



Product Catalog



FCI: SETTING THE STANDARD FOR CONNECTORS

With operations in 30 countries, FCI is a leading manufacturer of connectors. Our 13,500 employees are commited to providing customers with high-quality, innovative products for a wide range of consumer

and industrial applications.

🔁 basics 🔶

THE EASY WAY TO DO BUSINESS

Basics+ brings together our proven, standard connectors for board-to-board and wire/cable-to-board applications. Our goal is to save you time by providing "Easy To Use" services. All services are accessible via the dedicated Basics+ web site : www.fciconnect.com/basics

EASY TO SELECT A PRODUCT

This catalogue provides an easy overview of the most standard Basics+ products. For even more choice, our web catalogue provides the step search possibility that guides you step-by-step to your part number

EASY TO GET DOCUMENTATION

Data sheets, product drawings, specifications, application notes, packaging drawings and more are available on the web site for download. Just type the product number in the search field to get to the data sheet. From there you can easily access more supporting information.

EASY TO GET TECHNICAL SUPPORT

Get your technical questions answered within 24 hours on our e-mail hotline basics.help@fciconnect.com

EASY TO GET SAMPLES

Order a sample today, and you can start to work with your Basics+ product right away! Sample orders can be placed via the web site.

EASY TO GET COMMERCIAL INFORMATION

As a customer, you can have registered online access to prices, packaging quantities, minimum order quantities, and lead times. All the commercial information you need is at your fingertips.

EASY TO GET PRODUCTS

The CORE RANGE and PRIORITY PARTS offerings provide fast access to Basics+ products. See next page.

HOW TO CHOOSE YOUR **Dasics** PARTS

The total Basics+ offering is very extensive and includes products to meet almost every design need. To help make your choices easier we have organised the range as shown below.



BOARD-TO-BOARD

	BergStik [®] Unshrouded Headers 2.54mm (.100")	10
	Vertical - full plated	12
11189.00	Vertical - continuous	
CALLES	Right angle - selective plating	
	Right angle - full plated	
	Stacking headers	
A PARTICULAR PROPERTY OF	Minitek™ Unshrouded Headers 2mm (.079")	
- 0 8 0	Vertical	54
	Right angle	
	Stacking	58
(Chan)	Dubox™ Board-to-Board Receptacles 2.54mm (.100")	
·	Vertical	24
	Low profile vertical - through mount	
	Low profile vertical - surface mount	
	Horizontal	
	Minitek™ Vertical receptacles	60
1	Dubox™ Shunts	
	Minitek™ Shunts	62
Contraction of the second seco		
*		
WIRE-TO-BOARD		





CABLE-TO-BOARD





Dubox™ Crimp-To-Wire 2.54mm (.100") Contacts	34 36
PV™ Superior Performance Crimp-To-Wire 2.54mm (.100") Contacts	10 12
Minitek™ Crimp-To-Wire 2.00mm (.079") Contacts	58 58
Minitek [™] Shrouded Headers 2.54mm (.100)	32 38
Minitek™ Shrouded Headers 2.00mm (.079") Vertical	54 56

Quickie IDC Receptacles 2.54mm (.100)	50
Quickie [®] PCB Connectors 2.54mm (.100)	52
Minitek™ IDC Receptacles 2.00mm (.079")	70

Quickie[®] Shrouded Headers 2.54mm (.100")

Low Profile	
Surface Mount and Pin-in-Paste	46
Eject latch	48

Minitek[™] Shrouded Headers 2.00mm (.079")

Vertical	 	 	 	 	64
Right angle	 	 	 	 	66



 Selectively plated headers means you only get gold on the pin tip where you want it and not in the solder bath where you don't.
 Pages 10, 11, 16, 17.



SMT Quickie[®] Low Profile Header. Page 46-47



► The Pin-in-Paste Quickie[®] Low Profile Header features a special high temperature housing and is compatible with IR reflow soldering processes. Page 46-47





PARALLEL





PERPENDICULAR



PLANAR



= Surface Mount

= 2.00 mm



DISCRETE WIRE





CABLE-TO-BOARD SOLUTIONS

FLAT CABLE IDC





BergStik[®] UNSHROUDED HEADERS 2.54 mm (.100")

VERTICAL 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
- lnsulation resistance: 5000 M Ω 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

- **S** 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
- Specifications subject to change without notice.

MATING DATA

Dubox [™] Crimp-to-wire contacts		34
Dubox™ Crimp-to-wire housings		36
Dubox™ Vertical receptacles		24
Dubox™ Low profile vertical		
receptacles	26,	28
Dubox [™] Horizontal receptacles		30
Quickie™ IDC receptacles		50
PV™ Crimp-to-Wire Contacts		40

▶PV[™] Crimp-to-Wire Housings



PROCESSING INFORMATION

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

4

42

RoHs INFORMATION

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

TYPICAL APPLICATIONS





2.54 mm (.100")

PART NUMBER

5-Digit Base Part Numbe	r –	Plating	g Pin S	Style	Option	T Pos	otal itions	LF		
Through mount 77311 = Single Row 77313 = Double Row	Surface	e mount	1	Throu	ah mount			02 to 3 03 to 7 04 to 3 08 to 9	36 = Single row TMT 17 = Single Row SMT 72 = Double row TMT 50 = Double Row SM1 50 = Double Row SM1	- with peas
Surface mount	Pin style	Mating	Pin style	Mating	Solder	OAL		1		
95293 - Single Row	01	5.84	01	5.84	2.41	10.80				_
95278 = Double Row	02	8.08	18	5.84	3.05	11.43	Option	Р	ackaging	
98401 = Double Row with pegs			02	5.84	3.42	11.80	-	Plastic ba	g	
			27	6.60	2.66	11.82	Α	Tape-and	-reel with pick-up cap	
1 = 0.76 um (30 um) gold on mating area	tin on solder si	de	22	7.75	3.06	13.35	В	Tube with	pick-up cap	
$8 = 0.38 \mu m (15 \mu'')$ gold on mating area,	tin on solder sid	le	24	6.75	2.90	12.20		availability	on request	





