATING TEMPERATURE RANGE

► -40°C to +125°C

# **PACKAGING**

Bags

# PROCESSING INFORMATION

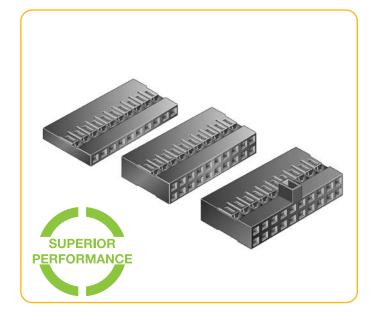
■ Compatible with wave soldering processes

# REFERENCE INFORMATION

- File no. E66906
- File no. LR46923
- Product drawing: By 5-digit base part number
- ► Aroduct specification: BUS-12-067
- Application specification: TA-531

# RoHs INFORMATION

This product is RoHs compatible according to the European Union Directive 2002/95/IEC



# **MATING DATA**

Continuous unshrouded headers 12

Unshrouded vertical headers 8, 10

■ Unshrouded right angle headers 14, 16

# **INSERTION DEPTH**

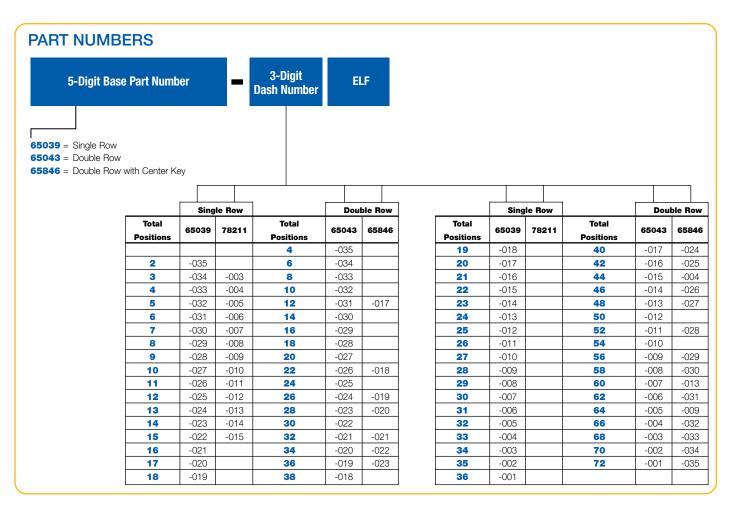
▲ 4.2 mm (.165") min. to 5.3 mm (.210") max. [provides .381 mm (.015") wipe in housing].

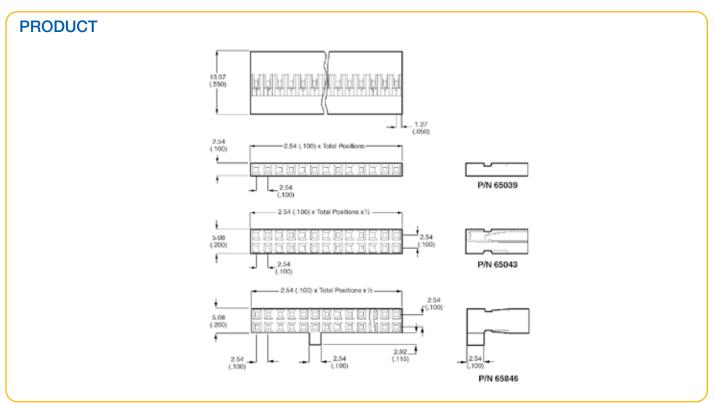
# TYPICAL APPLICATIONS Insertion Depth Dept





# **PV™** Crimp-to-Wire Housings





- Recessed pins assure proper alignment and eliminate damage during mating
- ▶ End windows for latching with IDC receptacle

# **TECHNICAL DATA**

# **PHYSICAL**

- ► Housing: Glass filled, thermoplastic polyester, blue
- ► Flammability rating: UL 94 V-0
- Pin: Phosphor-bronze
- Plating: Gold/GXT over 1.27 μm (50μ") nickel

# **ELECTRICAL PERFORMANCE**

- Current rating: 3 A continuous
- ▶ Insulation resistance:  $1x 10^5 MΩ$  min.
- Dielectric withstanding voltage: 500 V rms min.

# MECHANICAL PERFORMANCE

Pin retention to housing: 20 N min.

# OPERATING TEMPERATURE RANGE

► -65°C to +105°C

# PACKAGING

Tubes

# PROCESSING INFORMATION

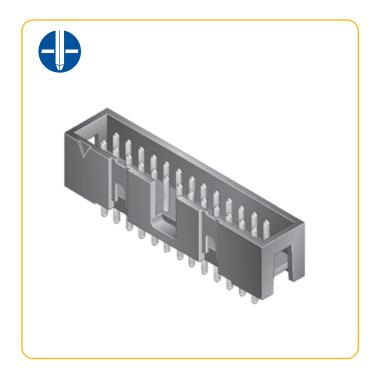
Compatible with wave soldering processes

# REFERENCE INFORMATION

- File no. E66906
- File no. LR46923
- Product drawing: By 5-digit base part number
- ► Product specification: BUS-12-082

# RoHs INFORMATION

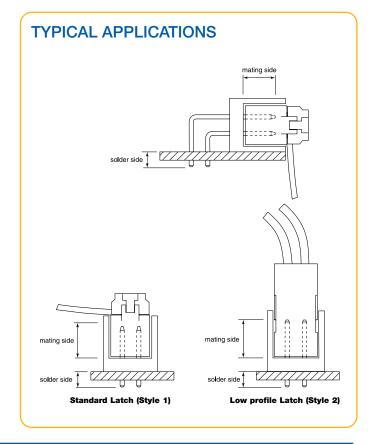
■ This product is RoHs compatible according to the European Union Directive 2002/95/IEC



# **MATING DATA**

■ Quickie<sup>™</sup> IDC receptacles

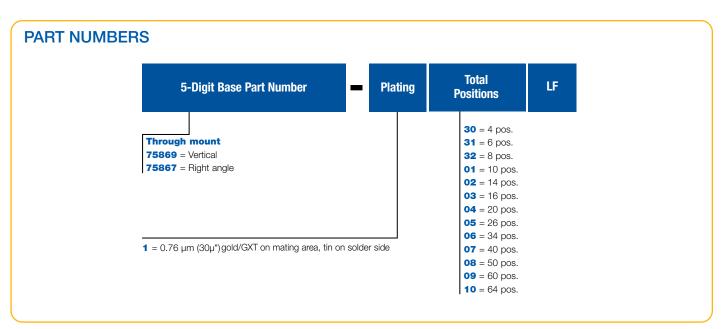
48

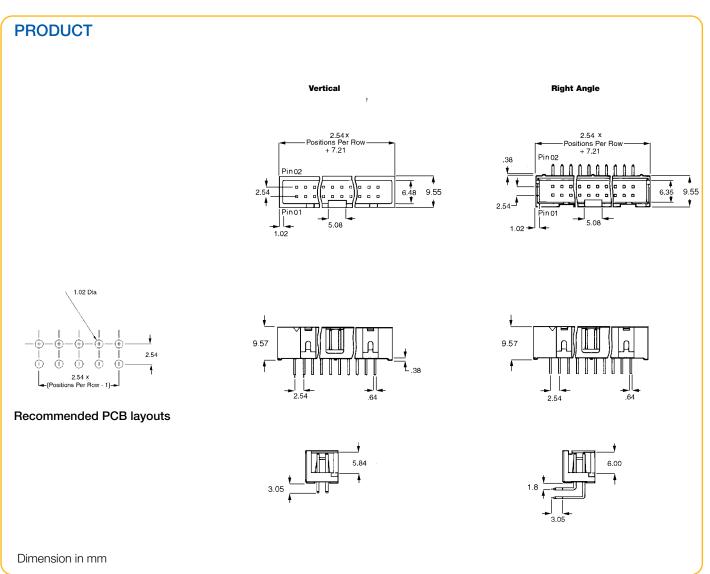






# Quickie™ Shrouded Headers, Low Profile





- High temperature housing
- Compatible with IR reflow soldering processes
- ► Tape-and-Reel packaging for automatic pick-and-place

# **TECHNICAL DATA**

# **PHYSICAL**

Housing: Glass filled, high temperature thermoplastic polyester, black



- ► Flammability rating: UL 94 V-0
- ► Pin: Phosphor-bronze
- Plating: Gold/GXT over 1.27 μm (50μ") nickel

# **ELECTRICAL PERFORMANCE**

- Current rating: 3 A continuous
- ▶ Insulation resistance:  $1x 10^5 MΩ$  min.
- Dielectric withstanding voltage: 500 V rms min.

# MECHANICAL PERFORMANCE

Pin retention to housing: 20 N min.

# OPERATING TEMPERATURE RANGE

► -65°C to +125°C

# PACKAGING

- ► SMT: Tape-and-reel with pick-up cap
- PiP, right angle: Tube without pick-up cap
- PiP, straight: Tape and reel

### **▶** PROCESSING INFORMATION

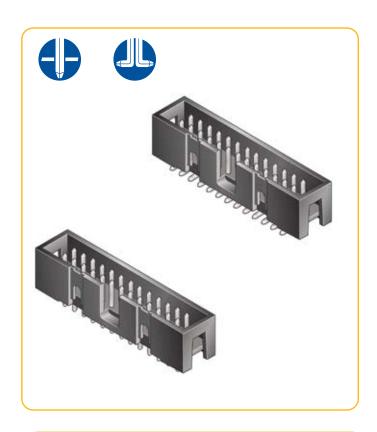
Compatible with wave, vapor-phase, and IR reflow soldering processes

# REFERENCE INFORMATION

- File no. E66906
- File no. LR46923
- Product drawing: By 5-digit base part number
- ► Product specification: BUS-12-055

# RoHs INFORMATION

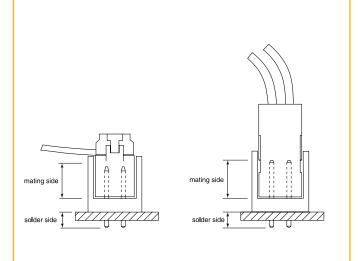
This product is RoHs compatible according to the European Union Directive 2002/95/IEC



