

DUBOX™ SHUNTS



FEATURES & BENEFITS

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



TECHNICAL INFORMATION

MATERIALS

- Housing: High temperature, black thermoplastic
- Flammability rating: UL94V-0
- Pin: Phosphor-bronze
- Plating: Gold or tin over 1.27µm (50µin.) nickel

ELECTRICAL PERFORMANCE

- Current rating: 2.5A max. per contact
- Insulation resistance: 50,000MΩ min
- Contact resistance: 15MΩ max. initial, 20MΩ max. after environmental tests
- Dielectric withstanding voltage: 800V

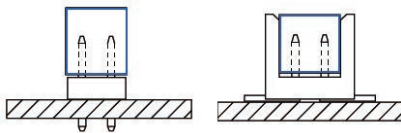
ENVIRONMENTAL

- Operating temperature range: -65°C to +125°C

MECHANICAL PERFORMANCE

- Mating cycles (durability): 50-Gold, 25-Tin
- Insertion force:
 - 450gf max. per gold contact
 - 500gf max. per tin-lead contact
- Withdrawal force:
 - 30gf min. per gold contact
 - 30gf min. per tin-lead contact
- Insertion depth:
 - 4.85 mm (.191in.) min.[provides 3.81 mm (.015in.) wipe] – Low profile

TYPICAL APPLICATIONS



SPECIFICATIONS

-  File no. E66906
-  File no. LR46923
- Product drawing: By 5-digit base part number
- Product specification: BUS-12-071-gold
BUS-12-070-tin

APPROVALS AND CERTIFICATIONS

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

PACKAGING

- Plastic bags

PART NUMBERS

CORE RANGE

68786 — **202LF**

LOW PROFILE

68786 — **PLATING** **02** **LF**

0.76µm (30µin.) gold	2
Tin	3

STANDARD

63429 — **PLATING** **02** **LF**

0.76µm (30µin.) gold	2
Tin	3

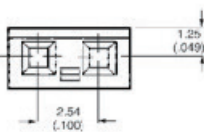
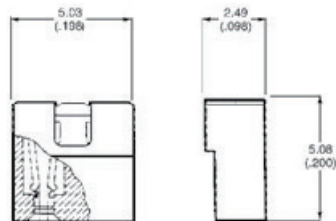
MULTI-POSITION

69145 — **PLATING** **NUMBER OF POSITIONS** **LF**

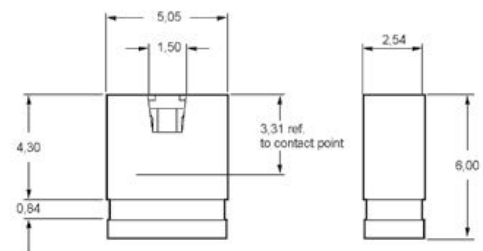
0.76µm (30µin.) gold	2
Tin	3

4 to 20 positions

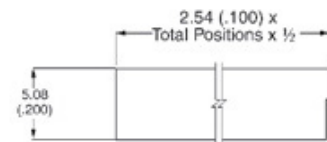
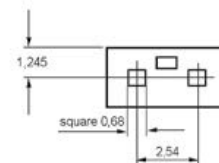
PRODUCT



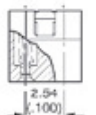
68786



63429

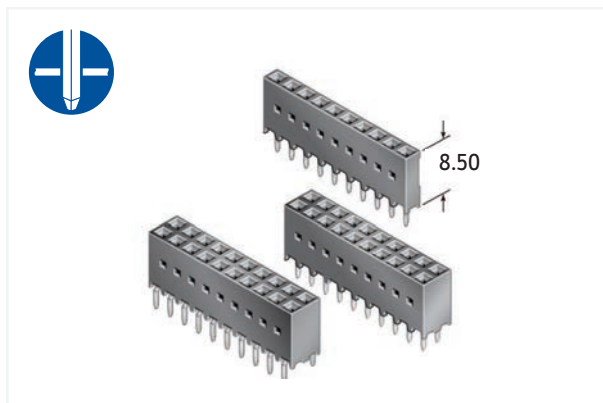


69145



Dimension in mm

DUBOX™ VERTICAL RECEPTACLES



FEATURES & BENEFITS

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

TECHNICAL INFORMATION

MATERIALS

- Housing: Glass filled thermoplastic polyester, blue
- Flammability rating: UL94V-0
- Pin: Phosphor-bronze
- Plating: Gold or tin in accordance with IEC 603-81

ELECTRICAL PERFORMANCE

- Current rating: 3A max. per individual contact
2A DC max. per contact for fully energized connector
- Insulation resistance: $1 \times 10^5 \text{M}\Omega$ min.
- Contact resistance: $15 \text{M}\Omega$ max. initial,
 $20 \text{M}\Omega$ max. after environmental tests
- Dielectric withstanding voltage: 1000V RMS