BergStik[®] UNSHROUDED HEADERS 2.54 mm (.100")

VERTICAL FULL 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 (50μ") nickel

Electrical Performance

- Current rating: 3 A continuous
- lnsulation resistance: 5000 M Ω min.
- Dielectric withstanding voltage: 1500 V

Mechanical Performance

- Pin retention to housing: 8.88 N (2 lbf) 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

Reference Information

File no. E66906
 File no. LR46923
 Product drawing: By 5-digit base part number
 Product specification: BUS-12-114
 Specifications subject to change without notice.

MATING DATA

Dubox[™] Crimp-to-wire contacts 34 Dubox[™] Crimp-to-wire housings 36 Dubox[™] Vertical receptacles 24 Dubox[™] Low profile vertical receptacles 26, 28 Dubox[™] Horizontal receptacles 30 Quickie[™] IDC receptacles 50 ▶ PV[™] Crimp-to-Wire Contacts 40 ▶PV[™] Crimp-to-Wire Housings 42



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

TYPICAL APPLICATIONS



2.54 mm (.100")



Single Row

	Po	ost	Ta	ail	OAL	
Base PN	mm	(in.)	mm	(in.)	mm	(in.)
68000	5.84	0.230	2.41	0.095	10.80	0.425
68001	5.84	0.230	3.05	0.120	11.43	0.450
68002	5.84	0.230	3.81	0.150	12.19	0.480

Double Row

	Post		Ta	ail	OAL		
Base PN	mm	(in.)	mm	(in.)	mm	(in.)	
67996	5.84	0.230	2.41	0.095	10.80	0.425	
67997	5.84	0.230	3.05	0.120	11.43	0.450	
68602	5.84	0.230	3.81	0.150	12.19	0.480	





CONTINUOUS UNSHROUDED HEADERS 2.54 mm (.100")



- 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 Ω min.
- Dielectric withstanding voltage: 1500 V

Mechanical Performance

Pin retention to housing: 8.88 N (2 ibf) 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
 Specifications subject to change without notice.

MATING DATA

Dubox [™] Crimp-to-wire contacts		34
Dubox™ Crimp-to-wire housings		36
Dubox™ Vertical receptacles		24
Dubox™ Low profile vertical		
receptacles	26,	28
Dubox™ Horizontal receptacles		30
Quickie™ IDC receptacles		50
PV™ Crimp-to-Wire Contacts		40
PV™ Crimp-to-Wire Housings		42



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

TYPICAL APPLICATIONS



Automated cutting tooling is available for this product. Please contact your FCI partner.

FCJ

PART NUMBER



Single Row

	Post		Ta	ail	OAL		
Base PN	mm	(in.)	mm	(in.)	mm	(in.)	
68000	5.84	0.230	2.41	0.095	10.80	0.425	
68001	5.84	0.230	3.05	0.120	11.43	0.450	
68002	5.84	0.230	3.81	0.150	12.19	0.480	

Double Row

	Po	ost	Ta	ail	OAL		
Base PN	mm	(in.)	mm	(in.)	mm	(in.)	
67996	5.84	0.230	2.41	0.095	10.80	0.425	
67997	5.84	0.230	3.05	0.120	11.43	0.450	
68602	5.84	0.230	3.81	0.150	12.19	0.480	





BergStik[®] UNSHROUDED HEADERS 2.54 mm (.100")

RIGHT ANGLE SELECTIVE PLATING



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 (50μ") nickel

Electrical Performance

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

Mechanical Performance

Pin retention to housing: 8.88 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
- Specifications subject to change without notice.



TYPICAL APPLICATIONS



24

30

50

40

42

MATING DATA

- Dubox™ Crimp-to-wire contacts 34
- Dubox™ Crimp-to-wire housings 36
- Dubox™ Vertical receptacles
- Dubox™ Low profile vertical
- receptacles 26, 28
- Dubox[™] Horizontal receptacles
- Quickie[™] IDC receptacles
- PV™ Crimp-to-Wire Contacts
- PV™ Crimp-to-Wire Housings

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







 $1 = 0.76 \ \mu m$ (30 μ ") gold on mating area, tin on solder side

4 = tin

 $\mathbf{8} = 0.38 \ \mu m (15 \mu'')$ gold on mating area, tin on solder side



BergStik[®] UNSHROUDED HEADERS 2.54 mm (.100")

RIGHT ANGLE FULL 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 (50µ") nickel

Electrical Performance

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

Mechanical Performance

- Pin retention to housing: 8.88 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

A File no. E66906 Se File no. LR46923 Product drawing: 55101 or 55102 Product specification: BUS-12-114 Specifications subject to change without notice.