# **MATING DATA**

Quickie™ IDC receptacles

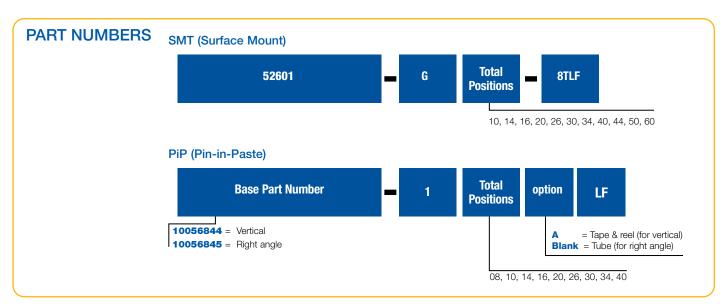
48

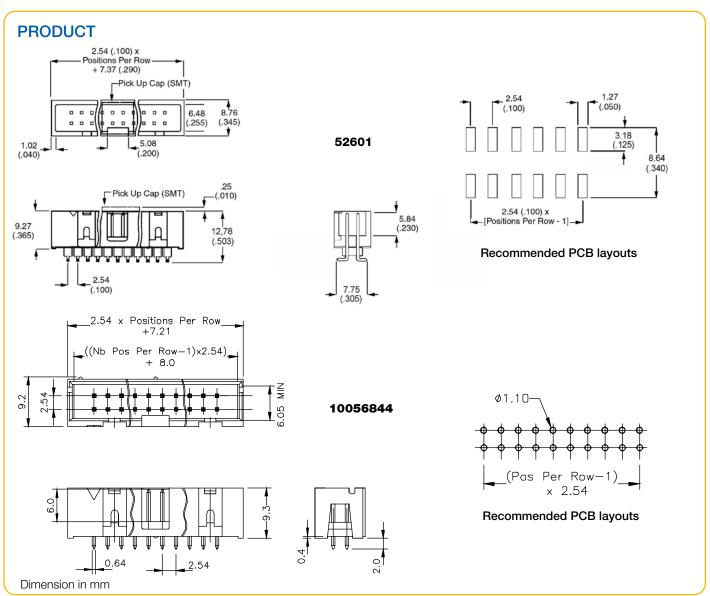






# Quickie™ Shrouded Headers, Low Profile, SMT, Pin-in-Paste



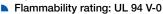


- Selective plating
- Recessed pins assure proper alignment and eliminate damage during mating

# **TECHNICAL DATA**

# **PHYSICAL**

Housing: Glass filled,
 high temperature thermoplastic polyester, grey



- ▶ Pin: Phosphor-bronze
- Plating: Gold/GXT over 1.27 μm (50μ") nickel

# **ELECTRICAL PERFORMANCE**

- Current rating: 3 A continuous
- ▶ Insulation resistance:  $1x 10^5 M\Omega$  min.
- Dielectric withstanding voltage: 500 V rms min.

# MECHANICAL PERFORMANCE

Pin retention to housing: 20 N min.

# OPERATING TEMPERATURE RANGE

► -65°C to +105°C

# PACKAGING

Tubes

# PROCESSING INFORMATION

Compatible with wave soldering processes

# REFERENCE INFORMATION

File no. E66906

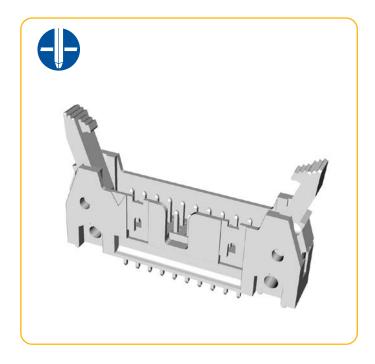
File no. LR46923

▶ Product drawing: By 5-digit base part number

► Product specification: BUS-12-082

# RoHs INFORMATION

This product is RoHs compatible according to the European Union Directive 2002/95/IEC

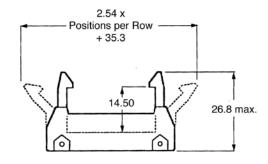


# **MATING DATA**

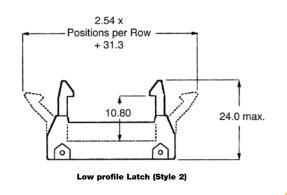
Quickie™ IDC receptacles

48

# **TYPICAL APPLICATIONS**



# Standard Latch (Style 1)

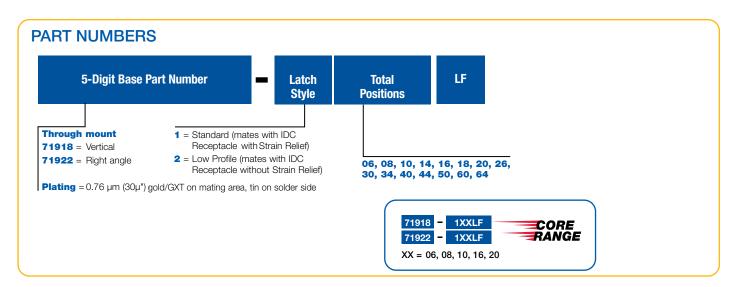


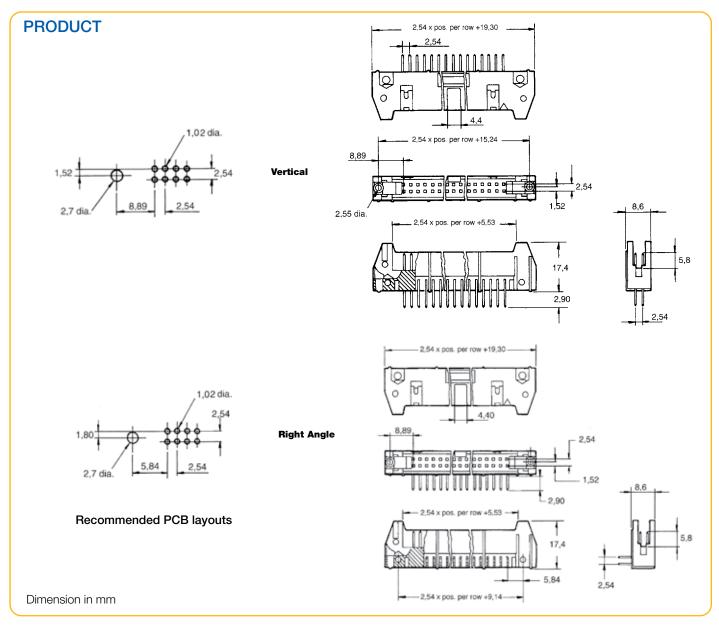
www.fci.com/basics





# Quickie™ Shrouded Headers, Eject Latch





# **TECHNICAL DATA**

### **PHYSICAL**

- ► Housing: Grey thermoplastic Flammability rating: UL 94 V-0
- Contact: Phosphor-bronze
- ► Plating: 0.76 μm (30μ") Gold over 1.27 μm (50 μ") nickel

# **ELECTRICAL PERFORMANCE**

- Current rating: 1 A continuous
- ▶ Insulation resistance:  $1x 10^5 MΩ$  min.
- ▶ Contact resistance: 15 m $\Omega$  max.
- Dielectric withstanding voltage: 1000 V min. rms (sea level)

# MECHANICAL PERFORMANCE

■ Mating cycles (durability): 100

### OPERATING TEMPERATURE RANGE

► -65°C to +105°C

# PACKAGING

Tubes

# PROCESSING INFORMATION

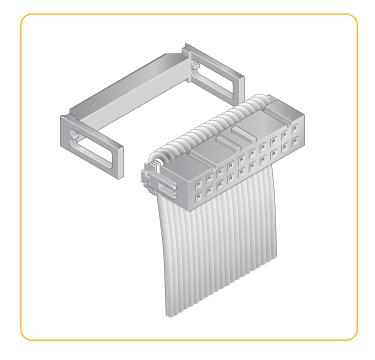
Compatible with wave soldering processes

# REFERENCE INFORMATION

- File no. E66906
  File no. LR46923
- Product drawing: By 5-digit base part number
- ► Product specification: BUS-12-095

# RoHs INFORMATION

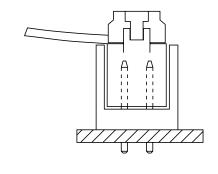
This product is RoHs compatible according to the European Union Directive 2002/95/IEC



# **MATING DATA**

- BergStik® unshrouded vertical headers 8, 10, 12
- Quickie® shrouded low profile headers 42, 44
- Quickie® shrouded eject latch headers 46

# **TYPICAL APPLICATIONS**

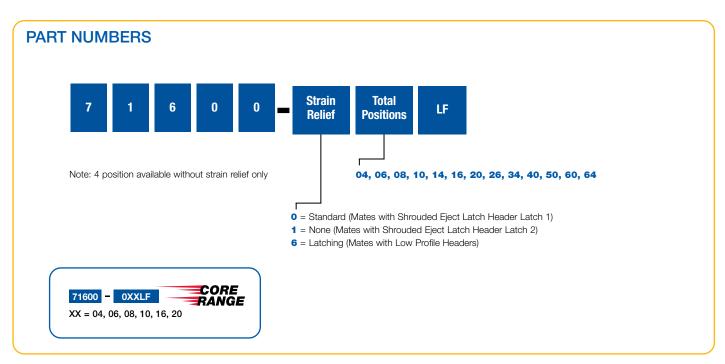


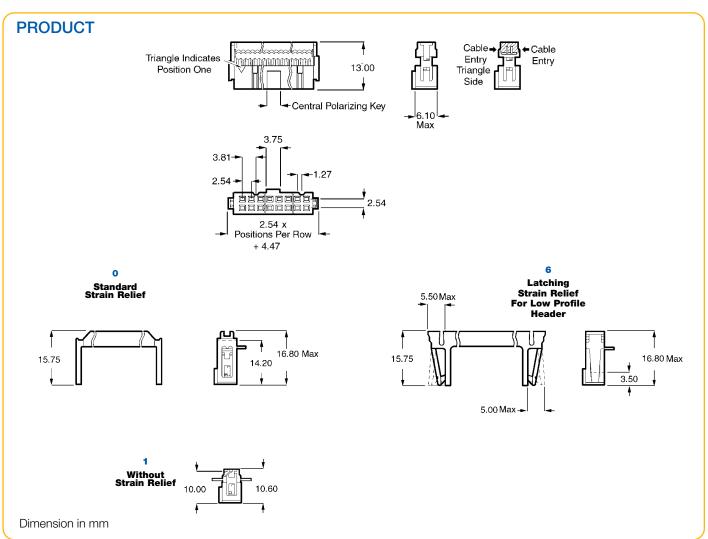
Low profile Latch (Style 2)





