

STORAGE CONNECTORS

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勝特力电子(上海) 86-21-34970699
勝特力电子(深圳) 86-755-83298787
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Serial ATA (SATA)

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Serial Attached SCSI

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EBBI™ 50D

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Related products, such as GBIC, iPass™, LaneLink™, InfiniBand* and SFP, are available in section N, I/O Products.

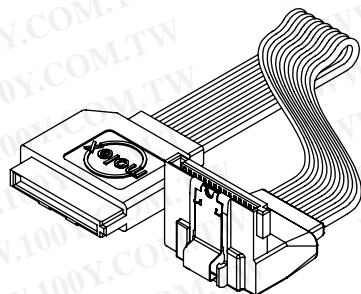
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Visit www.molex.com to access more part numbers and product information, download sales drawings, product specifications, 3D models, place sample requests, and more.

Serial ATA* (SATA) Signal and Power Cable Assemblies

68561/88750/88751/88755/
88757/88761/88762

With and without latch



Features and Benefits

- High-speed data transfer, generation 2 (300 MBps)
- Device can be hot swapped without shutting down or restarting the system
- Plug-and-play under Windows® 98 Second Edition, Windows® Me, Windows® 2000 and Windows® XP
- Operation System (OS) transparent. No driver is needed, works under DOS and all Windows
- Built-in RAID support
- Low cost
- User-friendly latch provides secure mating

Reference Information

Product Specification: PS-887505, PS-67490-002

Packaging: Bag

Mates With: SATA signal and power plug

Designed In: Millimeters

Electrical

Voltage: 40V

Current: 1.5A

Contact Resistance: 30 milliohms max.

Dielectric Withstanding Voltage: 500V AC

Insulation Resistance: 1000 Megohms min.

Mechanical

Mating Force: 45N max.

Unmating Force: 10N min.

Durability: 500 cycles for both signal and power cable

Physical

Housing:

Contact: Copper Alloy

Plating: Contact Area—0.75µm (30µ") min. Gold;

Gold flash is also available for SATA Power Cable

Assembly

Underplating: Nickel

Signal Cables							
Cable Length (mm)	Order No.	Cable Description	Cable Color	Latch	Lead-free		
500	88750-5310	Serial ATA Signal Cable Assembly, Straight-To-Straight	Gray	No			
	88750-5318		Red				
1000	88750-5410		Gray				
	88750-5418		Red				
500	68561-0014		Serial ATA Signal Cable Assembly, Straight Latching-To-Right Angle Latching	Red		Yes	Yes
1000	68561-0015						
500	68561-0016	Serial ATA Signal Cable Assembly, Straight Latching-To-Right Angle Latching	Red	Yes			
1000	68561-0017						
500	88762-5400	Serial ATA Signal Cable Assembly, Straight-To-Right Angle	Red	No			
1000	88762-5410						

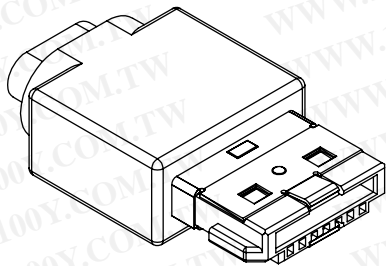
Signal Plugs				
Description	Order No.	Plating	Housing Color	Lead-free
Right Angle SMT Plug With Peg, Latch Type	47080-4001	Gold Flash	Black	Yes
	47080-4002	0.76µm/30µ" Gold		
	47080-4005	0.38µm/15µ" Gold		
	47080-5001	Gold Flash	Natural	
	47080-5002	0.76µm/30µ" Gold		
	47080-5005	0.38µm/15µ" Gold		
	47080-6001	Gold Flash	Blue	
	47080-6002	0.76µm/30µ" Gold		
47080-6005	0.38µm/15µ" Gold			
Vertical Through Hole Signal Plug, Latch Type	47155-4001	Gold Flash	Black	
	47155-4031		Blue	
	47155-4041		Natural	
Vertical SMT Signal Plug, Latch Type	67800-5001	Gold Flash	Black	
	67800-5002	0.76µm/30µ" Gold		
	67800-5005	0.38µm/15µ" Gold		
	67800-5021	Gold Flash		
	67800-5022	0.76µm/30µ" Gold		
	67800-5025	0.38µm/15µ" Gold		

Power Cables					
Cable Length (mm)	Order No.	Cable Description	Plating Contact	Latch	Lead-free
152.4	88751-1310	Serial ATA Power Adapter Cable, Crimping Type	Gold Flash		
	88751-1311		0.76µm/30µ" Gold		
1500	88751-1410	Serial ATA Power Harness to Pigtail Cable (4 pins), Crimping Type	Gold Flash	No	
	88751-1411		0.76µm/30µ" Gold		
	88757-7810	Gold Flash			
	88757-7811	0.76µm/30µ" Gold			
152.4	68561-0018	Serial ATA Power Harness to Pigtail Cable (4 pins), IDT Type	Gold Flash		
	68561-0019		0.76µm/30µ" Gold		
1500	68561-0020	Serial ATA Power Harness to Pigtail Cable (4 pins), IDT Type	Gold Flash	Yes	Yes
	68561-0021		0.76µm/30µ" Gold		
	68561-0022	Gold Flash			
	68561-0023	0.76µm/30µ" Gold			
152.4	88761-4500	Serial ATA Power Harness to Pigtail Cable (4 pins), IDT Type	Gold Flash		
	88761-4510		0.76µm/30µ" Gold		
1500	88761-4600	Serial ATA Power Harness to Pigtail Cable (4 pins), IDT Type	Gold Flash	No	
	88761-4610		0.76µm/30µ" Gold		
	88761-4700	Gold Flash			
	88761-4710	0.76µm/30µ" Gold			

*Serial ATA is a trademark of the Serial ATA™ Trade Association

1.27mm (.050") Pitch Serial ATA External Receptacle Assembly

47078/47082



Features and Benefits

- Blind mate guide ears aid alignment of mating parts
- First-mate/last-break contacts support hot plugging
- Friction ramps provide passive lock to mating shell

Reference Information

Product Specification: PS-47082-001
Designed In: Millimeters

Electrical

Voltage: 15V DC
Current: 1.5A
Contact Resistance: 30 milliohms max.
Dielectric Withstanding Voltage: 500V AC
Insulation Resistance: 1000 Megohms min.