24

30

50

MATING DATA

- Dubox[™] Crimp-to-wire contacts 34
- Dubox[™] Crimp-to-wire housings 36
- Dubox[™] Vertical receptacles
- Dubox[™] Low profile vertical
- receptacles 26, 28
- Dubox[™] Horizontal receptacles Quickie[™] IDC receptacles
- PV[™] Crimp-to-Wire Contacts
- 40 PV™ Crimp-to-Wire Housings 42

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

TYPICAL APPLICATIONS





Single Row

	Post		Ta	ail
Base PN	mm	(in.)	mm	(in.)
68015	5.84	0.230	2.29	0.095
68016	5.84	0.230	3.05	0.120

Double Row

	Post		Та	ail
Base PN	mm	(in.)	mm	(in.)
68020	5.84	0.230	2.41	0.095
68021	5.84	0.230	3.05	0.120





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

TECHNICAL DATA Physical

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

Electrical Performance

- Current rating: 3 A continuous
- Insulation resistance: 5000 M Ω 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

Reference Information

File no. E66906
 File no. LR46923
 Product drawing: By 5-digit base part number
 Product specification: BUS-12-114
 Specifications subject to change without notice.

MATING DATA

2.54 mm (.100")

Dubox™ Vertical receptacles	24
Dubox™ Low profile vertical	
receptacles	26,28



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

TYPICAL APPLICATIONS







Step-by-Step Design

- 1. Determine desired board spacing
- (0.50 mm increments)
 2. Select Dubox™ receptacle and calculate stack height
- Stack Height = Board Spacing Receptacle Height 3. Find the insertion depth from the chart below.
 - Calculate max./min. OAL OAL = Stack Height + solder side + Insertion
- Depth 4. Select the Pin Style with OAL between max. and min. values

Dubox™ RECEPTACLES

	Low Profile	Vertical
Height	7.00	8.50
Insertion Depth (max.)	6.10	6.10
Insertion Depth (min.)	3.86	4.34

Example:

- 1. Application requires a board spacing of 22.50 Select the Dubox[™] Low Profile Receptacle with height of 7.00
- The Header Stack Height is 22.50 7.00 = 15.503. For standard board applications, the 3.05 solder side is selected
 - OAL (max.) = 15.50 + 3.05 + 6.10 = 24.65OAL (min.) = 15.50 + 3.05 + 3.86 = 22.41
- Select Pin Style 08 with OAL = 23.50
 Part Number is 54122-108721550LF

SHUNTS 2.54 mm (.100")



- 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
- Pin: Phosphor-bronze
- Low profile only
- 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 Ω min.
- Contact resistance: 15 M Ω max. initial, 20 Ω m 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

-55°C to +120°C

Packaging Plastic bags



Reference Information

- File no. E66906
 File no. LR46923
 Product drawing: By 5-digit base number
 Product specification:
- BUS-12-071 Gold BUS-12-070 - Tin

Specifications subject to change without notice.

MATING DATA

- Continuous unshrouded headers 14
- Unshrouded vertical headers 10, 12
 Unshrouded right angle headers 16, 18

INSERTION DEPTH

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

RoHs INFORMATION

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

FCi

LF

PART NUMBER





Dubox[™] VERTICAL RECEPTACLES 2.54 mm (.100")



- 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 603-8

Electrical Performance

- Current rating:
- 3 A dc max. per individual contact 2 A dc max. per contact for fully energized connector
- Insulation resistance: 1x $10^5 \text{ M}\Omega$ min.
- Contact resistance: 15 m Ω max. initial, 20 m Ω 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

2.54 mm (.100")

Plastic boxes or tubes

Reference Information

A File no. E66906

- File no. LR46923
- Product drawing: By 5-digit base part number
- Product specification: HE 13/14 and IEC 603-8

Specifications subject to change without notice.



MATING DATA

BergStik®	Unshrouded		
vertical hea	aders	10,	12
BergStik®	Unshrouded		
right angle	headers	16,	18
BergStik®	Unshrouded		
stacking he	eaders		20
BergStik®	continuous Unshroude	ed	
headers			14

INSERTION DEPTH

- Top Entry: 3.86 mm min. to 6.81 mm max. [provides .381 mm wipe]
- Bottom Entry: 6.25 mm min. [provides
- .381 mm wipe] plus board thickness

PROCESSING INFORMATION

Compatible with wave soldering processes

RoHs INFORMATION

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

TYPICAL APPLICATIONS



2.54 mm (.100")

PART NUMBER







- ► 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
- 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
- lnsulation resistance: 1x 10⁵ M Ω min.
- Contact resistance: 15 m Ω max. initial,
- 20 m Ω 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) avg.
- Withdrawal force per gold contact: 0.30 N (30 gf) min.

Operating Temperature Range

-65°C to +125°C

Packaging

Plastic boxes or tubes

TYPICAL APPLICATIONS











Reference Information

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

Specifications subject to change without notice.

MATING DATA

BergStik [®] Unshrouded		
vertical headers	10,	12
BergStik [®] Unshrouded		
right angle headers	16,	18
BergStik [®] Unshrouded		
stacking headers		20
BergStik [®] continuous Unshroud	ed	

20 headers 14

INSERTION DEPTH

- Top Entry: 3.86 mm min. to 6.10 mm max. [provides .381 mm wipe]
- Bottom Entry: 5.08 mm min. [provides .381 mm wipe] plus board thickness

PROCESSING INFORMATION

Compatible with wave soldering processes

RoHs INFORMATION

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

71991 <mark>-</mark> 3XXLF

XX = 05 - 20



PRIORITY

PART





- 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: High-temperature, grey 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:
 - 3 A dc max. per individual contact 2 A dc max. per contact for fully energized connector
- Insulation resistance: 1x 10⁵ M Ω min.
- Contact resistance: 15 m Ω max. initial, 20 m Ω 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) avg.
- Withdrawal force per gold contact: 0.30 N (30 gf) min.