ENVIRONMENTAL

- Operating temperature range: -65°C to $+125^\circ\text{C}$

MECHANICAL PERFORMANCE

- Mating cycles (durability): 200
- Insertion force per gold contact: 1.50 N (150gf) max.
- Withdrawal force per gold contact: 0.30 N (30gf) min.
- Insertion depth:
 - Top entry: 3.6mm min. to 6.81mm max.
[provides .381mm wipe]
 - Bottom entry: 7mm min.
[provides .381mm wipe] plus board thickness

SPECIFICATIONS

-  File no. E66906
-  File no. LR46923
- Product drawing: By 5-digit base part number
- Product specification: HE 13/14 and IEC 603-8

APPROVALS AND CERTIFICATIONS

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

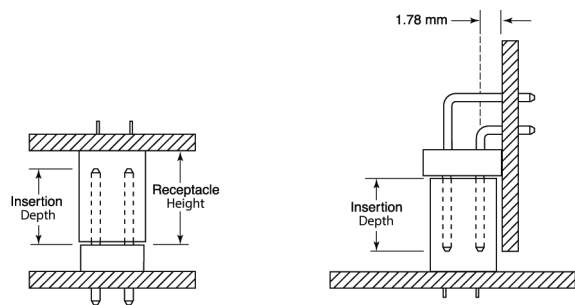
PACKAGING

- Plastic boxes or tubes

PROCESSING INFORMATION

- Compatible with wave soldering processes

TYPICAL APPLICATIONS

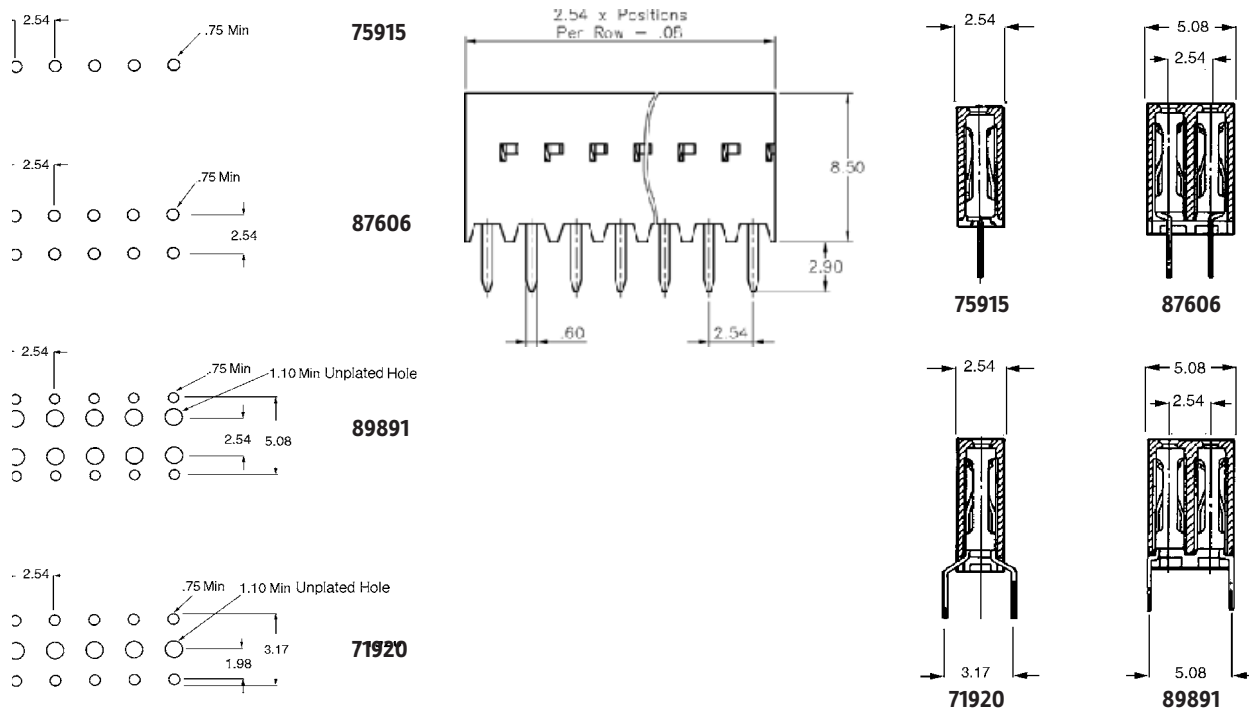


PART NUMBERS

5 DIGIT BASE PART NUMBER	PLATING	POSITIONS PER ROW	LF
Single row, top entry	0.76 µm (30µin.) gold on mating area, tin on solder side	3	02 to 36*
Single row, dual entry			
Double row, top entry			
Double row, dual entry			
75915			
71920			
87606			
89891			