Mechanical

Mating Force: 20.0N
Unmating Force: 4.0N
Durability: 2500 cycles

Physical

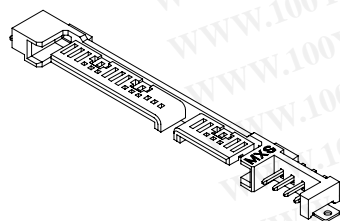
Housing: Thermoplastic, UL 94V-0
Contact: Copper Alloy
Plating: Solder Tail Area—Tin Alloy
Underplating: 50 μ m Nickel

Type	Order No.	SMT Order No.	Plating	Lead-free
Connector	47078-0001	47082-0000	Gold Flash	Yes
	47078-1001	47082-1000	0.38mm (15 μ m) Gold	
	47078-2001	47082-2000	0.76mm (30 μ m) Gold	
Metal Shell		47078-0004	Nickel	
Crimping Metal Shell		47078-0003		

1.27mm (0.05") Pitch Serial ATA Combo Device Plug

87703/87799

7 Signal Pin, 15 Power Pin
Right Angle, SMT



Features and Benefits

- Compliant to Serial ATA-IO workgroup standard
- Serial signal transmission up to 3.0 Gbps
- Additional 4 jumper pin (2.00mm [0.079"] pitch) for drive configuration for 87799
- First-mate/last-break contacts for hot-plugging
- Guide pocket for blind-mating
- Friction locking for mating with Serial ATA cable receptacle without latch
- Plastic locating peg assures proper locating on PCB
- SMT fitting nail for extra retention to PCB
- Designated pick-and-place area for direct SMT soldering, no cap or kapton tape required for pick-and-place
- High-temperature thermoplastic housing allows lead-free process capability
- RoHS compliant

Reference Information

Product Specification: PS-87799-012, PS-87703-017

Packaging: Tray

Mates With: Serial ATA Board-to-Board Combo

Receptacles—47162, 47018, 67492, 87678, 87701, 87713, 87779, 87780, 87781

Serial ATA Cable-to-Board—88750, 88762 signal receptacle; 88751, 88757, 88761 power receptacle

Designed In: Millimeters

Electrical

Voltage: 30V
Current: 1.5A
Contact Resistance: 30 milliohms max.
Dielectric Withstanding Voltage: 500V AC
Insulation Resistance: 1000 Megohms min.

Mechanical

Mating Force:
Board-to-Board Receptacle—20N (4.50 lb) max.
Cable Receptacle—45N (10.12 lb) max.
Unmating Force:
Board-to-Board Receptacle—4N (0.90 lb) min.
Cable Receptacle—10N (2.25 lb) min.
Durability: Internal Cable Application—50 cycles
Backplane Application—500 cycles

Physical

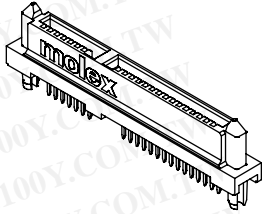
Housing: Black glass-filled LCP, UL 94V-0
Contact and SMT Nail: Copper Alloy
Plating: Contact Area—0.127 μ m (5 μ m) Gold
Solder Tail Area—See table
SMT Fitting Nail Area—Tin
Underplating: Nickel
PCB Thickness: See table

Circuits	Order No.	Solder Tail Plating	PCB Thickness	Description	Lead-free
22	87703-0001	0.127 μ m (5 μ m) Gold	0.50mm (.020")	Without Jumper	Yes
	87799-0001	Tin	0.60mm (.024")	With Jumper	

1.27mm (0.05") Pitch Serial ATA Combo Host Receptacle

87779/87678

**7 Signal Pin, 15 Power Pin
Vertical, Through Hole**



Features and Benefits

- Compliant to Serial ATA-IO workgroup standard
- Serial signal transmission up to 3.0 Gbps
- First-mate/last-break contacts for hot-plugging
- Guide post for blind-mating
- Plastic locating peg assures proper locating on PCB
- High-temperature thermoplastic housing allows lead-free process capability
- RoHS compliant

Reference Information

Product Specification: PS-87779-011, PS-87678-029

Packaging: Tray

Mates With: 87679, 87703 and 87799 Serial ATA
combo plug

Designed In: Millimeters

Electrical

Voltage: 30V

Current: 1.5A

Contact Resistance: 30 milliohms max.

Dielectric Withstanding Voltage: 500V AC

Insulation Resistance: 1000 Megohms min.

Mechanical

Housing Slip-Out Force: 60N (13.49 lb) min.

Mating Force: 20N (4.50 lb) max.

Unmating Force: 4N (0.90 lb) min.

Durability: 500 cycles

Physical

Housing: Black glass-filled LCP, UL 94V-0

Contact: Copper Alloy

Plating: Contact Area—0.76 μ m (30 μ ") Gold

Solder Tail Area—Tin

Underplating: Nickel

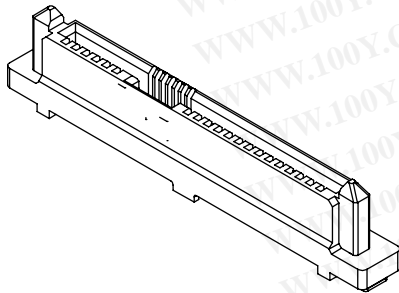
PCB Thickness: 0.80 to 2.50mm (0.031 to 0.098")

Circuits	Order No.	Receptacle Height	Lead-free
22	87779-1001	Standard 8.15mm (.321")	Yes
	87678-1001	Extended 14.15mm (.557")	

1.27mm (.050") Pitch Serial ATA Combo Host Receptacle

78011

**7 Signal Pin, 15 Power Pin
Vertical, SMT
Standard Height**



Features and Benefits

- No center rib on the housing allows inter-mating to either Serial ATA drive plug, or SAS drive plug in SAS/Serial ATA interposer application
- Inter-mating to SAS drive plug will not utilize SAS second signal port
- Serial signal transmission up to 3.0 Gbps
- First-mate/last-break contacts for hot-plugging
- Guide post for blind-mating
- SMT fitting nail for extra retention to PCB
- Pick-and-place cap allows automated placement onto PCB
- High-temperature thermoplastic housing allows lead-free process capability
- RoHS compliant

Reference Information

Product Specification: PS-78011-002

Packaging: Embossed tape

Mates With: 87679, 87703 and 87799 Serial ATA
combo plug; 78012 SAS combo plug

Designed In: Millimeters

Electrical

Voltage: 30V

Current: 1.5A

Contact Resistance: 30 milliohms max.