# Quickie™ IDC Receptacle





- ldeal for daisy chain applications
- Single piece design provides one of the lowest applied costs in the industry

# **TECHNICAL DATA**

# **PHYSICAL**

- Housing: Blue thermoplastic
- Flammability rating: UL 94 V-0
- Pin: Phosphor-bronze
- Plating: Tin over 1.27 μm (50μ") nickel

# **ELECTRICAL PERFORMANCE**

- Current rating: 1 A continuous
- Insulation resistance: 1x 10<sup>5</sup> MΩ min.
- Contact resistance: 15 mΩ max.
- Dielectric withstanding voltage: 1000 V min. rms (sea level)

# OPERATING TEMPERATURE RANGE

► -65°C to +125°C

# PACKAGING

Tubes

# PROCESSING INFORMATION

 Compatible with wave and vapor phase soldering processes — Low temperature

# REFERENCE INFORMATION

- File no. E66906
- File no. LR46923
- Product drawing: By 5-digit base part number
- ► Product specification: BUS-12-095

# RoHs INFORMATION

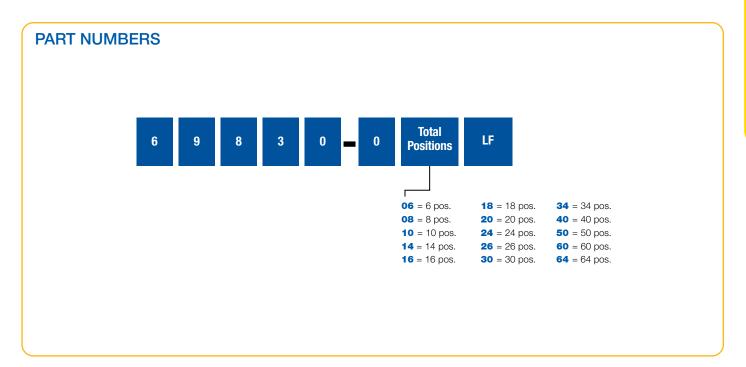
■ This product is RoHs compatible according to the European Union Directive 2002/95/IEC



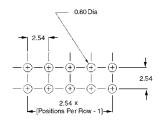




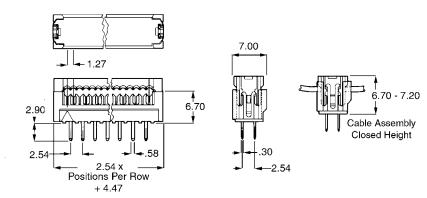
# **Quickie™ IDC PCB Connector**



# **PRODUCT**



Recommended PCB layouts



Dimension in mm

# **TECHNICAL DATA**

# **PHYSICAL**

- ► Housing: High-temperature, black thermoplastic
- ► Flammability rating: UL 94 V-0
- ► Pin: Phosphor-bronze
- ► Plating: Gold/GXT over 1.27 μm (50μ") nickel



# ■ ELECTRICAL PERFORMANCE

- Current rating: 3 A continuous
- ▶ Insulation resistance:  $1x 10^5 M\Omega$  min.
- Contact resistance: 25 mΩ max.
- Dielectric withstanding voltage: 650 V
- Voltage rating: 200 V.

# MECHANICAL PERFORMANCE

Mating cycles (durability): 100.

### OPERATING TEMPERATURE RANGE

► -55°C to +125°C

# PACKAGING

- ▶ Standard: TMT in tubes (04 to 06 pos. packed in box)
- SMT in Tape-and-reel
- Optional: SMT in Tubes

# **▶** PROCESSING INFORMATION

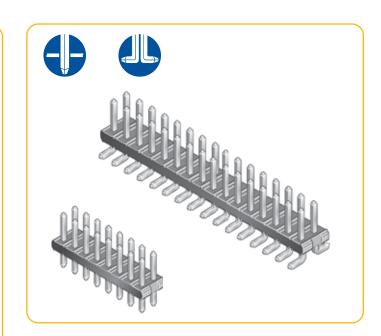
Compatible with wave, vapor-phase, and IR reflow soldering processes

# REFERENCE INFORMATION

- File no. E66906
- File no. LR46923
- Product drawing: 57102 or 57202
- ▶ Product specification: DPS-12-011 and GS-12-163
- Tape and Reel packaging data: TA-884

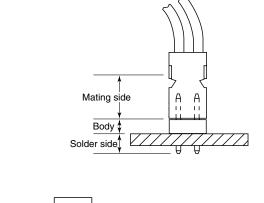
# RoHs INFORMATION

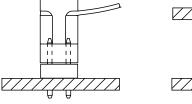
■ This product is RoHs compatible according to the European Union Directive 2002/95/IEC

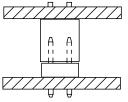


# **MATING DATA**

Minitek™ ctw contacts and housings	72
Minitek™ Vertical receptacles	60
Minitek™ Shunts	62
Minitek™ IDC receptacles	76



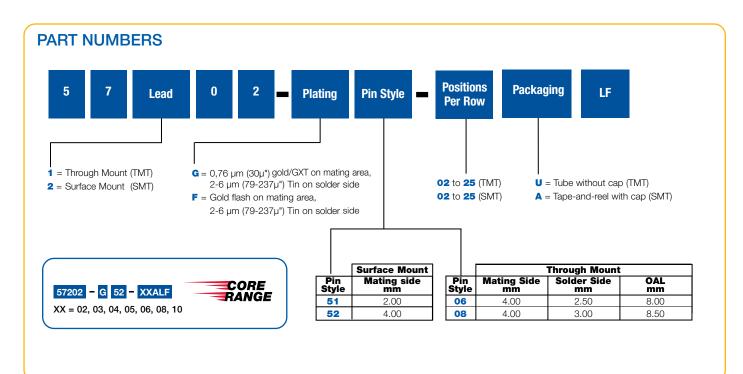


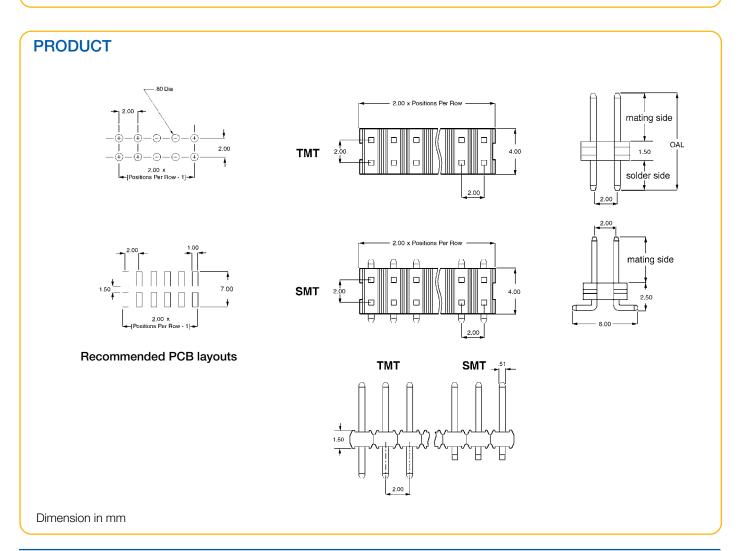






# Minitek™ Unshrouded Vertical Headers





- High temperature plastic
- Selective plating

# **TECHNICAL DATA**

### PHYSICAL

- ► Housing: High-temperature, black thermoplastic
- ► Flammability rating: UL 94 V-0
- Pin: Phosphor-bronze
- Plating: Gold/GXT over 1.27 μm (50μ") nickel



# **ELECTRICAL PERFORMANCE**

- Current rating: 3 A continuous
- ▶ Insulation resistance:  $1x 10^5 M\Omega$  min.
- ▶ Contact resistance: 25 m $\Omega$  max.
- Dielectric withstanding voltage: 650 V
- Voltage rating: 200 V.

# MECHANICAL PERFORMANCE

Mating cycles (durability): 100.

# OPERATING TEMPERATURE RANGE

► -55°C to +125°C

# PACKAGING

■ Tubes (04 to 06 pos. packed in box)

# PROCESSING INFORMATION

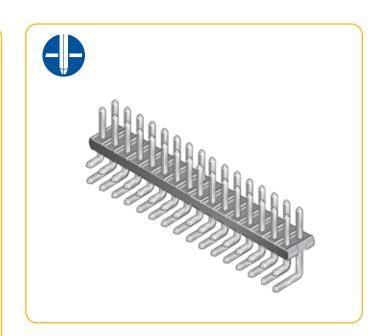
Compatible with wave, vapor-phase, and IR reflow soldering processes

# REFERENCE INFORMATION

- File no. E66906
- File no. LR46923
- ▶ Product drawing: 98423
- ▶ Product specification: DPS-12-011 and GS-12-163

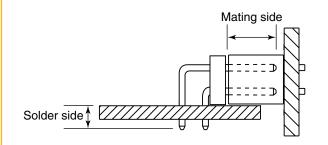
# RoHs INFORMATION

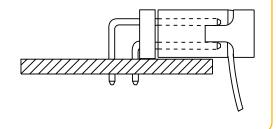
This product is RoHs compatible according to the European Union Directive 2002/95/IEC



# **MATING DATA**

Minitek™ ctw contacts and housings	72
Minitek™ Vertical receptacles	60
Minitek™ Shunts	62
Minitek™ IDC receptacles	76