*Other sizes available on request

PRODUCT



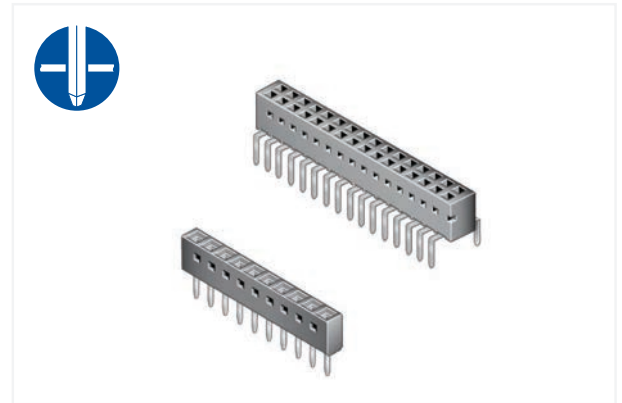
Recommended PCB layouts

Dimension in mm

Disclaimer

Please note that the above information is subject to change without notice.

DUBOX™ VERTICAL RECEPTACLES LOW PROFILE



FEATURES & BENEFITS

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

TECHNICAL INFORMATION

MATERIALS

- Housing: Glass filled thermoplastic polyester, blue
- Flammability rating: UL94V-0
- Pin: Phosphor-bronze
- Plating: Gold or tin over 1.27µm (50µin.) nickel

ELECTRICAL PERFORMANCE

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

ENVIRONMENTAL

- Operating temperature range: -65°C to +125°C

MECHANICAL PERFORMANCE

- Mating cycles (durability): 200
- Insertion force per gold contact: 1.50 N (150gf) max.
- Withdrawal force per gold contact: 0.30 N (30gf) min.
- Insertion depth:
 - Top entry: 3.6mm min. to 6.7mm max.
[provides .381mm wipe]
 - Bottom entry: 6mm min.
[provides .381mm wipe] plus board thickness

SPECIFICATIONS

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

APPROVALS AND CERTIFICATIONS

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

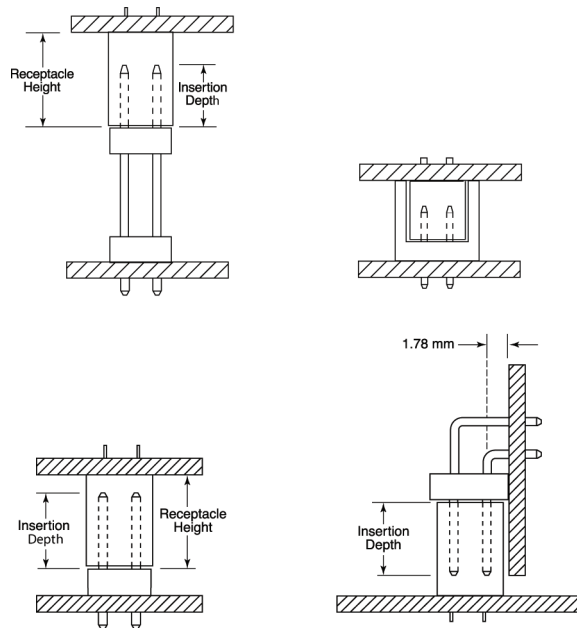
PACKAGING

- Plastic boxes or tubes

PROCESSING INFORMATION

- Compatible with wave soldering processes

TYPICAL APPLICATIONS

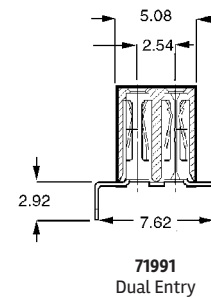
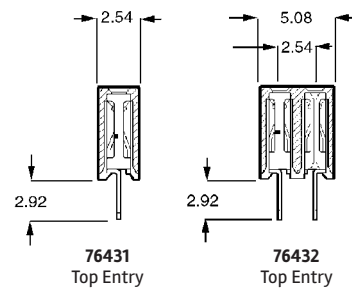
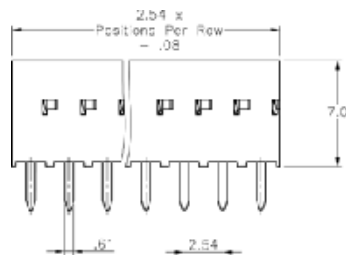
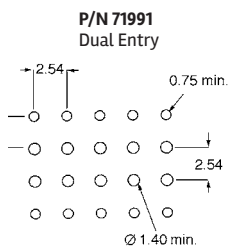
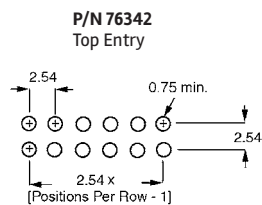
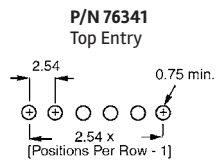


PART NUMBERS

5 DIGIT BASE PART NUMBER		PLATING	POSITIONS PER ROW	(H)	LF
Single row, top entry	76341	0.76µm (30µin.) gold on mating area, tin on solder side	3		02 to 36*
Double row, top entry	76342				
Double row, dual entry	71991				