Dielectric Withstanding Voltage: 500V AC

Insulation Resistance: 1000 Megohms min.

Mechanical

Housing Slip-Out Force: 60N (13.49 lb) min.

Mating Force: 20N (4.50 lb) max.

Unmating Force: 4N (0.90 lb) min.

Durability: 500 cycles

Physical

Housing: Black nylon (PA), UL 94V-0

Contact and SMT Fitting Nail: Copper Alloy

Plating: Contact Area—0.76 μ m (30 μ ") Gold

Solder Tail Area—Tin

SMT Fitting Nail Area—Tin

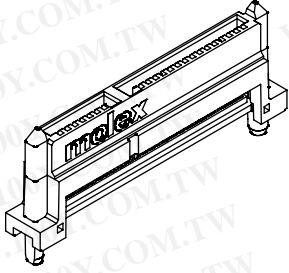
Underplating: Nickel

Circuits	Order No.	Receptacle Height	Lead-free
22	78011-0011	8.15mm (.321")	Yes

1.27mm (0.05") Pitch Serial ATA Combo Host Receptacle

87713

**7 Signal Pin, 15 Power Pin
Vertical, SMT**



Features and Benefits

- Compliant to Serial ATA-IO workgroup standard
- Serial signal transmission up to 3.0 Gbps
- First-mate/last-break contacts for hot-plugging
- Guide post for blind-mating
- Plastic locating peg assures proper locating on the PCB
- High-temperature thermoplastic housing allows lead-free process capability
- RoHS compliant

Reference Information

Product Specification: PS-87713-016, PS-87781-005
 Packaging: Tray
 CSA File No.: LR19980-87713
 Pending: 87781
 Mates With: 87679, 87703 and 87799 Serial ATA
 combo plug
 Designed In: Millimeters

Electrical

Voltage: 30V
 Current: 1.5A
 Contact Resistance: 30 milliohms max.
 Dielectric Withstanding Voltage: 500V AC
 Insulation Resistance: 1000 Megohms min.

Mechanical

Housing Slip-Out Force: 60N (13.49 lb) min.
 Insertion Force to PCB: 44.5N (10.00 lb) max. per pin
 Mating Force: 20N (4.50 lb) max.
 Unmating Force: 4N (0.90 lb) min.
 Durability: 500 cycles

Physical

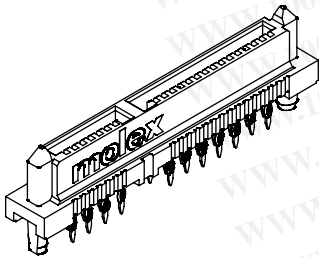
Housing: Black glass-filled LCP, UL 94V-0
 Contact: Copper Alloy
 Plating: Contact Area—0.76µm (30µ") Gold
 Solder Tail Area—Tin
 Underplating: Nickel

Circuits	Order No.	Receptacle Height	Lead-free
22	87713-1001	Standard 8.15mm (.321")	Yes

1.27mm (0.05") Pitch Serial ATA Combo Host Receptacle

87701/87780

**7 Signal Pin, 15 Power Pin
Vertical, Press-Fit**



Features and Benefits

- Compliant to Serial ATA-IO workgroup standard
- Serial signal transmission up to 3.0 Gbps
- First-mate/last-break contacts for hot-plugging
- Guide post for blind-mating
- Plastic locating peg assures proper locating on PCB
- High-temperature thermoplastic housing allows lead-free process capability
- RoHS compliant

Reference Information

Product Specification: PS-87701-033, PS-87780-024
 Packaging: Tray
 UL File No.: E29179
 CSA File No.: LR19980
 Mates With: 87679, 87703 and 87799 Serial ATA
 combo plug
 Designed In: Millimeters

Electrical

Voltage: 30V
 Current: 1.5A
 Contact Resistance: 30 milliohms max.
 Dielectric Withstanding Voltage: 500V AC
 Insulation Resistance: 1000 Megohms min.

Mechanical

Housing Slip-Out Force: 60N (13.49 lb) min.
 Insertion Force to PCB: 44.5N (10.00 lb) max. per pin
 Mating Force: 20N (4.50 lb) max.
 Unmating Force: 4N (0.90 lb) min.
 Durability: 500 cycles

Physical

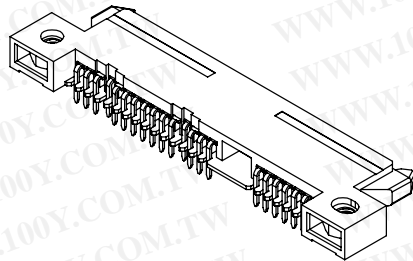
Housing: Black glass-filled LCP, UL 94V-0
 Contact: Copper Alloy
 Plating: Contact Area—0.76µm (30µ") Gold
 Solder Tail Area—Tin
 Underplating: Nickel
 PCB Thickness: 1.50mm (0.059") to 2.00mm (0.079")

Circuits	Order No.	Receptacle Height	Lead-free
22	87701-1001	Standard 8.15mm (.321")	Yes
	87780-1001	Extended 14.15mm (.557")	

1.27mm (.050") Pitch Serial ATA Host Receptacle

47305

Right Angle, Through Hole



Features and Benefits

- Blind mate guide ears aid alignment of mating parts
- First-mate/last-break contacts support hot plugging
- Connector enables direct docking
- Threaded to accept industry standard M2x0.4 screw and provide secure PCB retention

Reference Information

Product Specification: PS-67492-001
 Packaging: Tape on reel
 Mates With: 87703
 Designed In: Millimeters

Electrical

Voltage: 15V DC
 Current: 1.5A
 Contact Resistance: 30 milliohms max.
 Dielectric Withstanding Voltage: 500V AC
 Insulation Resistance: 1000 Megohms min.