Operating Temperature Range

-65°C to +125°C

Packaging

2.54 mm (.100")

Tubes, Tape on Reel or plastic boxes

Reference Information

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

Tape and Reel packaging data : TA-856

Specifications subject to change without notice.



MATING DATA

BergStik [®] Unshrouded	
vertical headers	10, 12
BergStik [®] Unshrouded	
right angle headers	16, 18
BergStik [®] Unshrouded	
stacking headers	20

BergStik[®] continuous Unshrouded headers 14

INSERTION DEPTH

- Top Entry: 3.86 mm min. to 6.10 mm max. [provides .381 mm wipe]
- Bottom Entry: 5.08 mm min. [provides .381 mm wipe] plus board thickness

PROCESSING INFORMATION

- Compatible with wave, vapor-phase, and
 - IR reflow soldering processes
- Recommended IR profile: TA-842

RoHs INFORMATION

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

TYPICAL APPLICATIONS







D = (no. of pos. per row x 2,54) - 0,08

External Hold Downs



D = (no. of pos. per row x 2,54) + 5

E = (no. of pos. per row x 2,54) + 2,54

Internal Hold Downs



E = (no. of pos. per row x 2,54) - 5,00







*Note: available as of 3 position versions

not available in single row





Double Row + Pad lay-outs

top

entry

1.53

bottom

entrv →

1,4 ± 0,075 dia.

 2.54 ± 0.075

 $2,54 \pm 0,075$

1.27

\$99

866

24

72

89898

6.00

*Note: available as of 3 position versions



Dubox[™] HORIZONTAL RECEPTACLES 2.54 mm (.100")



- 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 temperature 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: $1 \times 10^5 \text{ M}\Omega$ min.
- Contact resistance: 15 m Ω max. initial, 20 m Ω max. after environmental tests
- Dielectric withstanding voltage: 1000 V

Mechanical Performance

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

Operating Temperature Range

-65°C to +125°C

Packaging

Standard: Tubes Optional: Tape-and-reel

Reference Information

R 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 Specifications subject to change without notice.



MATING DATA

ļ	BergStik®	Unshrouded		
	vertical hea	aders	10,	12
ļ	BergStik®	Unshrouded		
	right angle	headers	16,	18
ļ	BergStik®	continuous		
	Unshroude	ed headers		14

INSERTION DEPTH

5.00 mm min. to 7.50 mm max. [provides .381 mm wipe]

PROCESSING INFORMATION

- Series 89882, 89883: compatible with wave soldering processes
- Series 71607, 71609: 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

TYPICAL APPLICATIONS





2.54 mm (.100")





Dubox[™] SHROUDED HEADERS 2.54 mm (.100")



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

Electrical Performance

- Current rating: 3 A continuous
- lnsulation resistance: 1x $10^5 M\Omega$ 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

Tube

Reference Information

File no. E66906
File no. LR46923
Product drawing: By 5-digit base part number

Application specification: TA-531

Specifications subject to change without notice.



MATING DATA

Dubox™ Crimp-to-wire contacts34Dubox™ Crimp-to-wire housings36

PROCESSING INFORMATION

Compatible with wave soldering processes

RoHs INFORMATION

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

XX = 02, 03, 04, 05, 06, 08, 10



XX = 12 - 16





- 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: 15 mΩ 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

Operating Temperature Range

-65°C to +125°C

Packaging

- Reels
- Boxes Loose piece

Reference Information

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

Specifications subject to change without notice.

12

18

32

14

MATING DATA

BergStik [®] unshrouded	
straight headers	10
BergStik [®] unshrouded	
right angle headers	16
Dubox [™] shrouded	
vert./ra. headers	
BergStik [®] continuous	
unshrouded headers	



INSERTION DEPTH

- Discrete Wire: 3.56 mm min. to 5.59 mm max. [provides .381 mm wipe]
- Crimp-to-Wire Housing: 5.08 mm min. to 6.22 mm max. [provides .381 mm wipe in housing]

RoHs INFORMATION

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

TYPICAL APPLICATIONS



2.54 mm (.100")

PART NUMBER

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				







Dubox[™] CRIMP-TO-WIRE HOUSINGS 2.54 mm (.100")



- For use with Dubox[™] crimp-to-wire contacts
- Stackable end-to-end
- Passive latching, anti-reverse and anti-miss-match when used with Dubox[™] shrouded headers
- Contacts removable for easy repairability

TECHNICAL DATA

Physical

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

Electrical Performance

 Insulation resistance: 1x 105 MΩ min
 Dielectric withstanding voltage: 1000 V rms

Operating Temperature Range -65°C to +125°C

Packaging

Bulk

Reference Information

- **S** File no. E66906
- **I**File no. LR46923
- Product drawing: By 5-digit base part number
- Application specification: TA-317, TA-340

Specifications subject to change without notice.

TYPICAL APPLICATIONS



MATING DATA

BergStik [®] unshrouded	
vertical headers	10, 12
BergStik [®] unshrouded	
right angle headers	16, 18
Dubox™ shrouded	
headers	32

INSERTION DEPTH

▶ 4.0 mm min. to 6.0 mm max.

RoHs INFORMATION

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








PV[™] SHROUDED HEADERS 2.54 mm (.100")



- 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: 100000 m Ω min.

Dielectric withstanding voltage: 1000 V

Mechanical Performance

Contact retention to housing: 17.76 N min.

Operating Temperature Range -40°C to +95°C

Packaging

Bags

Reference Information

S 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

Specifications subject to change without notice.