*Other sizes available on request

PRODUCT



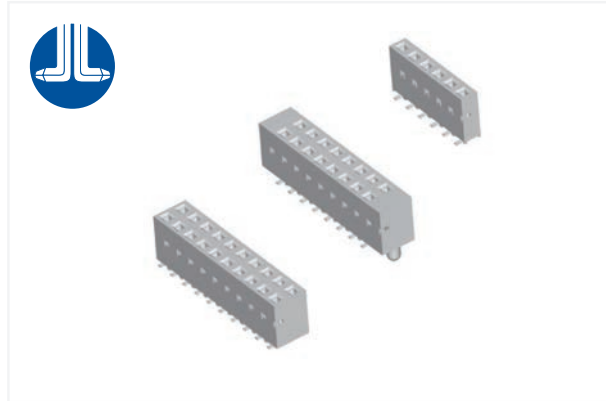
Recommended PCB layouts

Dimension in mm

Disclaimer

Please note that the above information is subject to change without notice.

DUBOX™ VERTICAL RECEPTACLES LOW PROFILE



FEATURES & BENEFITS

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

TECHNICAL INFORMATION

MATERIALS

- Housing: High temperature body, grey
- Flammability rating: UL94V-0
- Pin: Phosphor-bronze
- Plating: Gold or tin over 1.27µm (50µin.) nickel

ELECTRICAL PERFORMANCE

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

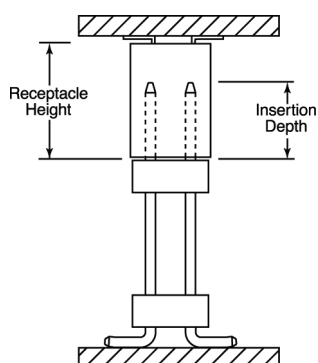
ENVIRONMENTAL

- Operating temperature range: -65°C to +125°C

MECHANICAL PERFORMANCE

- Mating cycles (durability): 200
- Insertion force per gold contact: 1.50 N (150gf) max
- Withdrawal force per gold contact: 0.30 N (30gf) min
- Insertion depth:
 - Top entry: 3.6mm min. to 6.7mm max.
[provides .381mm wipe]
 - Bottom entry: 6mm min.
[provides .381mm wipe] plus board thickness

TYPICAL APPLICATIONS



SPECIFICATIONS

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

APPROVALS AND CERTIFICATIONS

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

PACKAGING

- Plastic boxes or tubes
- Tape-and-reel as available

PROCESSING INFORMATION

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

PART NUMBERS

CORE RANGE

89898 — 3XXALF

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

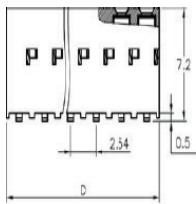
5 DIGIT BASE PART NUMBER	—	PLATING	POSITIONS PER ROW	OPTION	LF	
Single row, dual entry		91601	02 to 25	Single row	Standard-tubes	—
Single row, with external locating pegs, dual entry		91614	02 to 25	Double row	Tape-and-reel packaging with pick-up cap*	A
Double row, dual entry		89898	0.76µm (30µin.) gold on mating area, tin on solder side	3		
Double row with external locating pegs, dual entry		91615				
Double row with internal locating pegs, dual entry		91618				

*as available

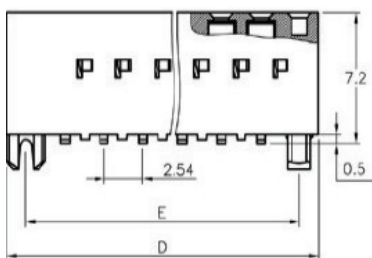
*as available

PRODUCT

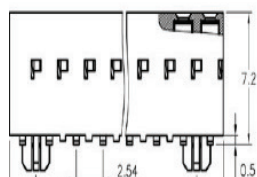
STANDARD



EXTERNAL LOCATING PEGS

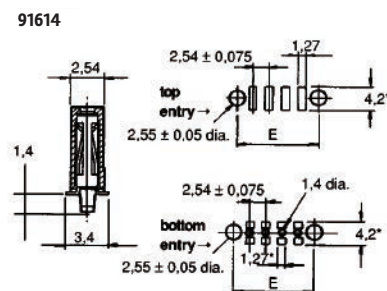
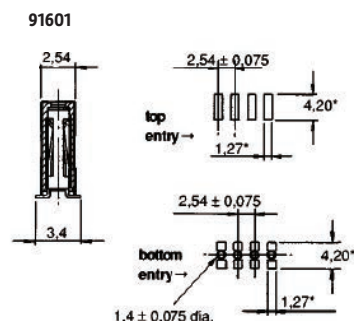