Mechanical

Mating Force: 20.00N
 Unmating Force: 4.00N
 Durability: 500 cycles

Physical

Housing: High-temperature thermoplastic, UL 94V-0
 Contact: Copper Alloy
 Plating: Solder Tail Area—50 μ m Tin
 Underplating: 50 μ m Nickel

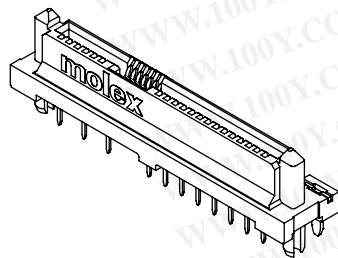
Circuits	Order No.	Type	Plating	Lead-free
22	47305-2000	Top Mount	Gold Flash	Yes
	47305-2001		30 μ m Gold	
	47305-2002		15 μ m Gold	

www.molex.com/product/serial_ata.html

1.27mm (.050") Pitch Serial Attached SCSI Combo Host Receptacle

87824/87839/87863

Vertical, Standard Height



Features and Benefits

- Point-to-point architecture will ensure maximum bandwidth
- Disk or backplane interoperability with Serial ATA gives flexibility to specify best drive for intended use
- Hot-plugging capability allows adding or removing drives without system shutdown
- 3.0 Gbps transfer rate
- Solder tab or blade locking provides secure locking to PCB
- Guide post allows blind-mating of connector
- Space saving and better airflow in system cabinets with compact cabling and connectors
- Plastic locating pegs assure proper locating on the PCB
- Embossed tape packaging and removable pick-and-place cap option allows for automated placement on PCB

Reference Information

Product Specification: PS-87824-029, PS-87839-041,
 PS-87863-060 and PS-87970-003

Packaging: See table

UL File No.: E29179 (87824, 87863, 87970)

CSA File No.: LR19980 (87824)

Mates With: 78012—SAS combo plug

87703, 87679 and 87799—SATA combo plug

Conforms To: SFF8482 standards

Designed In: Millimeters

Electrical

Voltage: 30V
 Current: 1.5A
 Contact Resistance: 30 milliohms max.
 Dielectric Withstanding Voltage: 500V AC
 Insulation Resistance: 1000 Megohms min.

Mechanical

Housing Slip-Out Force: 90N (20.23 lb) min.
 Insertion Force to PCB: Press-fit only 45N (10.12 lb) per pin
 Mating Force: 25N (5.62 lb) max.
 Durability: 500 cycles

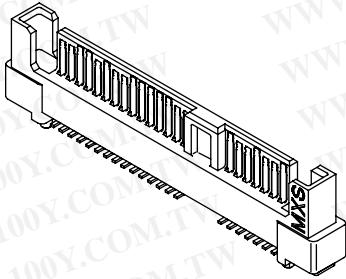
Physical

Housing: Black glass-filled LCP, UL 94V-0
 Contact: Copper Alloy
 Plating: Contact Area—0.76 μ m (30 μ m) Select Gold
 Terminal Area—Tin
 Underplating: Nickel

Circuits	Order No.	PCB Mounting	PCB Retention	Packaging	Pick-and-Place Cap	Recommended PCB Thickness	Lead-free
29	87824-0003	SMT	Solder Blade	Tray	Yes	1.60mm (.062")	Yes
	87824-0005	SMT	Solder Blade	Tray	Yes	1.60mm (.062")	
	87824-0007	SMT	Solder Blade	Tray	Yes	1.60mm (.062")	
	87824-0004	SMT	Solder Tab	Tray	Yes	4.60mm (.181")	
	87824-0008	SMT	Solder Tab	Tray	Yes	4.60mm (.181")	
	87824-0010	SMT	Solder Tab	Tray	Yes	4.60mm (.181")	
	87839-0019	Hybrid	Solder Blade	Tray	No	3.00mm (.118")	
	87839-0017	Hybrid	Solder Blade	Tape and Reel	Yes	3.00mm (.118")	
	87839-0018	Hybrid	Solder Blade	Tape and Reel	Yes	2.40mm (.094")	
	87863-0015	Press-Fit	Press-Fit PC Tail	Tray	No	1.60mm (.063")	
	87863-0025	Press-Fit	Press-Fit PC Tail	Tray	No	2.40-3.20mm (.094-.126")	

1.27mm (.050") Pitch Serial Attached SCSI Combo Device Plug

78012
Vertical, SMT



Features and Benefits

- Point-to-point architecture will ensure maximum bandwidth
- Disk or backplane interoperability with Serial ATA gives flexibility to specify best drive for intended use
- Hot-plugging capability allows adding/removing drives without system shutdown
- 3.0 Gbps transfer rate
- SMT fitting nails provide additional PCB retention
- Guide pocket allows blind-mating of connector
- Pick-and-place cap allows automated placement on PCB
- Space saving and better airflow in system with compact cabling and connectors
- Plastic locating pegs assure proper locating on the PCB

Reference Information

Product Specification: PS-78012-002
 Packaging: Tape and reel
 Mates With: 87824, 87839, 87863, 87970, 87945 and 87975 SAS combo receptacle; 78011 SATA combo receptacle
 Conforms To: SFF8482 standards
 Designed In: Millimeters

Electrical

Voltage: 30V
 Current: Power—1.5A
 Signal—500mA
 Contact Resistance: 30 milliohms max.
 Dielectric Withstanding Voltage: 500V AC
 Insulation Resistance: 1000 Megohms min.