MATING DATA

PV™	Crimp-to-wire contact	40
PV™	crimp-to-wire housings	42

PROCESSING INFORMATION

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











PV[™] CRIMP-TO-WIRE CONTACTS 2.54 mm (.100")



- 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 Ω min.
- Contact resistance after environmental test: 15 m Ω max. - Contact
- Dielectric withstanding voltage: 1000 V

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

Reels

Reference Information

Boxes - Loose piece

- **S** File no. E66906
- **S** File no. LR46923
- Product drawing: By 5-digit base part number
- Product specification: BUS-12-067 Contact
- Application specification: TA-75, TA-146 - Contact

Specifications subject to change without notice.

MATING DATA

- Continuous unshrouded headers 14
- Unshrouded vertical headers 10, 12
- Unshrouded right angle headers 16



INSERTION DEPTH

- Discrete Wire: 3.56 mm (.140") min. to 5.59 mm (.220") max.
- [provides . 381 mm (.015") wipe]
- Crimp-to-Wire Housing: 5.08 mm (.200") min. to 6.22 mm (.245") max. [provides . 381 mm (.015") wipe in housing]

TYPICAL APPLICATIONS



HOW TO	SELECT
THE RIG	Select Application
Step 2	Select Spring Force
Step 3	Select Wire Size

5-Diait	Rase	Part	Number
J Digit	Dusc	1 ui t	Number

3-Digit Dash Number

1 		2
Applicat	tion	Spring Force
Housing		
40-72	Contacts Per Housing	Standard
10-50	Contacts Per Housing	High
2-20	Contacts Per Housing	Ultra High
Discret	te Contact	Ultra High

Wire Size (AWG)	Application Spring Force	Part Number
18, 20	Standard	48231-000
or two 22	High	48047-000
or two 24	Ultra High	48052-000
22, 24, 26	Standard	48049-000
or two 26	High	48046-000
or two 28	Ultra High	48051-000
28, 30, 32	Standard	48048-000
or two 30	High	48045-000
or two 32	Ultra High	48050-000
	Standard	75543-015
32, 34, 36	High	75543-013
	Ultra High	75543-017



PV[™] CRIMP-TO-WIRE HOUSINGS 2.54 mm (.100")



- Lowest profile housing in the industry
- Designed for use with our high reliability PV[™] Contact

TECHNICAL DATA Physical

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

Electrical Performance

Insulation resistance: 100,000 M Ω min Dielectric withstanding voltage: 1000 V min.

Mechanical Performance

Contact retention to housing: 17.76 N min.

Operating Temperature Range

-40°C to +105°C

Packaging

Bags

Reference Information

- **S** File no. E66906 **G** File no. LR46923
- Product drawing: By 5-digit base part number
- Product specification: BUS-12-067
- Application specification: TA-531
- Specifications subject to change without notice.

TYPICAL APPLICATIONS



MATING DATA

- Continuous unshrouded headers 14
- Unshrouded vertical headers 10, 12
- Unshrouded right angle headers 16

INSERTION DEPTH

5.08 mm (.200") min. to 6.22 mm (.245") max. [provides .381 mm (.015") wipe in housing]









65039 = Single Row

78211 = Single Row with Center Key

65043 = Double Row

65846 = Double Row with Center Key

	Sing	le Row		Double Row	
Total Positions	65039	78211	Total Positions	65043	65846
1	-036		4	-035	-014
2	-035		6	-034	-015
3	-034	-003	8	-033	-016
4	-033	-004	10	-032	-010
5	-032	-005	12	-031	-017
6	-031	-006	14	-030	-007
7	-030	-007	16	-029	-011
8	-029	-008	18	-028	-008
9	-028	-009	20	-027	-006
10	-027	-010	22	-026	-018
11	-026	-011	24	-025	-001
12	-025	-012	26	-024	-019
13	-024	-013	28	-023	-020
14	-023	-014	30	-022	-002
15	-022	-015	32	-021	-021
16	-021		34	-020	-022
17	-020		36	-019	-023
18	-019		38	-018	-003

	Sing	le Row		Double Row	
Total Positions	65039	78211	Total Positions	65043	65846
19	-018		40	-017	-024
20	-017		42	-016	-025
21	-016		44	-015	-004
22	-015		46	-014	-026
23	-014		48	-013	-027
24	-013		50	-012	-012
25	-012		52	-011	-028
26	-011		54	-010	-005
27	-010		56	-009	-029
28	-009		58	-008	-030
29	-008		60	-007	-013
30	-007		62	-006	-031
31	-006		64	-005	-009
32	-005		66	-004	-032
33	-004		68	-003	-033
34	-003		70	-002	-034
35	-002		72	-001	-035
36	-001				



Quickie[™] SHROUDED LOW PROFILE HEADERS 2.54 mm (.100")



- 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 or tin over 1.27 µm (50µ") nickel

Electrical Performance

- Current rating: 3 A continuous
- Insulation resistance: 10,000 M Ω min
- Dielectric withstanding voltage: 500 V min.

Mechanical Performance

Pin retention to housing: 20 N min.

Operating Temperature Range

-65°C to +125°C

Packaging

Tubes



50

Reference Information

- **File no. E66906**
- **G** File no. LR46923
- Product drawing: By 5-digit base part number

Product specification: BUS-12-082 Specifications subject to change without notice.

MATING DATA

Quickie[™] IDC receptacles

PROCESSING INFORMATION

Compatible with wave soldering processes

RoHs INFORMATION

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

LATCHING STYLES



5-Digit Base Part Number	Pla	ting	Р	Total ositions	LF
Through mount 75869 = Vertical 75867 = Right angle				30 = 4 pos. 31 = 6 pos. 32 = 8 pos. 01 = 10 pos. 02 = 14 pos. 03 = 16 pos. 04 = 20 pos. 05 = 26 pos. 06 = 34 pos	
1 = 0.76 μ m (30 μ ") gold on mating area, tin on solder s 2 = tin 3 = 0.38 μ m (15 μ ") gold on mating area, tin on solder s	ide ide			07 = 40 pos. 08 = 50 pos. 09 = 60 pos. 10 = 64 pos.	