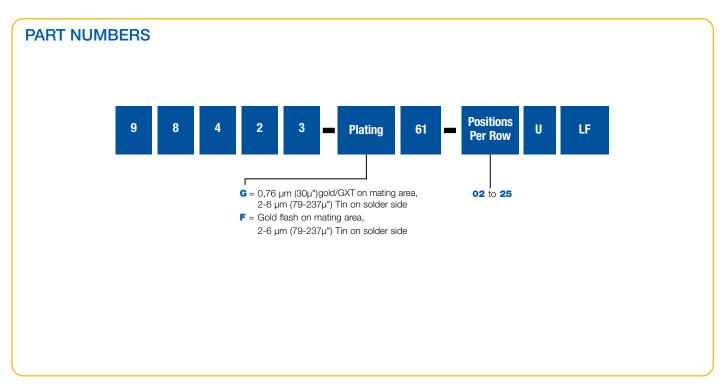


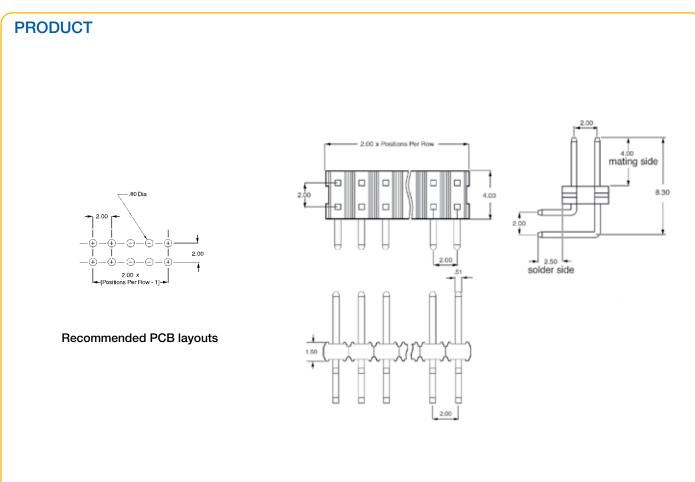






# Minitek™ Unshrouded Right Angle Headers





www.fci.com/basics

Dimension in mm

# **TECHNICAL DATA**

# **PHYSICAL**

- ► Housing: High-temperature, black thermoplastic
- ► Flammability rating: UL 94 V-0
- ► Pin: Phosphor-bronze
- ▶ Plating: Gold/GXT over 1.27 μm (50μ") nickel

# ELECTRICAL PERFORMANCE



- Current rating: 3 A continuous
- ▶ Insulation resistance:  $1x 10^5 MΩ$  min.
- Contact resistance: 25 mΩ max.
- Dielectric withstanding voltage: 650 V
- Voltage rating: 200 V.



Mating cycles (durability): 100.

### OPERATING TEMPERATURE RANGE

► -55°C to +125°C

# **PACKAGING**

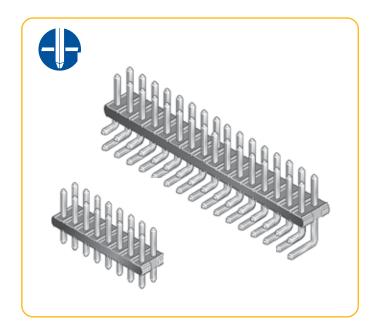
- ► Tubes (04 to 06 pos. packed in box)
- Tape on reel with pick up cap

# PROCESSING INFORMATION

Compatible with wave, vapor-phase, and IR reflow soldering processes

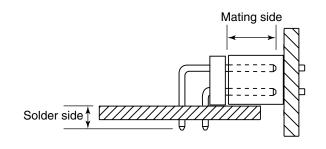
# REFERENCE INFORMATION

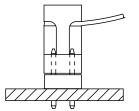
- File no. E66906
- File no. LR46923
- Product drawing: by 8-digit base part number
- ▶ Product specification: DPS-12-011 and GS-12-163
- ► Application specification: TA-895
- ► Reflow prpfile: TA-842

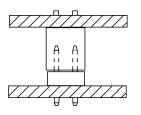


# **MATING DATA**

Minitek™ ctw contacts and housings
 Minitek™ Vertical receptacles
 Minitek™ Shunts
 Minitek™ IDC receptacles



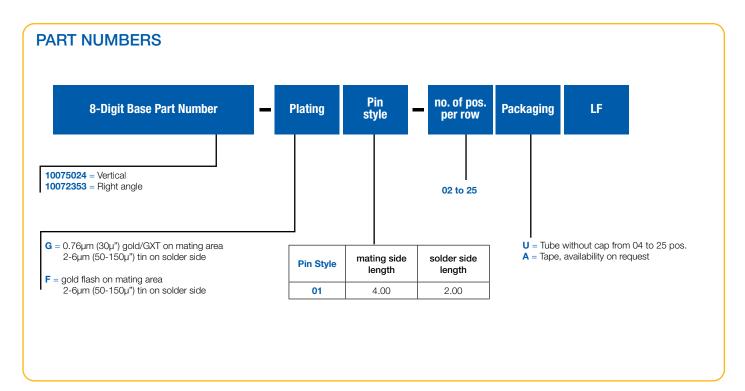


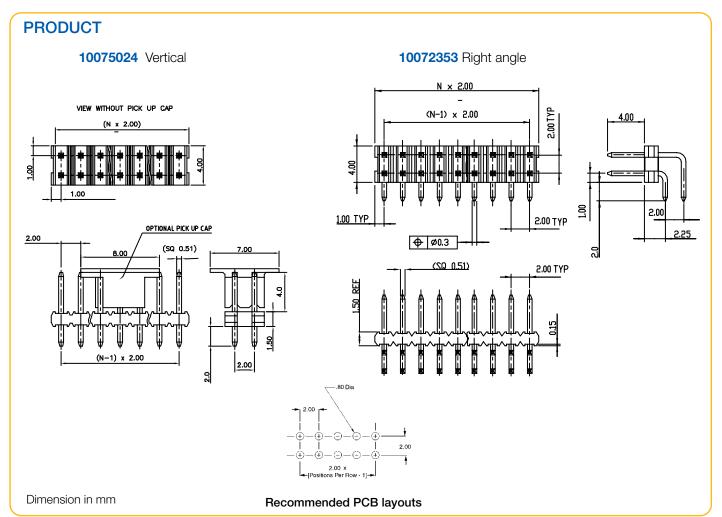






# Minitek™ Unshrouded Headers, Pin-in-Paste





- ▶ Wide variety of stack heights in 0.13 mm increments
- Custom sizes to meet your specific design requirements

# **TECHNICAL DATA**

# **PHYSICAL**

- ► Housing: High-temperature, black thermoplastic
- ► Flammability rating: UL 94 V-0
- ► Pin: Phosphor-bronze
- Plating: Gold over over 1.27 μm (50μ") nickel



# **ELECTRICAL PERFORMANCE**

- Current rating: 2 A continuous
- Insulation resistance: 1x 10<sup>5</sup> MΩ min.
- Contact resistance: 25 mΩ max.
- Dielectric withstanding voltage: 650 V
- Voltage rating: 200 V.

# MECHANICAL PERFORMANCE

Mating cycles (durability): 100.

# OPERATING TEMPERATURE RANGE

► -55°C to +125°C

# PACKAGING

Standard: in bags

# PROCESSING INFORMATION

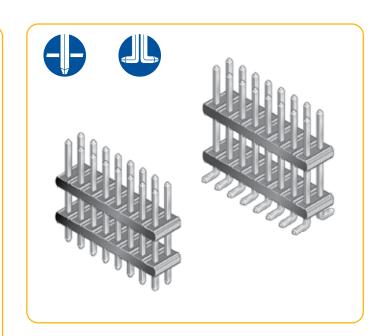
Compatible with wave, vapor-phase, and IR reflow soldering processes

# REFERENCE INFORMATION

- File no. E66906
- File no. LR46923
- Product drawing: 59112, 59132, or 59202
- ► Product specification: DPS-12-011

# RoHs INFORMATION

■ This product is RoHs compatible according to the European Union Directive 2002/95/IEC



# **MATING DATA**

Minitek™ ctw contacts and housings
 Minitek™ Vertical receptacles
 Minitek™ Shunts
 Minitek™ IDC receptacles

# Mating side Mating side Mating side OAL Stack Height Solder side A A Receptacle A A A Receptacle

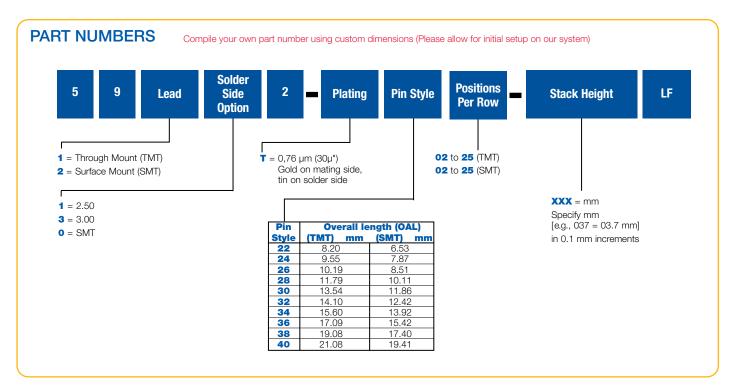
Board□ Space

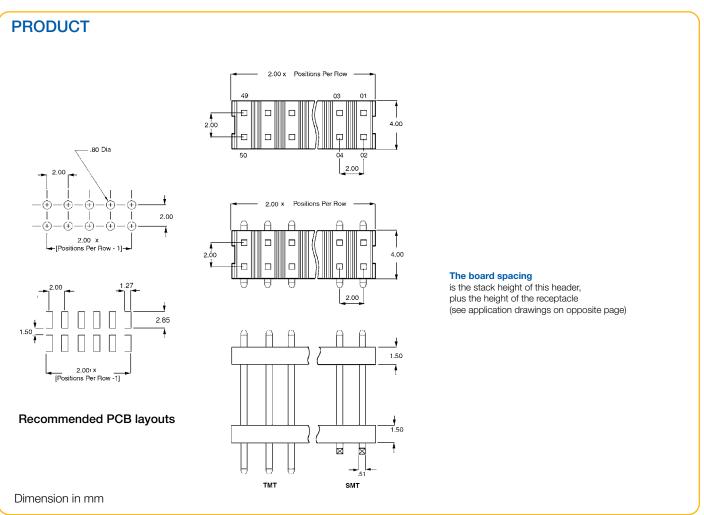
OAL





# Minitek™ Unshrouded Stacking Headers





- ▶ Two housing heights: 2.30 mm, 4.50 mm
- Dual-beam contact design for highly reliable electrical performancets

# **TECHNICAL DATA**

### PHYSICAL

- ► Housing: High-temperature, black thermoplastic
- ► Flammability rating: UL 94 V-0
- Contact: Phosphor-bronze Beryllium-copper 63453
- Plating: Gold over 1.27 μm (50 μ") nickel



# ELECTRICAL PERFORMANCE

- Current rating: 2 A continuous
- ▶ Insulation resistance:  $1x 10^5 MΩ$  min.
- Contact resistance: 20 mΩ
  - 25 m $\Omega$  63453
- Dielectric withstanding voltage: 650 V
- Voltage rating: 200 V.