Mechanical

Terminal Retention Force:
 SAS Primary Physical Line (Power/Signal)
 Port 1: 4.45N min.
 SAS Secondary Physical Link Port 2: 2.20N min.
 Mating Force: Backplane—25N max.
 Cable—50N max.
 Unmating Force: Backplane Receptacle—5N min.
 Cable Receptacle—20N min.
 Durability: Cable Application—25 cycles
 Backplane Application—500 cycles

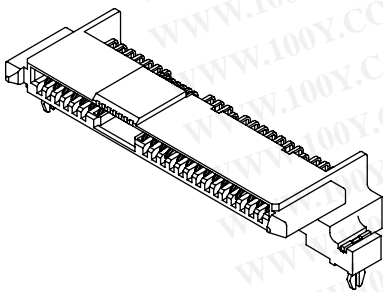
Physical

Housing: Black nylon, UL 94V-0
 Contact: Copper Alloy
 Plating: Contact Area—0.76µm (30µ") Select Gold
 Terminal Area—Tin
 Underplating: Nickel

Circuits	Order No.	Pick-and-Place Cap	Lead-free
29	78012-0011	Yes	Yes
	78164-1051		

1.27mm (.050") Pitch Serial Attached SCSI Combo Host Receptacle

87945/87975/78266
Right Angle, SMT



Features and Benefits

- Point-to-point architecture will ensure maximum bandwidth
- Disk or backplane interoperability with Serial ATA gives flexibility to specify best drive for intended use
- Hot-plugging capability allows adding or removing drives without system shutdown
- 3.0 Gbps transfer rate
- Forklock or blade locking ensures secure locking to PCB
- Guide post allows blind-mating of connector
- Space saving and better airflow in system cabinets with compact cabling and connectors
- Plastic locating pegs assure proper locating on the PCB

Reference Information

Product Specification: PS-87945-034 and PS-87975-102
 Packaging: Tray
 Mates With: 78012—SAS combo plug
 87679, 87703 and 87799—SATA combo plug
 Conforms To: SFF8482 standards
 Designed In: Millimeters

Electrical

Voltage: 30V
 Current: 1.5A
 Contact Resistance: 45 milliohms max
 Dielectric Withstanding Voltage: 500V AC
 Insulation Resistance: 1000 Megohms min

Mechanical

Housing Slip-Out Force: 90N (20.23 lb) min.
 Mating Force: 25N (5.62 lb) max.
 Durability: 500 cycles

Physical

Housing: Nylon 9T, UL 94V-0
 Contact: Copper Alloy
 Plating: Contact Area—0.76µm (30µ") Select Gold
 Terminal Area—Tin
 Underplating: Nickel
 PCB Thickness: 1.60mm (.062")

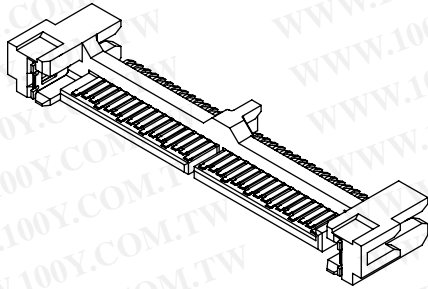
Circuits	Order No.	PCB Retention	'Z' Height	Lead-free
29	87945-0001	Forklock	7.07mm (.278")	Yes
	87945-0002	Solder Blade		
	87975-1001	Forklock	2.85mm (.112")	
	87975-1002	Solder Blade		
	78266-0002	Forklock	4.15mm (.163")	

1.27mm (.050") Pitch 4X SAS/SATA

Internal Multi-Lane Plug

87969

Right Angle, Straddle Mount



Features and Benefits

- Point-to-point architecture will ensure maximum bandwidth
- Disk or backplane interoperability with Serial ATA gives flexibility to specify best drive for intended use
- Hot-plugging capability eliminates the need to shut down system when adding or removing drives
- 3.0 Gbps transfer rate
- Guide pocket for plugs allows blind-mating of connector
- Space saving and better airflow in system cabinets with compact cabling and connectors
- Plastic locating pegs assures proper locating on the PCB

Reference Information

Product Specification: PS-87969-002
 Packaging: Tray
 Mates With: 68562 cable assembly series
 Conforms To: SFF8484 standard
 Designed In: Millimeters

Electrical

Voltage: 30V
 Current: 1.5A
 Contact Resistance: 30 milliohms max.
 Dielectric Withstanding Voltage: 500V AC
 Insulation Resistance: 1000 Megohms min.

Mechanical

Terminal Retention Force: 2N (0.45 lb) min.
 Insertion Force to PCB: 100N (22.48 lb) max.
 Mating Force: 45N (10.12 lb) max.
 Unmating Force: 20N (4.5 lb) min.
 Durability: 50 cycles

Physical

Housing: Black glass-filled LCP, UL 94V-0
 Contact: Copper Alloy
 Plating: Contact Area—0.76 μ m (30 μ ") Select Gold
 Solder Tail Area—Tin
 Underplating: Nickel

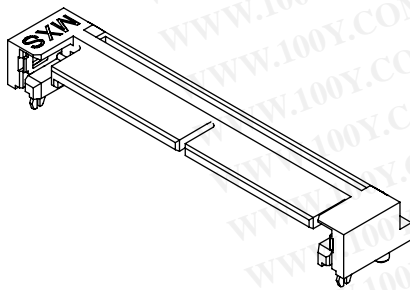
Circuits	Order No.	Retention to PCB	Recommended PCB Thickness	Lead-free
32	87969-001	Yes	1.60mm (.062")	Yes

1.27mm (.050") Pitch 4X SAS/SATA

Internal Multi-Lane Plug

87861

Right Angle, Through Hole



Features and Benefits

- Point-to-point architecture will ensure maximum bandwidth
- Disk or backplane interoperability with Serial ATA gives flexibility to specify best drive for intended use
- Hot-plugging capability will eliminate the need to shutdown system when adding or removing drives
- 3.0 Gbps transfer rate
- Metal forklock ensures secure locking to PCB
- Guide pocket allows blind-mating of connector
- Space saving and better airflow in system cabinets with compact cabling and connectors
- Easily fit on small form factor devices
- Plastic locating pegs assures proper locating on the PCB

Reference Information

Product Specification: PS-87861-041
 Packaging: Tray
 Mates With: 68562 cable assembly series
 Conforms To: SFF8484 standards
 Designed In: Millimeters

Electrical

Voltage: 30V
 Current: 1.5A
 Contact Resistance: 30 milliohms max.
 Dielectric Withstanding Voltage: 500V AC
 Insulation Resistance: 1000 Megohms min.