Dimensions in mm

Technical / Application Support / Drawings / Specifications / Samples: www.fciconnect.com/basics

45



- 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 or tin over 1.27 μm (50μ") nickel

Electrical Performance

- Current rating: 3 A continuous
- Insulation resistance: 10,000 M Ω min.
- Dielectric withstanding voltage: 500 V rms

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: Tube with pick-up cap



Reference Information

- **A** File no. E66906
- G: File no. LR46923
- Product drawing: By 5-digit base part number

Product specification: BUS-12-055 Specifications subject to change without notice.

MATING DATA

Quickie™ IDC receptacles

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

TYPICAL APPLICATIONS





50

8.64

(.340)

PART NUMBER

SMT (Surface Mount)



Recommended PCB Layout



Selective plating

Recessed pins assure proper alignment and eliminate damage during mating

TECHNICAL DATA Physical



- Housing: Glass filled, thermoplastic polyester, grey
- Flammability rating: UL 94 V-0

Electrical Performance

- Current rating: 3 A continuous
- Insulation resistance: 10,000 M Ω min
- Dielectric withstanding voltage: 1500 V

Mechanical Performance

Pin retention to housing: 20 N min.

Operating Temperature Range -65°C to +125°C

Packaging

Tubes

Reference Information

SU File no. E66906

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

Specifications subject to change without notice.









MATING DATA

Quickie™ IDC receptacles 50

PROCESSING INFORMATION

Compatible with wave soldering processes

RoHs INFORMATION

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





Quickie[™] IDC RECEPTACLES 2.54 mm (.100")

🥩 🕈 🕹 🕹 🕹

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: 50,000 M Ω min.
- Contact resistance: 15 m Ω max.
- Dielectric withstanding voltage: 1000 V min. rms (sea level)

Mechanical Performance Mating cycles (durability): 100

Operating Temperature Range

►-65°C to +125°C

Packaging

Tubes

Reference Information

File no. E66906 File no. LR46923

- Product drawing: By 5-digit base part number
- Product specification: BUS-12-095

Specifications subject to change without notice.

MATING DATA

BergStik [®] unshrouded	
vertical headers	10, 12, 14
Quickie [®] shrouded	
low profile headers	44, 46
Quickie [®] shrouded	
eject latch headers	48

RoHs INFORMATION

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



TYPICAL APPLICATIONS







Dimensions in mm

2.54

Quickie[™] IDC 2-ROW PCB CONNECTORS 2.54 mm (.100")



 Ideal 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: 50,000 M Ω min.
- Contact resistance: 15 m Ω max.
- Dielectric withstanding voltage: 1000 V min.

Operating Temperature Range

►-65°C to +125°C

Packaging

Tubes

Reference Information

File no. E66906
File no. LR46923
Product drawing: By 5-digit base part number

Product specification: 110-019

Specifications subject to change without notice.

PROCESSING INFORMATION

Compatible with wave and vapor phase soldering processes — Low temperature

RoHs INFORMATION

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



PART NUMBER Total LF Positions = 6 pos. = 18 pos. = 34 pos. = 8 pos. = 20 pos. = 40 pos. = 10 pos. = 24 pos. = 50 pos. = 14 pos. = 26 pos. = 60 pos. = 16 pos. = 30 pos. = 64 pos.





TECHNICAL DATA

Physical

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

Electrical Performance

- Current rating: 1 A continuous
- Insulation resistance: 1000 M Ω min.
- Contact resistance: 25 m Ω 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

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

Specifications subject to change without notice.

TYPICAL APPLICATIONS





MATING DATA

Minitek™ ctw contacts	
and housings	68
Ninitek™ Vertical receptacles	60
Ninitek™ Shunts	62
Minitek™ IDC receptacles	70

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













High temperature plastic
 Selective plating

TECHNICAL DATA

Physical

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

Electrical Performance

- Current rating: 1 A continuous
- Insulation resistance: 1000 M Ω min.
- Contact resistance: 25 m Ω 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)

Reference Information

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

Specifications subject to change without notice.

TYPICAL APPLICATIONS





MATING DATA

Minitek™ ctw contacts	
and housings	68
Minitek™ Vertical receptacles	60
Ninitek™ Shunts	62
Minitek™ IDC receptacles	70

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







- 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 1.27 μm nickel

Electrical Performance

- Current rating: 2 A continuous
- Insulation resistance: 1000 M Ω min.
- Contact resistance: 25 m Ω 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

Reference Information

File no. E66906
 File no. LR46923
 Product drawing: 59112, 59132, or 59202
 Product specification: DPS-12-011
 Specifications subject to change without notice.