INTERNAL LOCATING PEGS



Dimension in mm

SINGLE ROW + PAD LAYOUTS

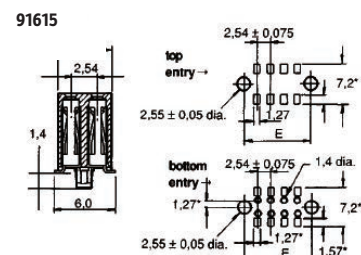
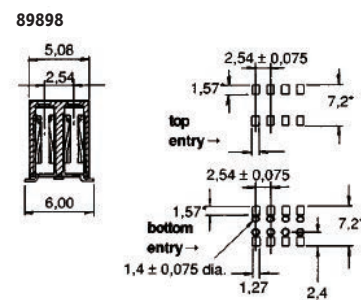


*Note: Available as of 3 positions versions

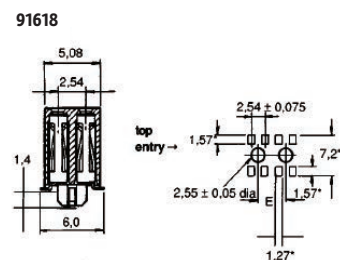
Not available in single row

Note: All dimensions marked with * are minimum dimensions

DOUBLE ROW + PAD LAYOUTS

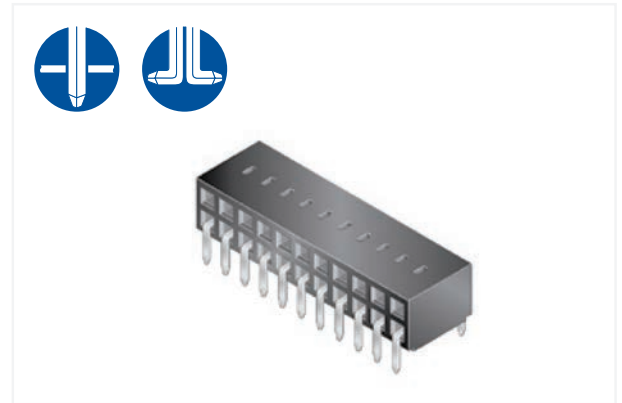


*Note: Available as of 3 positions versions



*Note: available as of 6 number of positions

DUBOX™ HORIZONTAL RECEPTACLES



FEATURES & BENEFITS

- 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 INFORMATION

MATERIALS

- Housing:
 - Blue thermoplastic –Through hole
 - High temp. grey thermoplastic – Surface mount
- Flammability rating: UL94V-0
- Pin: Phosphor-bronze
- Plating: Gold or tin over 1.27µm (50 µin.) nickel

ELECTRICAL PERFORMANCE

- Current rating: 3A DC max. per individual contact
2A DC max. per contact for fully energized connector
- Insulation resistance: $1 \times 10^5 \text{M}\Omega$ min.
- Contact resistance: 15MΩ max. initial,
20MΩ max. after environmental tests
- Dielectric withstanding voltage: 1000V RMS

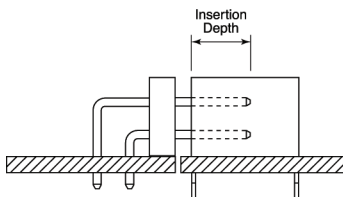
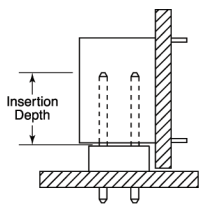
ENVIRONMENTAL

- Operating temperature range: -65°C to +125°C

MECHANICAL PERFORMANCE

- Mating cycles (durability): 200
- Insertion force per gold contact: 1.50 N (150gf) max.
- Withdrawal force per gold contact: 0.30 N (30gf) min.
- Insertion depth:
 - 3.6mm min. to 7.50mm max.
 - [provides .381mm wipe]

TYPICAL APPLICATIONS



SPECIFICATIONS

-  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

APPROVALS AND CERTIFICATIONS

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

PACKAGING

- Standard: Tubes
- Optional: Tape-and-reel

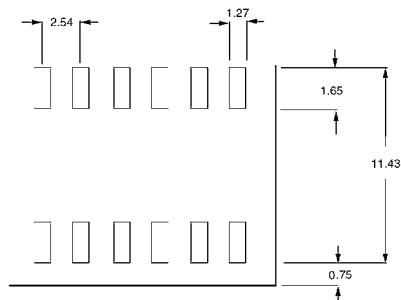
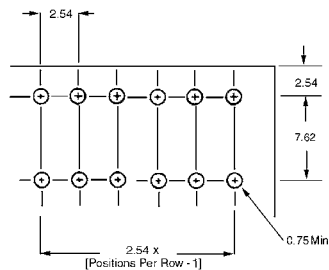
PROCESSING INFORMATION