Mechanical

Terminal Retention Force: 4.45N (1.01 lb) min.
 Mating Force: 45N (10.12 lb) max.
 Unmating Force: 20N (4.5 lb) min.
 Durability: 50 cycles

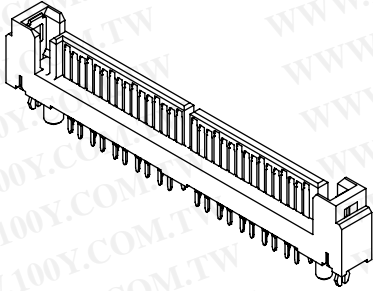
Physical

Housing: Black glass-filled LCP, UL 94V-0
 Contact: Copper Alloy
 Plating: Contact Area—0.76 μ m (30 μ ") Select Gold
 Solder Tail Area—Tin
 Underplating: Nickel

Circuits	Order No.	Retention to PCB	Recommended PCB Thickness	Lead-free
32	87861-0011	Metal Forklock	1.60mm (.062")	Yes
	87861-0010		2.40mm (.093")	

1.27mm (.050") Pitch 4X SAS/SATA Internal Multi-Lane Plug

87959
Vertical



Features and Benefits

- Point-to-point architecture will ensure maximum bandwidth
- Disk or backplane interoperability with Serial ATA gives flexibility to specify best drive for intended use
- Hot-plugging capability eliminates the need to shut down system when adding or removing drives
- 3.0 Gbps transfer rate
- Forklocks ensure secure locking to PCB
- Guide pocket for plugs allows blind-mating of connector
- Space saving and better airflow in system cabinets with compact cabling and connectors
- Plastic locating pegs assure proper locating on the PCB

Reference Information

Product Specification: PS-87862-033, PS-87959-025 and PS-87968-015

Packaging: Tray
Mates With: 68562 cable assembly series
Conforms To: SFF8484 standards
Designed In: Millimeters

Electrical

Voltage: 30V
Current: 1.5A
Contact Resistance: 30 milliohms max
Dielectric Withstanding Voltage: 500V AC
Insulation Resistance: 1000 Megohms min

Mechanical

Terminal Retention Force:
87959 and 87968—4.45N (1.01 lb) min.
87862—9N (2.02 lb) min.
Insertion Force to PCB: 87862—45N (10.12 lb) max.
Mating Force: 45N (10.12 lb) max.
Unmating Force: 20N (4.5 lb) min.
Durability: 50 cycles

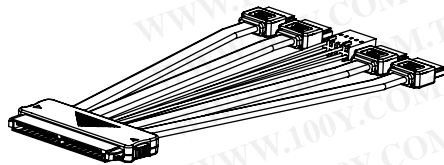
Physical

Housing: Black LCP, UL 94V-0
Contact: Copper Alloy
Plating: Contact Area—0.76µm (30µ") Select Gold
Solder Tail Area—Tin
Underplating: Nickel

Circuits	Order No.	Retention to PCB	Recommended PCB Thickness	Lead-free
32	87959-0001	Through Hole	1.60mm (.062")	Yes
	87959-0006		2.40mm (.093")	
	87959-0007		2.70mm (.106")	

Internal Serial Attached SCSI (SAS) 4X Cable Assemblies

68562



Features and Benefits

- Point-to-point architecture ensures maximum bandwidth by providing dedicated signal path for each device, eliminates daisy-chain slowdown and address conflicts
- Disk/backplane interoperability with SATA gives flexibility to specify best drive for intended use: SAS for transaction/online performance and reliability, Serial ATA for near line and backup/restore storage
- 3.0 Gbps transfer rate sets new standards for enterprise-class performance, second generation on track for 6.0 Gbps throughput
- Compact cabling and connectors simplify cable routing, save space and improve airflow/cooling in system cabinets, connectors easily fit on small form factor devices

Reference Information

Product Specification: PS-87862-033, PS-87824-029

Packaging: Bag
Mates With: SAS 4X (SFF-8484) Signal connector
Designed In: Millimeters

Electrical

Voltage: 30V
Current: 1.5A
Contact Resistance: 30 milliohms max. (vertical)
40 milliohms max. (right angle)
Dielectric Withstanding Voltage: 500V AC
Insulation Resistance: 1000 Megohms min.

Mechanical

Housing Slip-Out Force: 90N (20.23 lb) min.
Insertion Force to PCB: 45N (10.11 lb) min. per circuit
Mating Force: 25N max.
Unmating Force: 5N (1.12 lb) min.
Durability: 500 cycles EIA 364 -13

Physical

Housing: Black PA46, Glass-filled, UL 94V-0
Terminal: Phosphor Bronze C5210 extra hard (HD6)
Plating: (A) Gold Flash
(B) Gold Plated 0.76 µm min.
(C) Gold Plated 0.38 µm min.
Solder Tail Area—Tin Alloy Plating
Underplating: Nickel

Cable Length (mm)	Order No.	Cable Description	Cable Color	Latch	Lead-free
760	68562-0002	Serial Attached SCSI (SAS) 4X to 4X SATA Internal Host Base (Controller Base) Cable Assembly, with Sideband	Red	Yes	Yes
	68562-0003	Serial Attached SCSI (SAS) 4X to 4X SATA Internal Target Base (Backplane Base) Cable Assembly, with Sideband			
1010	68562-0014	Serial Attached SCSI (SAS) 4X Straight Internal Host Cable Assembly, with Sideband	Black		

EBBI™ 50D

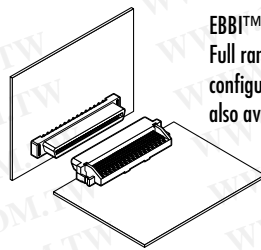
A complete solution for disk drive and device attachment in storage network systems and internal docking applications

Molex offers an expansive array of products to meet the needs of device attachment for servers, RAID's and other disk enclosures. These interconnects are designed for various interfaces, including SCSI, Fibre Channel, SSA and custom applications.