TYPICAL APPLICATIONS









MATING DATA

Minitek™ ctw contacts	
and housings	68
Minitek™ Vertical receptacles	60
Ninitek™ Shunts	62
Minitek™ IDC receptacles	70

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









13.92

15.42

17.40

19.41

34

36

38

40

15.60

17.09

19.08

21.08





Step-by-Step Design 1. Determine desired board spacing

- Select receptacle and calculate stack height
- Select receptacle and calculate stack height Stack Height = Board Spacing Receptacle Height
 Find the insertion depth from the chart below. Calculate max./min. OAL OAL = Stack Height + Tail + Insertion Depth
 Select the Pin Style with OAL between max.

and min. values

	RECEPTACLES		
Height (mm)	4.50	2.30	
Insertion Depth (max.)	4.30	2.20	
Insertion Depth (min.)	3.00	1.30	

Example:

- 1. Application requires a board spacing of 12.5 mm Select the appropriate receptacle, in this case
- 4.5 mm height (SMT) The Header Stack Height is 12.5 - 4.5 = 8.0 mm
- 3. For 1,6 mm board application (TMT), the 2.5 Solder side is selected
- OAL (max.) = 12.5 + 2.5 + 4.3 = 19.3
- OAL (min.) = 12.5 + 2.5 + 3.0 = 18.04. Select Pin Style 38 with OAL = 19.08 mm
- 5. Part Number is 59112-G3810-080LF

Minitek[™] VERTICAL RECEPTACLES 2.00 mm (.079")



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

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 2 A - 63453
 Insulation resistance: 1000 MΩ min.
 Contact resistance: 20 mΩ 25 mΩ - 63453
 Dielectric withstanding voltage: 500 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)

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
 Specifications subject to change without notice.

MATING DATA

Minitek™
 Unshrouded headers
 54, 56, 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

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

TYPICAL APPLICATIONS







2.00 mm (.079")





Minitek[™] SHUNTS 2.00 mm (.079")



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: 1000 M Ω min.
- Contact resistance: 25 m Ω max.
- 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

-40°C to +105°C

Packaging

Bags

Reference Information

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

Specifications subject to change without notice.

MATING DATA

Minitek™

Unshrouded headers 54, 56, 58 Minitek™ Shrouded headers 64, 66

INSERTION DEPTH

2.24 mm min. [provides .381 mm wipe]

RoHs INFORMATION

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



8 6 7 3 0 Plating 0 1 LF 1 0 0 1 LF 1 0 1 LF 1 0 0 1 LF 0 0 1 LF 1 0 0 1 LF 0



Minitek[™] SHROUDED VERTICAL HEADERS 2.00 mm (.079")



- 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 over 1.27 µm (50 µ") nickel





- Current rating: 2 A continuous
- Insulation resistance: 1000 M Ω min.
- Contact resistance: 25 m Ω 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)



Reference Information

File no. E66906 G File no. LR46923 Product drawing:

98414 or 98424 Product specification: DPS-12-011 and GS-12-163 Tape and Reel packaging data TA-884 Specifications subject to change without notice.

MATING DATA

Minitek™ ctw contacts	
and housings	68
Ninitek™ Vertical receptacles	60
Ninitek™ Shunts	62
Minitek™ IDC receptacles	70

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

TYPICAL APPLICATIONS







2.00 mm (.079")







 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 over 1.27 μm (50 μ") nickel

Electrical Performance

- Current rating: 2 A continuous
- Insulation resistance: 1000 M Ω min.
- Contact resistance: 25 m Ω 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 to 06 pos. packed in box)



Reference Information

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

Specifications subject to change without notice.

MATING DATA

Minitek™ ctw contacts	
and housings	68
Ninitek™ Vertical receptacles	60
Ninitek™ Shunts	62
Minitek™ IDC receptacles	70

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

TYPICAL APPLICATIONS









Minitek[™] CRIMP-TO-WIRE CONTACTS AND HOUSINGS 2.00 mm (.079")



- 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: 1000 M Ω min.
- Contact resistance: 20 m Ω max.
- 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 (20 gf) min.

Operating Temperature Range

-40°C to +105°C

Packaging

- Reels Contacts
- Bags Housings

TYPICAL APPLICATIONS



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

Specifications subject to change without notice.

MATING DATA

- Minitek™
- Unshrouded headers 54, 56, 58 Minitek™ Shrouded headers 64, 66

INSERTION DEPTH

- 2.40 mm min. to 3.30 mm max. [provides .381 mm wipe]
- 3.63 mm min. to 4.00 mm max. [provides .381 mm wipe in housing]

RoHs INFORMATION

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







PART NUMBER LF Plating 5-Digit Base Part Number 0 Г г **1** = 0,76 μm (30μ") Gold on mating area, 2-6 μm (79-237μ") Tin on solder side 77138 = 26 AWG to 30 AWG 77139 = 32 AWG to 36 AWG **0** = Gold flash Housings Total 5-Digit Base Part Number LF 0 Positions Г Î 69307 = Double Row 04 to 50 (Double Row) 90311 = Double Row with Center Key





Minitek[™] IDC RECEPTACLES 2.00 mm (.079")



- 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: 1000 M Ω min.
- Contact resistance: 30 m Ω max.
- 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
 Specifications subject to change without notice.

TYPICAL APPLICATIONS









MATING DATA

Minitek™

Unshrouded headers 54, 56, 58 Minitek™ Shrouded headers 64, 66

INSERTION DEPTH

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

RoHs INFORMATION

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







DUBOX[™] CONTACT

HAND TOOL HT 234

- Simple and reliable
- Low operation force
- Lightweight hand tool
 Contains two toolings (AWG 22-24,
- AWG 26-30)



ORDERING DATA

For use with Dubox™ contacts, loose piece					
Part number	76357-x01	AWG 22-24/26-30	HT 234		

HAND TOOL HT 250 / HT 251

 Simple and reliable
 Low operation force
 Lightweight hand tool
 Reel fed
 Seperate toolings: HT 250 for AWG 22-24 HT 251 for AWG 26-30
 For use with Dubox[™] contacts, on reel



ORDERING DATA

Dimensions (h x w)