# MECHANICAL PERFORMANCE

Mating cycles (durability): 25

100 - 63453

► Contact retention to housing: 2.20 N (227 gf) min.

4.90 N (500 gf) min. - 63453

▶ Insertion force per contact: 1.80 N (184 gf) max.

1.95 N (200 gf) - 63453

■ Withdrawal force per contact: 0.20 N (20 gf) min.

# OPERATING TEMPERATURE RANGE

▶ -55°C to +125°C

# PACKAGING

Standard: TMT in Tubes

SMT in Tape-and-reel

■ Optional: Tubes (SMT)

# PROCESSING INFORMATION

Compatible with wave, vapor-phase, and IR reflow soldering processes

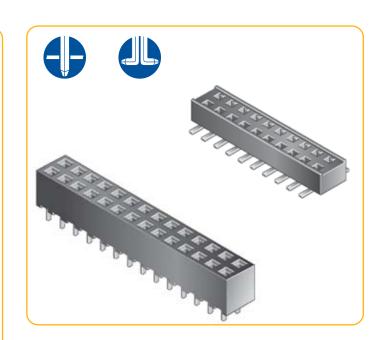
# REFERENCE INFORMATION

- File no. E66906
- File no. LR46923
- Product drawing: by 5-digit base part number
- ▶ Product specification: GS-12-008

DPS-12-011 - for 63453

# RoHs INFORMATION

This product is RoHs compatible according to the European Union Directive 2002/95/IEC

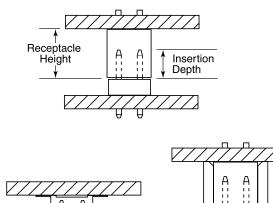


# **MATING DATA**

Minitek™ Unshrouded headers 52, 54, 58 Minitek™ Shrouded headers 64, 66

# **INSERTION DEPTH**

- 4.50 mm height: 3.00 mm min. to 4.30 mm max. [provides .381 mm wipe]
- 2.30 mm height Top Entry: 1.30 mm min. to 2.20 mm max. [provides .381 mm wipe]
- 2.30 mm height Bottom Entry:1.40 mm min. to
   2.20 mm max. [provides .381 mm wipe]
   plus board thickness

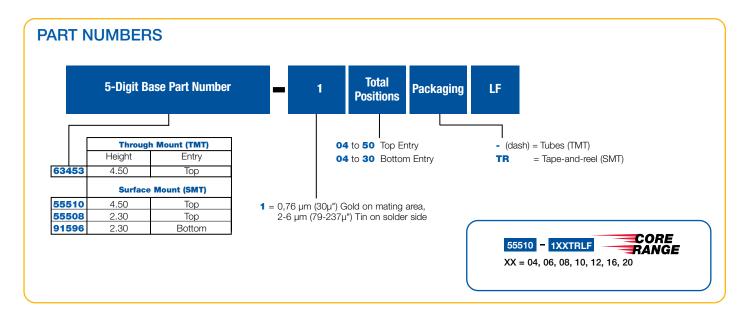


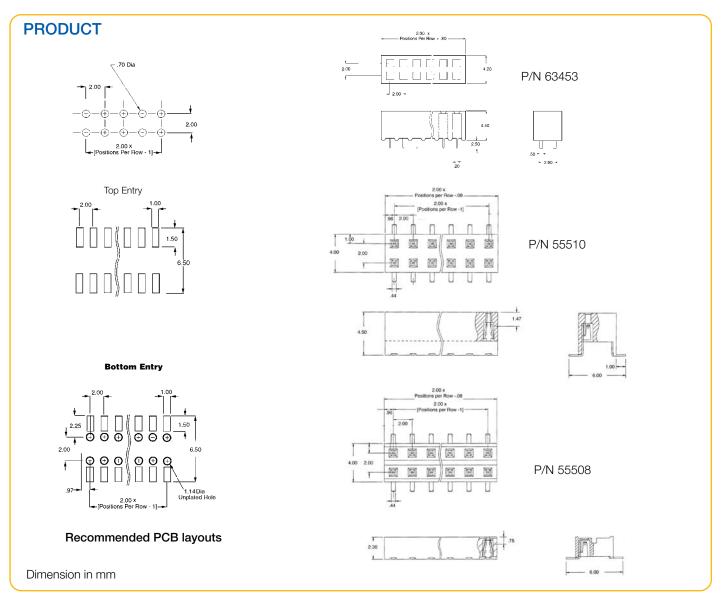






# Minitek™ Vertical Receptacles





Early entry, dual-beam contacts provide long wiping action for reliable electrical contact

# **TECHNICAL DATA**

# **PHYSICAL**

- ▶ Housing: Black thermoplastic
- ▶ Flammability rating: UL 94 V-0
- Contact: Phosphor-bronze
- Plating: Gold or tin-lead over 1.27 μm (50 μ") nickel

# ELECTRICAL PERFORMANCE

- Current rating: 1 A continuous
- Insulation resistance: 1x 10<sup>5</sup> MΩ min.
- Contact resistance: 25 mΩ
- Dielectric withstanding voltage: 650 V
- Voltage rating: 200 V.

# MECHANICAL PERFORMANCE

- Mating cycles (durability): 50
- ▶ Insertion force per contact: 6.41 N (650 gf) max.
- ▶ Withdrawal force per contact: 0.49 N (50 gf) min.

# OPERATING TEMPERATURE RANGE

► -55°C to +125°C

# **PACKAGING**

Bags

# PROCESSING INFORMATION

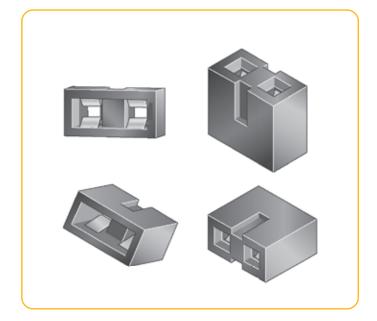
Compatible with wave, vapor-phase, and IR reflow soldering processes

# REFERENCE INFORMATION

- File no. E66906
- File no. LR46923
- Product drawing: by 5-digit base part number
- ► Product specification: DPS-12-012

# RoHs INFORMATION

■ This product is RoHs compatible according to the European Union Directive 2002/95/IEC



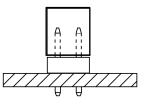
# **MATING DATA**

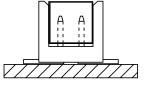
- Minitek™ Unshrouded headers
- 52, 54, 58
- Minitek™ Shrouded headers

64, 66

# **INSERTION DEPTH**

2.24 mm min. [provides .381 mm wipe]

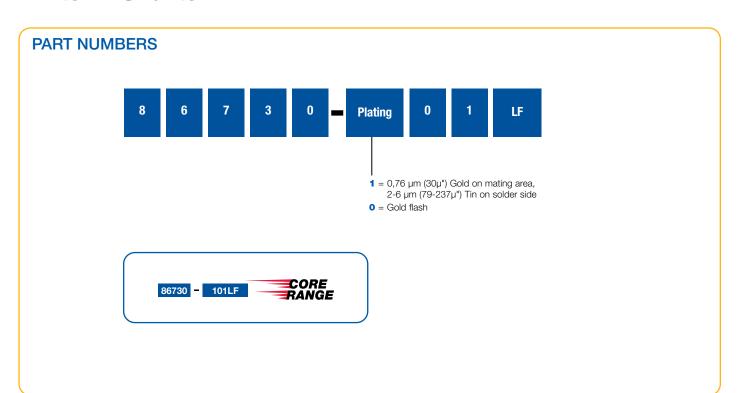




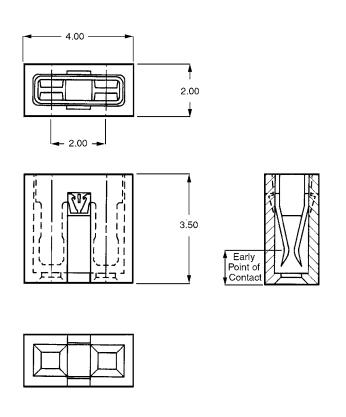




# Minitek™ Shunts



# **PRODUCT**



Dimension in mm

- ▲ 4-wall design prevents mis-mating
- Selective plating
- Co-planarity 0.1 (SMT)

# **TECHNICAL DATA**

### **PHYSICAL**

- Housing: High temperature, cream-colored thermoplastic
- ► Flammability rating: UL 94 V-0
- ▶ Pin: Phosphor-bronze
- ► Plating: Gold/GXT over 1.27 μm (50 μ") nickel



# **ELECTRICAL PERFORMANCE**

- Current rating: 2 A continuous
- ▶ Insulation resistance:  $1x 10^5 MΩ$  min.
- Contact resistance: 25 mΩ max.
- Dielectric withstanding voltage: 650 V
- Voltage rating: 200 V.