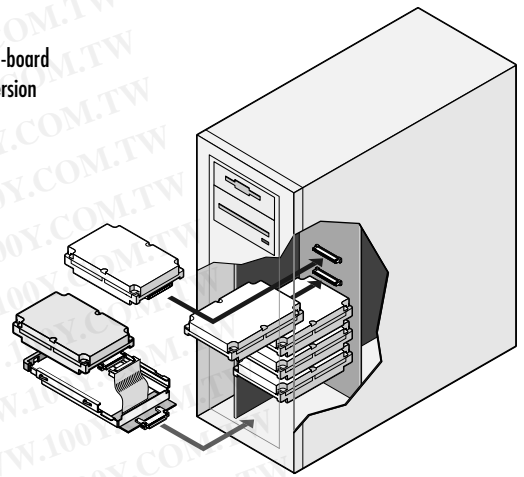
SCA-2 receptacles and plugs feature a variety of styles for every type of backplane and device. Conforming to Small Form Factor specifications, the Single Connector Attach versions feature standard or extended heights with your choice of through hole, SMT or press-fit termination methods.

For added alignment and durability, the EBBI™ 50D product family offers blind-mate versions with enhanced guide posts, used in various internal docking applications. Sequential mating options are available for hot swappability.

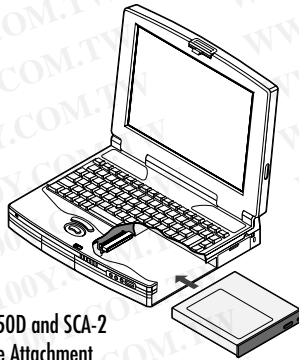
The EBBI 50D series of receptacles and plugs feature leaf-style contacts on 1.27mm (.050") pitch spacing in a full range of board-to-board configurations. IDT version is available for cable-to-board applications.



EBBI™ 50D
Full range of board-to-board configurations (IDT version also available)



EBBI 50D and SCA-2
Disk Drive Attachment
For direct attachment to backplanes or as interposers or extenders in drive trays or carrier assemblies

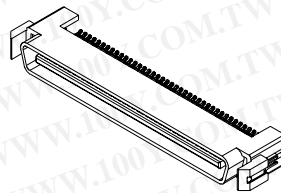


EBBI 50D and SCA-2
Device Attachment

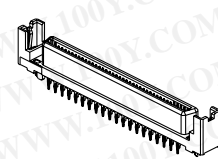
STORAGE DEVICE INTERCONNECT QUICK REFERENCE

SCA-2 for SCSI drives (Enhanced 80 circuit)

The 80-pin SCA-2 is an enhanced single connector attach with blind-mating guide features and integral ESD grounding contacts, allowing users to add and remove devices without taking the system off-line.



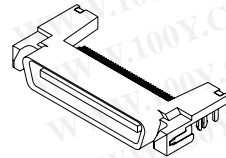
Plug—87012
87571
87641



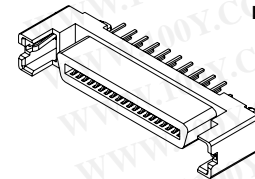
Receptacle—71743
71744
73826
73829
87557

SCA-2 for Fibre Channel drives (Enhanced 40 circuit)

The 40-pin version of SCA-2 supports the Fibre Channel serial interface to allow high-speed data transfer rates with the flexibility of attaching directly to the backplane or cable.



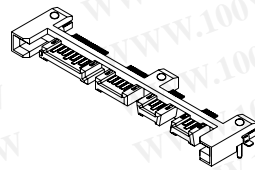
Plug—87012
87572
87641



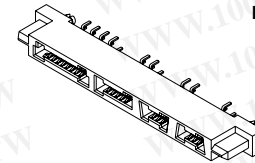
Receptacle—71743
71744
73826
73829
87620

SSA/IEEE 1394 (38 circuit)

Both SSA (Serial Storage Architecture) T10.1 and IEEE 1394 specify the same connector as the internal interconnect standard for disk drives and other media devices. This connector features 38 circuits in 4 unitized bays to connect disk drives and other media devices to backplanes.



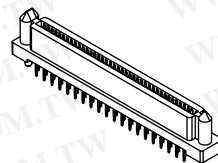
Plug—71265



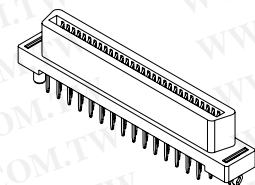
Receptacle—71264

EBBI™

Standard EBBI connectors are available in 30-120 circuit versions. Through hole and SMT board mounting options, with and without bail latches, are available for vertical and right angle applications



Plug—71661



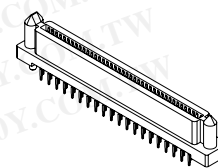
Plug—71660

EBBI™ Blind-Mate

This enhanced version of the EBBI series offers blind-mate guide posts that are integrated in the housing for a robust attachment of storage devices. Sequential-mating options are available.