For use with Dubox [™]	contacts, on reel		
Part number	76347-x03	AWG 22-24	HT 250
Part number	76347-x03	AWG 26-30	HT 251
Application rate/hour	500 (depending on operator dexterity)		
Weight	1 kg		

305 x 230 mm


DUBOX[™] CONTACT

STRIPPER-CRIMPER DX 271

- Simple operation
- High speed crimping
- Strips and crimps the wire in one operation

DX 271 Press & Tooling	AWG 24-26	191230-01
Tooling Kit	AWG 24-26	193830-01
Tooling Kit, small insulation	AWG 20-22	193830-02
Tooling Kit, small insulation	AWG 28-32	193830-03
DX 271 Press only		191000-00

Lightweight construction

Pneumatically operated

Adjustable tooling

High quality results

Application rate/hour	1800 (depending on operator dexterity)
Weight	32 kg
Dimensions (h x w x d)	980 x 600 x 400 mm
Working height above table	85 mm
Air consumption / min.	61 NI
Air pressure	5-6 Bar



BergStik[®] HEADER

CUTTING TOOL HT 320

Simple and reliable
 Low operation force
 Lightweight hand tool



ORDERING DATAFor use with BergStik® HeadersPart number77311, 77313, 77315, 77317

HT 320



MINITEKTM CONTACT

STRIPPER-CRIMPER MK 271

- Simple and reliable
- High speed crimping
- Strips and crimps the wire in one operation
- Lightweight construction
- Pneumatically operated
- Adjustable tooling
- High quality results

ORDERING DATA

MK 271 Press & Tooling	AWG 26-30	193315-01
Tooling Kit	AWG 26-30	193317-01
DX 271 Press only		193316-01

Application rate/hour	1500 (depending on operator dexterity)
Weight	32 kg
Dimensions (h x w x d)	980 x 600 x 400 mm
Working height above table	85 mm
Air consumption / min.	61 NI
Air pressure	5-6 Bar



HAND TOOL HT 151 / HT 152

- Lightweight hand tool
 Rugged
 Ratched-action handle
- assures complete crimp cycle



ORDERING DATA

For use with Dubox[™] contacts, on reel

Д	AWG 26-30	HT 151
A	WG 32-36	HT 152



DUBOX[™] CONTACT

STRIPPER-CRIMPER DX 271

Simple operation
 Reliable
 Pneumatically operated

Low maintenance cost
 High quality results

ORDERING DATA

AWG 26-30	194294-01
AWG 32-36	194294-02
1800 (depending on operator dexterity)	
25 kg	
710 x 560 x 400 mm	
110 mm	
28 NI	
5-6 Bar	
220-240V, 50Hz, 0,5A	
	AWG 26-30 AWG 32-36 1800 (depending on operator dexterity) 25 kg 710 x 560 x 400 mm 110 mm 28 NI 5-6 Bar 220-240V, 50Hz, 0,5A





PV™ CONTACT

APPLICATION TOOLING

- ▶ PV[™]-250A Semi-automatic Crimping
 - Easy to use
 - Pneumatically operated
 - Low cost
 - Estimated 1000 crimps per hour
- Machine Part Number
 - 107416-101 (18-20AWG)
 - 107416-102 (22-26AWG)
 - 107416-103 (28-32AWG)
- OL-740 Semi-automatic Two Ton Bench Press
 - Uses quick-changing, adjustable crimping applicators for different terminals and wire sizes
 - Most rugged construction
 - Easy to use
 - Electrically operated
 - Estimated 2400 crimps per hour
- Machine Part Number
 - 133911-102
 - (does not include applicator)
- Applicator Tooling Part Numbers
 - 133867-104 (18-20AWG)
 - 133867-105 (22-26AWG)
 - 133867-106 (28-32AWG)
- Ratcheting Hand Crimping Tool
- Part Number
 - HT-0073 (for 18-20 AWG Wire)
 - HT-0096 (for 22-32 AWG Wire)
 - HT-0112 (for 32-36 AWG Wire)
- ▶ PV[™] Contact Removable Tool
- Part Number
 - HT-0080



BASE PART NUMBER	PAGE	BASE PART NUMBER	PAGE
48045	41	72454	47
48046	41	75543	41
48047	41	75867	45
48048	41	75869	45
48049	41	75915	25
48050	41	76341	27
48051	41	76342	27
48052	41	76347	35
48231	41	76357	35
55508	61	76382	33
55510	61	76383	33
57102	55	76384	33
57202	55	76385	33
59112	59	77138	69
59132	59	77139	69
59202	59	77311	11
63429	23	77313	11
63453	61	77315	17
65039	43	77317	17
65043	43	78207	39
65239	37	78208	30
65240	37	78211	/3
65846	/3	86730	63
67006	13 15	87606	25
67007	13,15	89361	71
68000	13,15	80882	31
68001	13, 15	80883	21
68002	13, 15	80801	25
68015	10	80808	20
69016	17	87676	71
69020	19	07947	60
69020	19	90311	61
<u>68602</u>	12 15	91590	20
68002	13, 15	91601	29
08780 4014E	23	91014	29
69145	23	91015	29
09107	39	91018	29
09108		95278	11
<u>69307</u>	<u> </u>	95293	11
71400	<u> </u>	<u>98401</u>	
71000	51	<u>98414</u>	65
/160/	31	98423	5/
/1609	31	98424	65
/1918	49	98464	6/
/1920	25	10056844	4 /
/1922	49	10056845	47
71991	27		

NOTES



For more information about e-catalog or FCI sales offices, headquarters, agents and local distributors, visit www.fciconnect.com