# MECHANICAL PERFORMANCE

Mating cycles (durability): 100

# OPERATING TEMPERATURE RANGE

► -40°C to +125°C

# PACKAGING

- Standard: TMT in Tubes (04 to 06 pos. packed in box) SMT in Tape-and-reel
- Optional: SMT in Tubes (04 and 06 in box)

# PROCESSING INFORMATION

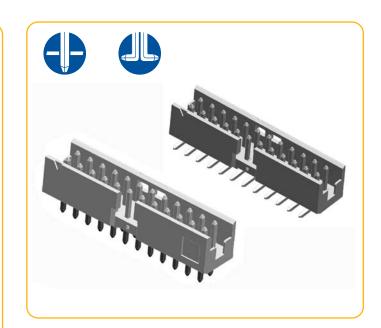
Compatible with wave, vapor-phase, and IR reflow soldering processes

# REFERENCE INFORMATION

- File no. E66906
- File no. LR46923
- Product drawing: 98414 or 98424
- ▶ Product specification: DPS-12-011 and GS-12-163
- Tape and Reel packaging data TA-884

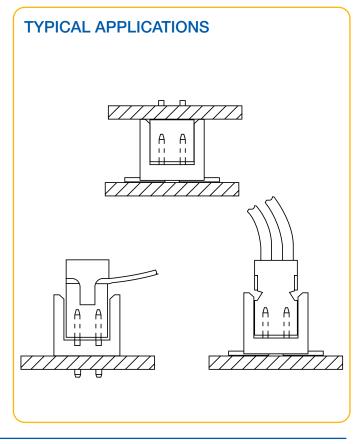
# RoHs INFORMATION

This product is RoHs compatible according to the European Union Directive 2002/95/IEC



# **MATING DATA**

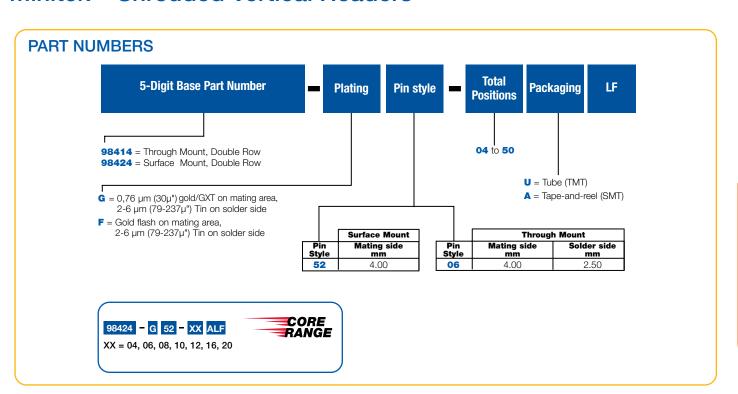
Minitek™ ctw contacts and housings	72
Minitek™ Vertical receptacles	60
Minitek™ Shunts	62
Minitek™ IDC receptacles	76
Minitek™ Active latch	74

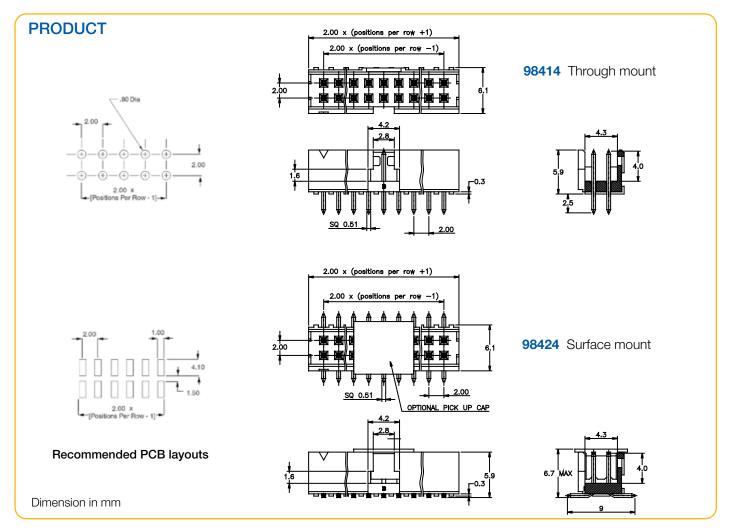






# Minitek<sup>™</sup> Shrouded Vertical Headers





- ▲ 4-wall design prevents mis-mating
- Selective plating

# **TECHNICAL DATA**

# **PHYSICAL**

- ▶ Housing: High temperature, cream-colored thermoplastic
- Flammability rating: UL 94 V-0
- ▶ Pin: Phosphor-bronze
- Plating: Gold/GXT over 1.27 μm (50 μ") nickel



# **ELECTRICAL PERFORMANCE**

- Current rating: 2 A continuous
- Insulation resistance: 1x 10<sup>5</sup> MΩ min.
- Contact resistance: 25 mΩ max.
- Dielectric withstanding voltage: 650 V
- Voltage rating: 200 V.

# MECHANICAL PERFORMANCE

Mating cycles (durability): 100

# OPERATING TEMPERATURE RANGE

► -40°C to +125°C

# **PACKAGING**

Standard: Tubes (04 pos. packed in box)

# PROCESSING INFORMATION

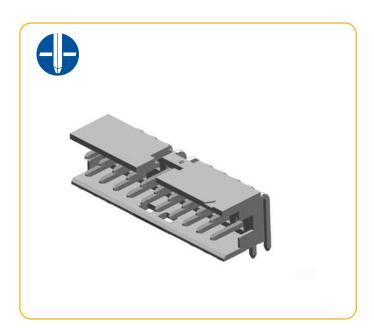
Compatible with wave, vapor-phase, and IR reflow soldering processes

# REFERENCE INFORMATION

- File no. E66906
- File no. LR46923
- ► Product drawing: 98464
- ▶ Product specification: DPS-12-011 and GS-12-163

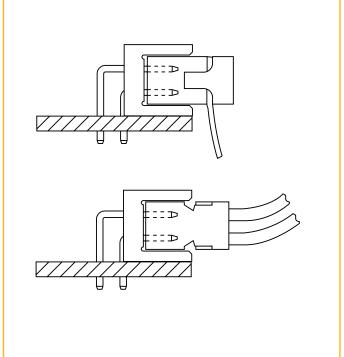
# RoHs INFORMATION

This product is RoHs compatible according to the European Union Directive 2002/95/IEC



# **MATING DATA**

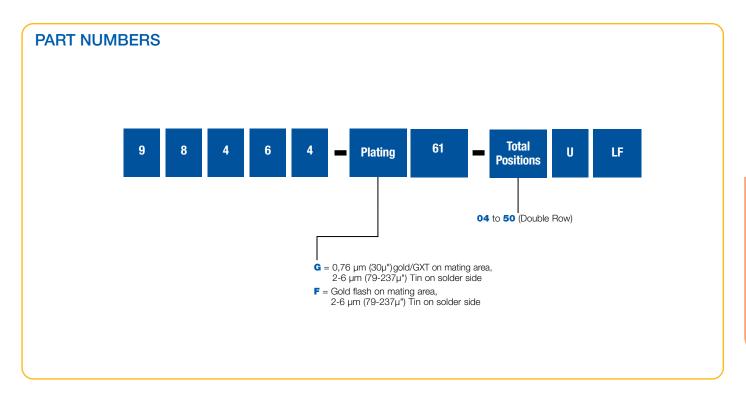
Minitek™ ctw contacts and housings	72
Minitek™ Vertical receptacles	60
Minitek™ Shunts	62
Minitek™ IDC receptacles	76
Minitek™ Active latch	74



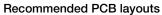


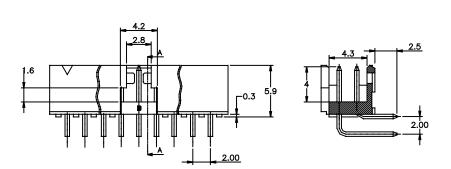


# Minitek™ Shrouded Right Angle Headers



# PRODUCT 2.00 x (positions per row +1) 2.00 x (positions per row -1) 2.00 x (positions per row -1) 2.00 x (positions per row -1) 3.00 x (positions per row -1) 4.00 x (positions per row -1)





Dimension in mm

# **TECHNICAL DATA**

# **PHYSICAL**

- ► Housing: High-temperature, black thermoplastic
- ► Flammability rating: UL 94 V-0
- ► Pin: Phosphor-bronze
- ▶ Plating: Gold/GXT over 1.27 μm (50μ") nickel

# ■ ELECTRICAL PERFORMANCE



- Current rating: 3 A continuous
- ▶ Insulation resistance:  $1x 10^5 MΩ$  min.
- Contact resistance: 25 mΩ max.
- Dielectric withstanding voltage: 650 V
- Voltage rating: 200 V.

# MECHANICAL PERFORMANCE

Mating cycles (durability): 100.

# OPERATING TEMPERATURE RANGE

► -55°C to +125°C

# **PACKAGING**

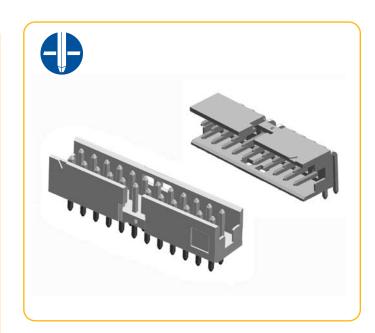
- ► Tubes (04 pos. packed in box)
- Tape on reel with pick up cap

# PROCESSING INFORMATION

Compatible with wave, vapor-phase, and IR reflow soldering processes

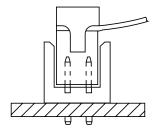
# REFERENCE INFORMATION

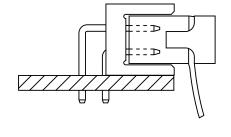
- File no. E66906
- File no. LR46923
- Product drawing: by 8-digit base part number
- ► Product specification: DPS-12-011 and GS-12-163
- Application specification: TA-895
- ► Reflow prpfile: TA-842



# **MATING DATA**

Minitek™ ctw contacts and housings	72
Minitek™ Vertical receptacles	60
Minitek™ Shunts	62
Minitek™ IDC receptacles	76
Minitek™ Active latch	74

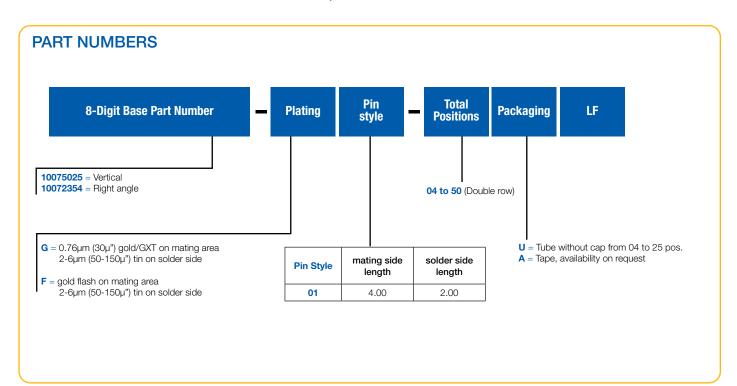


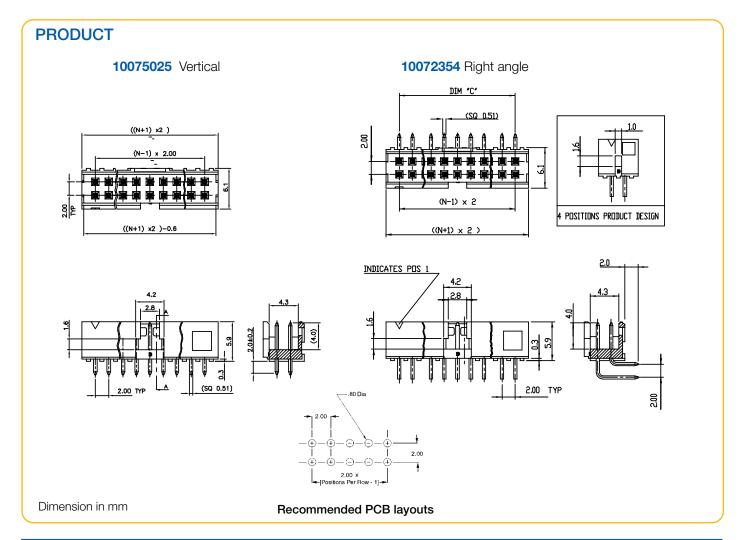






# Minitek™ Shrouded Headers, Pin-in-Paste





# **Shrouded Eject Latch Headers**

# **FEATURES**

- Secure latching of cable connector
- Easy ejection when required
- ▶ Works with IDC connectors with or without strain relief
- Low profile