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

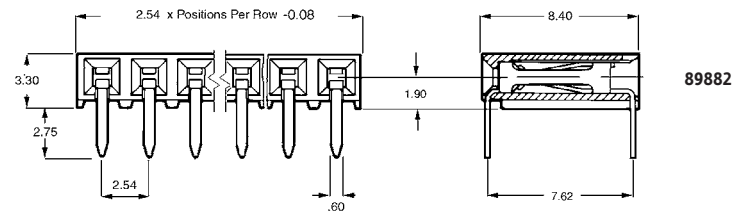
PART NUMBERS

5 DIGIT BASE PART NUMBER	PLATING	POSITIONS PER ROW	ALF
Through hole (TMT), single row	89882	02 to 36 (TMT)	
Through hole (TMT), double row	89883	02 to 25 (SMT)	
Surface mount (SMT), single row	71607		
Surface mount (SMT), double row	71609		
0.76µm (30µin.) gold on mating area, tin on solder side			3

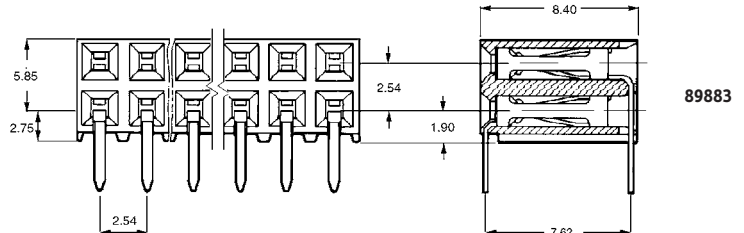
PRODUCT



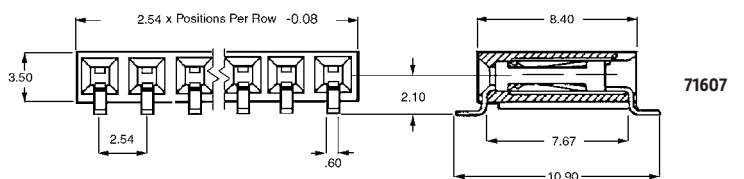
Recommended PCB layouts



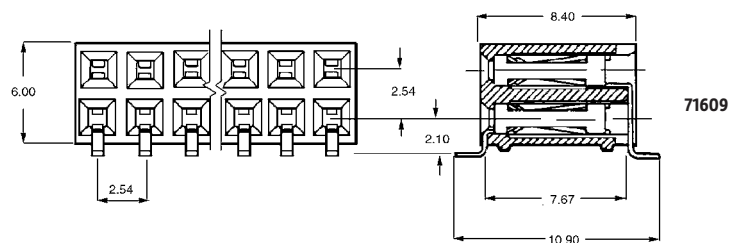
89882



89883



71607



71609

Dimension in mm

Disclaimer

Please note that the above information is subject to change without notice.

DUBOX™ SHROUDED HEADERS



FEATURES & BENEFITS

- 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 INFORMATION

MATERIALS

- Housing: Glass filled thermoplastic polyester
- Housing color for series 76382, 76383: blue
Housing color for series 76384, 76385: black
- Flammability rating: UL94V-0
- Contact: Copper alloy
- Plating: Gold or tin over 1.27µm (50µin.) nickel

ELECTRICAL PERFORMANCE

- Current rating: 3A continuous
- Insulation resistance: $1 \times 10^5 \text{ M}\Omega$ min.
- Dielectric withstanding voltage: 1000V RMS

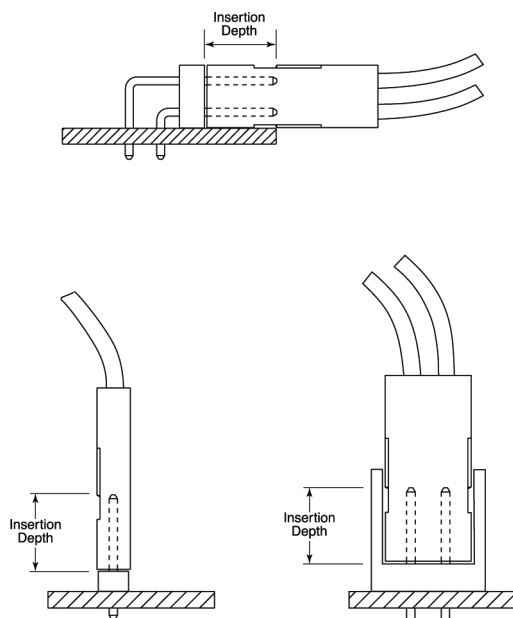
ENVIRONMENTAL

- Operating temperature range: -40°C to $+125^\circ\text{C}$

MECHANICAL PERFORMANCE

- Contact retention to housing: 20 N min.