# **TECHNICAL DATA**

### **PHYSICAL**

- ► Housing: Body, cream-colored LCP, Latch black PA
- ► Flammability rating: UL 94 V-0
- ► Pin: Phosphor-bronze
- Plating: Gold/GXT over 1.27 μm (50 μ") nickel

# **■ ELECTRICAL PERFORMANCE**

- Current rating: 2 A continuous
- Insulation resistance: 1x 10<sup>5</sup> MΩ min.
- Contact resistance: 25 mΩ max.
- Dielectric withstanding voltage: 650 V
- Voltage rating: 200 V.

## MECHANICAL PERFORMANCE

Latching retention force: 30 N min.

# OPERATING TEMPERATURE RANGE

► -40°C to +125°C

# **PACKAGING**

Standard: Tubes

# PROCESSING INFORMATION

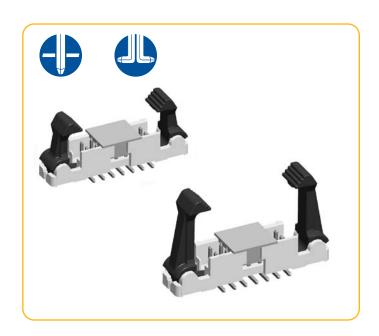
Compatible with wave, vapor-phase, and IR reflow soldering processes

# REFERENCE INFORMATION

- File no. E66906
- File no. LR46923
- Product drawing: 8-digit part number
- ► Product specification: GS-12-469

# RoHs INFORMATION

■ This product is RoHs compatible according to the European Union Directive 2002/95/IEC

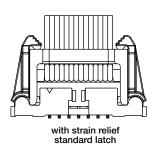


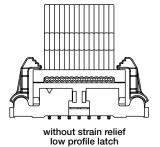
# **MATING DATA**

■ Minitek™ IDC receptacles

76

# **TYPICAL APPLICATIONS**



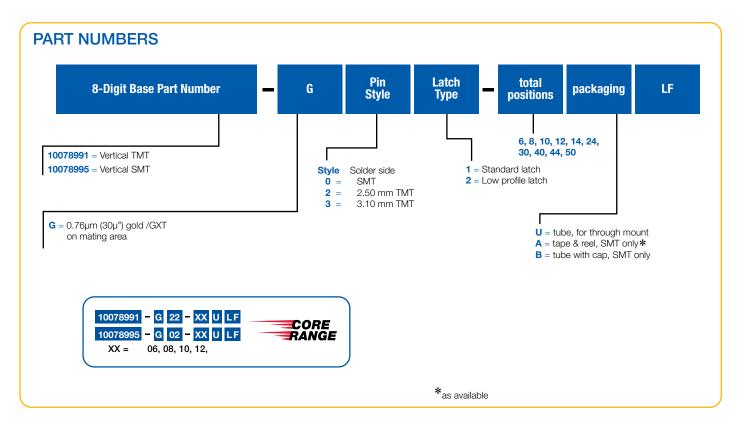


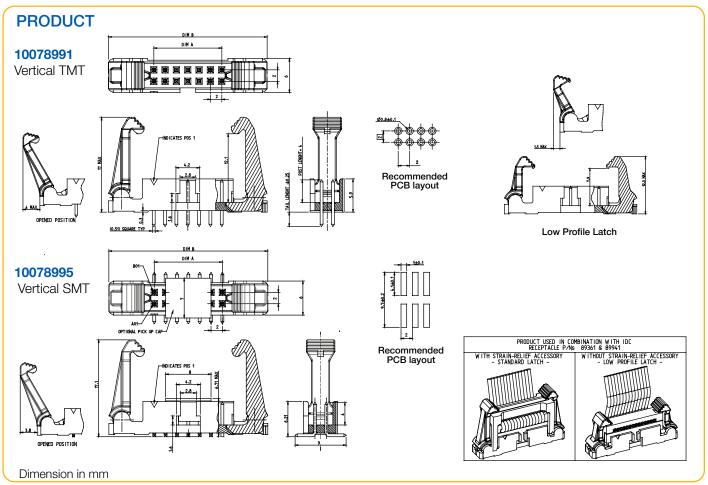
www.fci.com/basics





# Minitek™ Shrouded Eject Latch Headers





# **Housings and Contacts**

# **FEATURES**

- Dual-beam contact design for highly reliable electrical performance
- Latching key assures proper alignment and friction retention

# **TECHNICAL DATA**

# **PHYSICAL**

- ▶ Housing: Black thermoplastic
- ► Flammability rating: UL 94 V-0
- Contact: Phosphor-bronze
- Plating: Gold over 1.27 μm (50 μ") nickel



# **ELECTRICAL PERFORMANCE**

- Current rating: 2 A continuous
- Insulation resistance: 1x 105 MΩ min.
- Contact resistance: 20 mΩ
- Dielectric withstanding voltage: 650 V
- Voltage rating: 200 V.

# MECHANICAL PERFORMANCE

- Mating cycles (durability): 100
- ► Contact retention to housing: 7.83 N (800 gf) min.
- Mating force per contact: 1.77 N (180 gf) max.
- ► Unmating force per contact: 0.20 N (20gf) min.

# OPERATING TEMPERATURE RANGE

► -40°C to +125°C

# **PACKAGING**

- Reels Contacts
- Bags Housings

### REFERENCE INFORMATION

File no. E66906

File no. LR46923
Product drawing:

77138 or 77139 - Contact

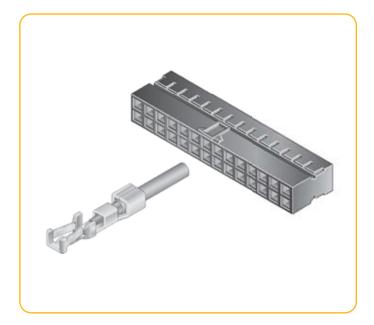
69307, 90311- Housing

▶ Product specification: 110-036

Application specification: 100-006, TA-959

# RoHs INFORMATION

■ This product is RoHs compatible according to the European Union Directive 2002/95/IEC



# **MATING DATA**

Minitek™ Unshrouded headers

52, 54, 58

Minitek™ Shrouded headers

64, 66

# **INSERTION DEPTH**

2.40 mm min. to 3.30 mm max. [provides .381 mm wipe]

**TYPICAL APPLICATIONS** 

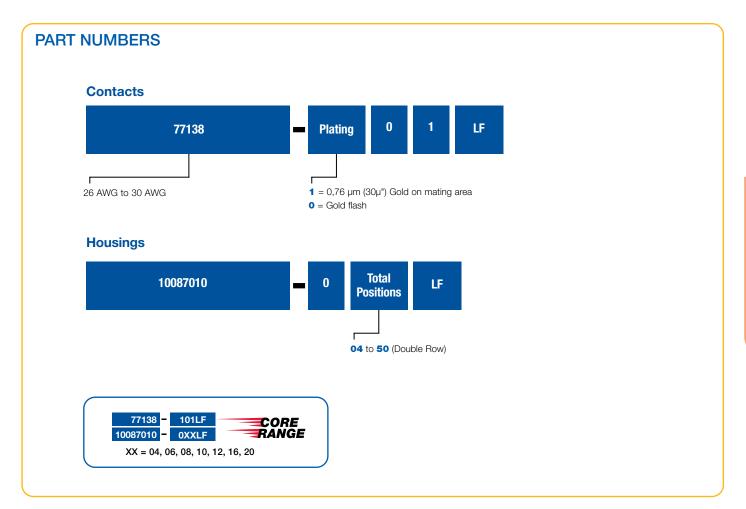
3.63 mm min. to 4.00 mm max. [provides .381 mm wipe in housing]

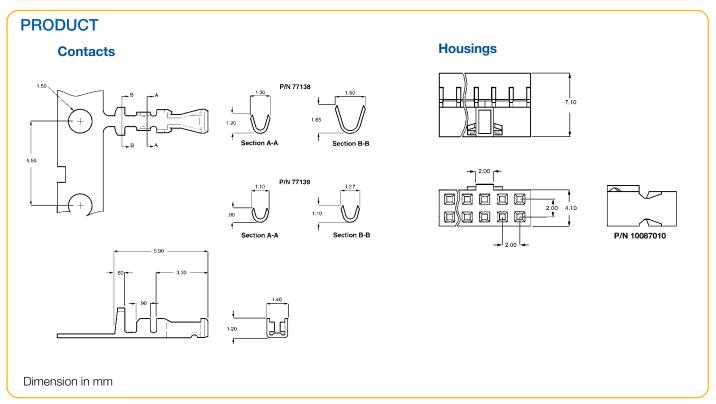
# Insertion Depth A A A





# Minitek™ Crimp-to-wire Housings and Contacts





# Housings, Active latch

### **FEATURES**

- Latching retention 15/25 N (depending on size) due to latch alone
- Latches with audible click
- Mates with standard Minitek headers
- Latch can be released and parts unmated

#### **TECHNICAL DATA**

#### **PHYSICAL**

- Housing: Polyamide, black
- ► Flammability rating: UL 94 V-0

#### **ELECTRICAL PERFORMANCE**

- Insulation resistance: 1x 10<sup>5</sup> MΩ min.
- Dielectric withstanding voltage: 500 V