TYPICAL APPLICATIONS



SPECIFICATIONS

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

APPROVALS AND CERTIFICATIONS

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

PACKAGING

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

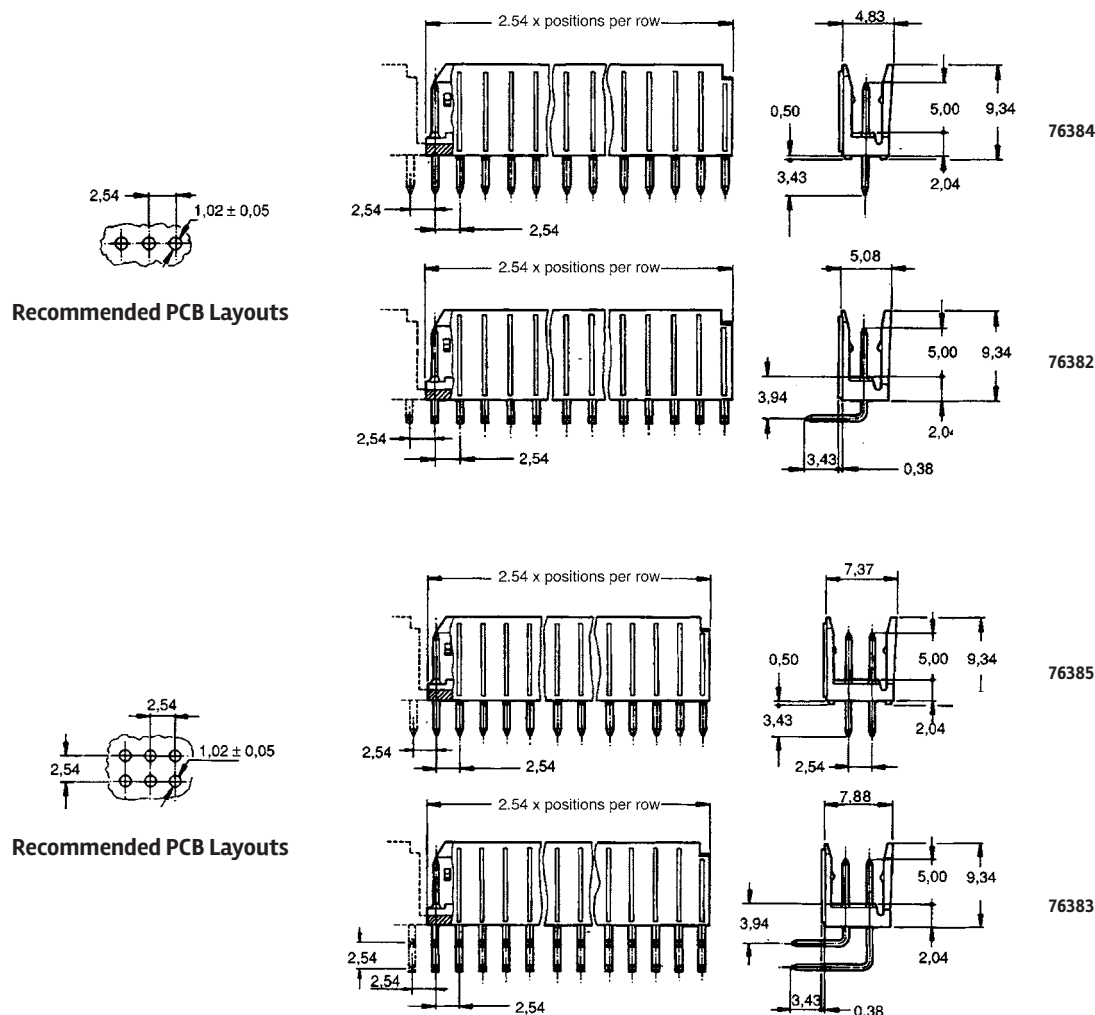
PROCESSING INFORMATION

- Compatible with wave soldering processes

PART NUMBERS

5 DIGIT BASE PART NUMBER	PLATING	POSITIONS PER ROW	LF
Single row, straight	0.76µm (30µin.) gold/GXT on mating area, tin on solder side	02 up to 18	3
Single row, right angle			
Double row, straight			
Double row, right angle			
	Tin		4

PRODUCT



Dimension in mm

DUBOX™ CRIMP-TO-WIRE-CONTACTS



FEATURES & BENEFITS

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



TECHNICAL INFORMATION

MATERIALS

- Contact: Phosphor-bronze
- Plating: 0.76µm (30µin.) Gold over 1.27µm (50µin.) nickel