#### MECHANICAL PERFORMANCE

- Latching retention force: 15 N min. (for 2x3 and 2x4 pos)
- Latching retention force: 25 N min. (for 2x5 and 2x25 pos)

#### OPERATING TEMPERATURE RANGE

► -55°C to +125°C

#### PACKAGING

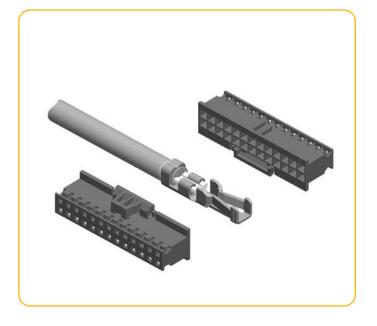
Standard: Plastic bags

### REFERENCE INFORMATION

- File no. E66906
- File no. LR46923
- Product drawing: 8-digit part number
- ► Product specification: GS-12-415

#### RoHs INFORMATION

This product is RoHs compatible according to the European Union Directive 2002/95/IEC

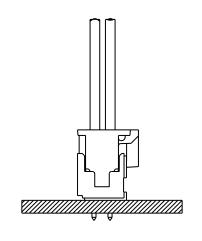


### **MATING DATA**

- Minitek™ Shrouded headers
- Minitek™ CTW contacts

64, 66, 68 72, 74

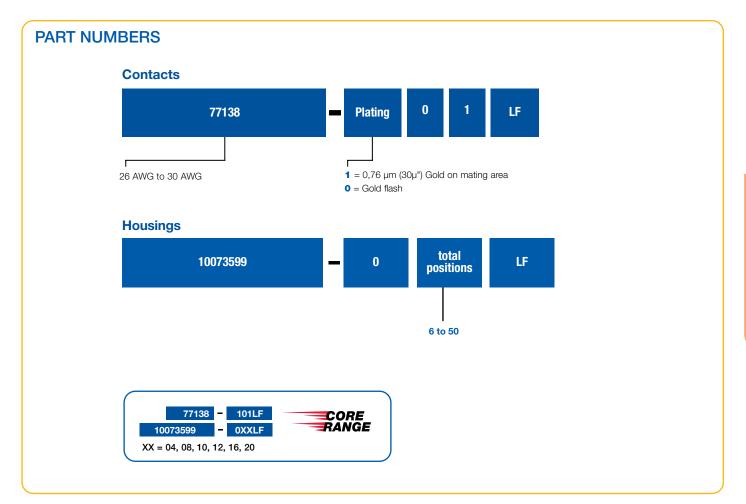
#### **TYPICAL APPLICATIONS**

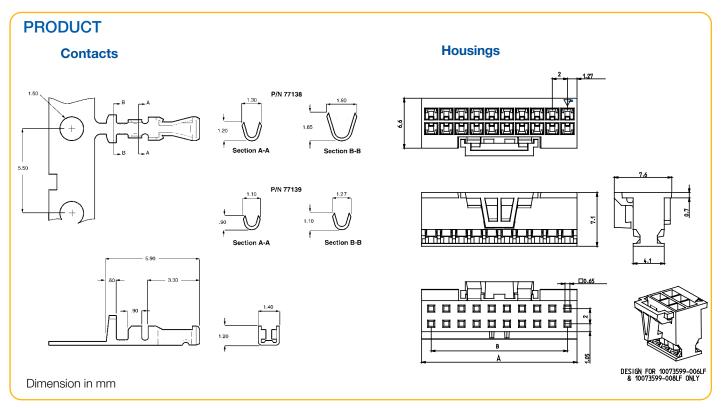






# Minitek™ Crimp-to-wire Housings, Active latch





### **FEATURES**

- Early entry, single-beam contacts provide long wiping action for reliable electrical contact
- Center key polarization and friction latch options

### **TECHNICAL DATA**

#### **PHYSICAL**

- ► Housing: Black thermoplastic
- Flammability rating: UL 94 V-0
- Contact: Phosphor-bronze
- Plating: Gold over 1.27 μm (50 μ") nickel



#### **ELECTRICAL PERFORMANCE**

- Current rating: 1 A continuous
- Insulation resistance: 1x 10<sup>5</sup> MΩ min.
- Contact resistance: 30 mΩ
- ▶ Dielectric withstanding voltage: 650 V

#### MECHANICAL PERFORMANCE

► Mating cycles (durability): 100

### OPERATING TEMPERATURE RANGE

► -40°C to +105°C

### **PACKAGING**

Tubes

### REFERENCE INFORMATION

File no. E66906

File no. LR46923

Product drawing: 89947 or 89361

► Product specification: BUS-12-115

#### RoHs INFORMATION

■ This product is RoHs compatible according to the European Union Directive 2002/95/IEC



#### **MATING DATA**

Minitek™ Unshrouded headers

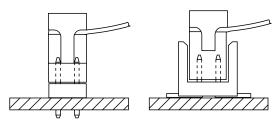
52, 54, 58 64, 66

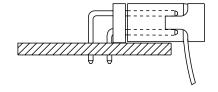
Minitek<sup>™</sup> Shrouded headers

#### **INSERTION DEPTH**

2.55 mm min. to 4.57 mm max. [provides .381 mm wipe]

### **TYPICAL APPLICATIONS**

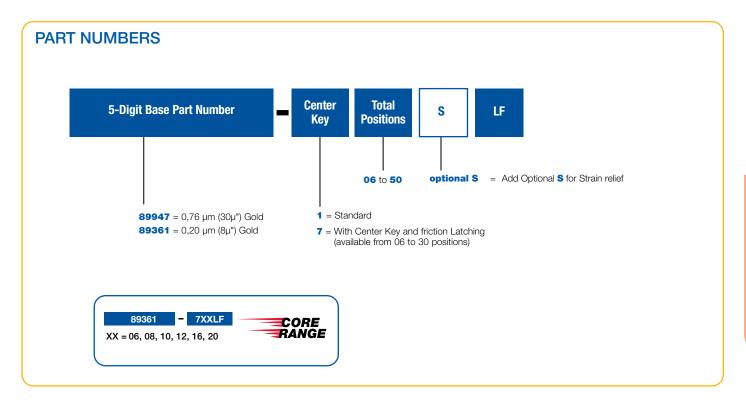




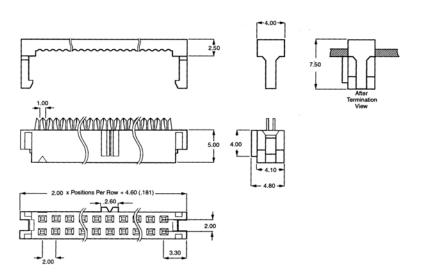




# Minitek™ IDC Receptacle







Dimension in mm

# MORE OPTIONS

If you need someting more than the standard parts in this catalog, Basics+ has many more options to help you in your design process. Here are just some examples.

■ Locating pins on SMT headers



▶ Polarized (missing) positions



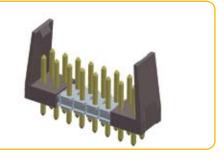
Kinked legs



Press-fit pins



Add-on latches for headers







Wide body headers Crimp-to-wire pin **Printed housings** Additional plating options Pin-in-paste headers

Visit: www.fci.com/basicsdesign to specify your design need

# **Application Equipment**



## **DUBOX™ CRIMP-TO-WIRE CONTACTS**

Contact Description	Wire size	Hand Tool	Mini-Applicator (right to left feeding)	Mini-Applicator (left to right feeding)	Repair Tool
Dubox	AWG 20-22	RCY21235	RCY20027	RCY20017	HT 272
Dubox	AWG 22-24	RCY21234	RCY20008	RCY20029	HT 272
Dubox	AWG 26-30	RCY21234	RCY20008	RCY20029	HT 272
Small insulation Dubox	AWG 28-32	-	RCY20028		HT 272

## PV™ CRIMP-TO-WIRE CONTACTS

Contact Description	Wire size	Hand Tool	Mini-Applicator	Repair Tool
Standard Mini-PV	AWG 18-20	HT-0073	133867-104	HT-0080
Standard Mini-PV	AWG 22-26	HT-0095	133867-105	HT-0080
Standard Mini-PV	AWG 28-32	HT-0095	133867-106	HT-0080
Standard Mini-PV	AWG 34-36	HT-0112	133867-108	HT-0080
Small Insulation PV	AWG 22-26	HT-207	-	HT-0080
Small Insulation PV	AWG 28-32	HT-217	-	HT-0080

# MINITEK™ CRIMP-TO-WIRE CONTACTS

Contact Description	Wire size	Hand Tool	Mini-Applicator	Repair Tool
Minitek	AWG 26-30	RCY21151	155250-101	HT-0080
Minitek	AWG 32-36	RCY21152	155250-102	HT-0080

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## **Application Equipment**



# BergStik® AND Bergstrip®

- Manual cutting tool: HT 320
- Automatic cutting machine for Bergstrip: BSS-300

### Quickie® IDC

- Manual flat cable cutter: HT 209
- Quickie assembly hand tool: HT 210
- Many other variations of manual, semi- automatic and automatic tools available upon request.

### Minitek® IDC

Manual flat cable cutter: HT 209

Hand Press: QP-104

# Where to get your tooling

These toolings and more detailed advice, pricing, availability etc. are available through your distributor or from the following suppliers:

#### Americas

Phone: 1-800-843-6911

E-mail: doug.sheaffer@fciconnect.com

#### Europe

Föhrenbach Application Tooling N.V.

Phone: +32 3 216 19 98

Email: application.tooling@foehrenbach.be

#### Asia

Phone: +65 549 6666

E-mail: fcising\_sales@fciconnect.com

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47437	39	76385	31
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47564	39	77313	9, 13
47565	39	77315	15
47566	39	77317	15
48047	39	78207	37
48048	39	78208	37
48276	39	86730	63
52601	45	87606	23
54XXX	19	89361	
55508	61	89882	29
55510	61	89883	29
57102	53	89891	23
57202	53	89898	27
59112	59	89947	77
59132	59	91596	61
59202	59	91601	27
63453	61	91614	27
65039	41	91615	27
65043	41	91618	27
65239	35	95278	9
65240	35	98414	65
65846	41	98423	55
67996	11	98424	65
68000	11	98464	67
68015	17	10056844	45
68020	17	10056845	45
68786	21	10072353	57
69145	21	10073599	75
69167	37	10075024	57
69168	37	10075025	69
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