ELECTRICAL PERFORMANCE

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

ENVIRONMENTAL

- Operating temperature range: -65°C to +125°C

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

SPECIFICATIONS

-  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

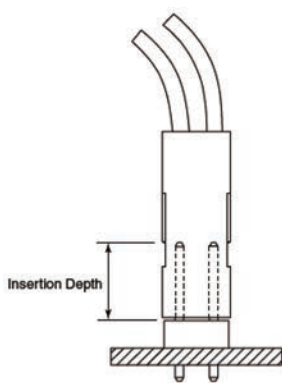
APPROVALS AND CERTIFICATIONS

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

PACKAGING

- 1 Reels
- Boxes – Loose piece

TYPICAL APPLICATIONS



PART NUMBERS

CORE RANGE

76347 — 301LF

PART NUMBERS / CONTACTS ON REEL

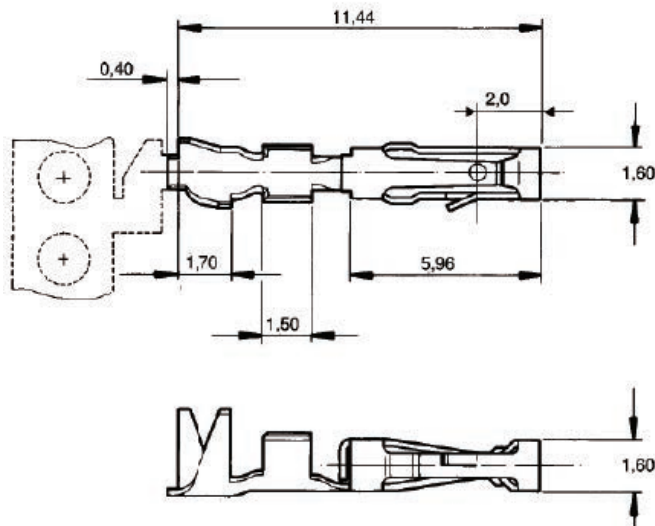
Wire Size	Insulation O.D.	Selective Gold Plated	Tin Plated	Packaging
22-30	0.90 – 1.50	76347-301LF	76347-401LF	15.000/reel
22-30	0.90 – 1.50	76347-302LF•	76347-402LF•	15.000/reel
22-30	0.90 – 1.50	76347-303LF	76347-403LF	500/reel
20-22	1.10 – 1.60	76347-311LF	76347-411LF	15.000/reel
20-22	1.10 – 1.60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

• : 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 ± 0,25 mm
 Mating pin size = 0,62 mm square
 Mating pin recommended length = 5,00 mm min.

DUBOX™ CRIMP-TO-WIRE-HOUSINGS



FEATURES & BENEFITS

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

TECHNICAL INFORMATION

MATERIALS

- Housing: Glass filled thermoplastic polyester
- Housing color: Blue
- Flammability rating: UL94V-0

ELECTRICAL PERFORMANCE

- Insulation resistance: $1 \times 10^5 \text{M}\Omega$ min.
- Dielectric withstanding voltage: 1000V RMS

ENVIRONMENTAL

- Operating temperature range: -65°C to $+125^\circ\text{C}$

MECHANICAL PERFORMANCE

- Insertion depth:
- 3.6mm min. to 6.0mm max.

SPECIFICATIONS

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

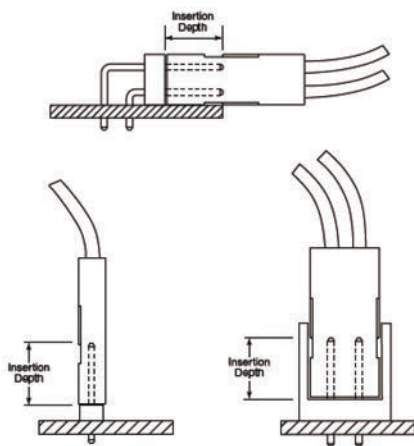
APPROVALS AND CERTIFICATIONS

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

PACKAGING

- Bulk

TYPICAL APPLICATIONS



PART NUMBERS

CORE RANGE

76347 — 301LF

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

76347 — 301LF

XX = 04, 06, 08, 10, 12, 16, 30

5 DIGIT BASE PART NUMBER — 0

POSITIONS PER ROW

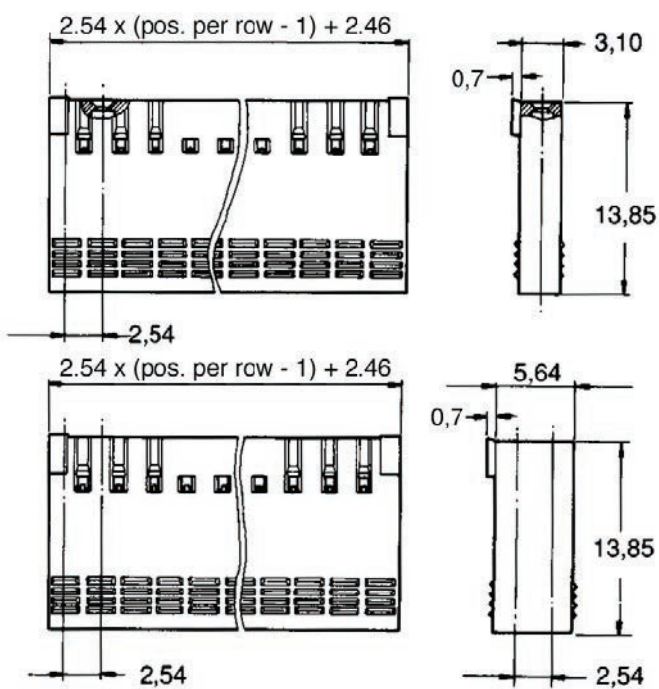
LF

Single row 65240

Double row 65239

02 up to 36

PRODUCT



Pin size: 0.62mm square

Recommended pin length: 5.00mm min.

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