Plug—71661

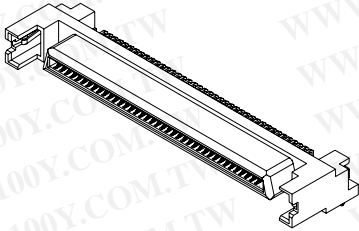


Receptacle—71660
87537
87599
87635

1.27mm (.050") Pitch EBBI™ 50D Receptacle

87557

**Right Angle, Through Hole, SCA-2
Reverse D Mate**



Circuits	Order No.	Lead-free
80	87557-1001	Yes

Features and Benefits

- Meets SCA-2 Enhanced Single Connector Attach specifications for small form factor disk drives
- ESD ground contact with integral metal hold-down for mechanical hold-down before and after processing
- Integral blind mate capabilities with $\pm 2.00\text{mm}$ (.079") misalignment tolerances
- Card slot accommodates standard 1.57mm (.062") PCB

Reference Information

Product Specification: PS-87557-001
Packaging: Tray
UL File No.: E29179
CSA File No.: LR19980
Mates With: 87012, 87572 and 87641
Designed In: Millimeters

Electrical

Voltage: 30V AC
Current: 1.0A
Contact Resistance: 35 milliohms max.
Dielectric Withstanding Voltage: 500V AC
Insulation Resistance: 1000 Megohms min.

Mechanical

Contact Retention to Housing: 4.4N (.99 lb) min.
Mating Force: 70.6N (15.87 lb) max.
Unmating Force: 11.77N (2.64 lb) min.
Durability: 500 cycles

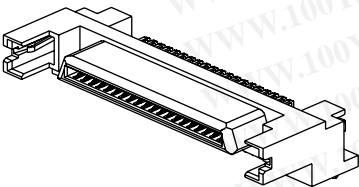
Physical

Housing: Black liquid crystal polymer (LCP) thermoplastic, UL 94V-0
Contact: Copper Alloy
Plating: Contact Area—0.76mm (30 μ) Gold
Solder Tail Area—2.54mm (100 μ) Tin
Underplating—Nickel

1.27mm (.050") Pitch EBBI™ 50D Receptacle

87620

**Right Angle, Through Hole
Extended Height, SCA-2
Reverse D Mate**



Circuits	Order No.	Lead-free
40	87620-1001	Yes

Features and Benefits

- Meets SCA-2 Enhanced Single Connector Attach specifications for small form factor disk drives
- Single I/O connector for storage devices interface
- ESD ground contact with integral metal hold-down for mechanical hold-down before and after processing
- Integral blind mate capabilities with $\pm 2.00\text{mm}$ (.079") misalignment tolerances
- Card slot accommodates standard 1.57mm (.062") PCB

Reference Information

Product Specification: PS-87620-002
Packaging: Tray
UL File No.: E29179
CSA File No.: LR19980
Mates With: 87012 and 87572
Designed In: Millimeters

Electrical

Voltage: 30V AC
Current: 1.0A
Contact Resistance: 35 milliohms max.
Dielectric Withstanding Voltage: 500V AC
Insulation Resistance: 1000 Megohms min.

Mechanical

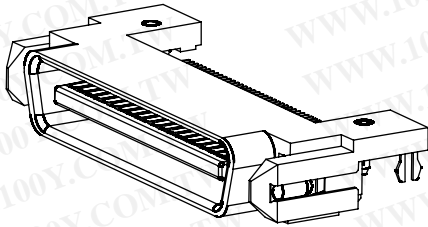
Contact Retention to Housing: 4.4N (.99 lb) min.
Mating Force: 35.3N (7.94 lb) max.
Unmating Force: 5.88N (1.32 lb) min.
Durability: 500 cycles

Physical

Housing: Black high-temperature thermoplastic, UL 94V-0
Contact: Copper Alloy
Plating: Contact Area—0.76 μ m (30 μ) Gold
Solder Tail Area—2.54 μ m (100 μ) Tin
Underplating—Nickel

1.27mm (.050") Pitch EBBI™ 50D Plug

87641
SMT, Right Angle
SCA-2



Features and Benefits

- Meets SCA-2 Enhanced Single Connector Attach specifications for small form factor disk drives
- ESD ground contact with integral beveled metal pins for mechanical hold-down before and after processing
- D-shape mating face ensures polarization and prevents mismatching
- Plastic or metal locating peg for easy placement on PCB

Reference Information

Product Specification: PS-87641-008
Packaging: Tray
Mates With: 71743, 71744, 73826, 73829 and 87557
Designed In: Millimeters

Electrical

Voltage: 30V
Current: 1.5A
Contact Resistance: 35 milliohms max.
Dielectric Withstanding Voltage: 500V AC
Insulation Resistance: 1000 Megohms min.

Mechanical

Terminal/ESD Clip Retention Force: 4.41N min.
Mating Force: 0.882N max. per pin
Unmating Force: 0.147N min. per pin
Durability: 500 cycles

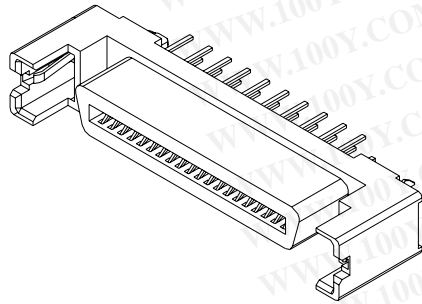
Physical

Housing: Black LCP, UL 94V-0
Contact/ESD Clip: Copper Alloy
Plating: Contact Area—0.76µm (30µ") Select Gold
Solder Tail—Tin
Metal Locating Pin—Tin
Underplating: Nickel

Circuits	Order No.	PCB Locator	Lead-free
80	87641-1001	Plastic Peg	Yes
40	87641-1002		
80	87641-1011	Metal Peg	
40	87641-1012		

1.27mm (.050") Pitch EBBI™ 50D Receptacle

71743
Vertical
SCA-2



Features and Benefits

- Meets SCA-2 Enhanced Single Connector Attach specifications for small form factor disk drives
- Metal retention clips for mechanical hold down before and after processing
- Blind-mate guide ears on ends with integral ESD grounding contacts
- Staggered "hot plug" first-mate/last-break contacts
- Mates to standard .062" PC board card edge with low insertion force
- Surface Mount Compatible

Reference Information

Product Specification: PS-73826-0000
Packaging: Tray
UL File No.: E29179
CSA File No.: LR19980-239A
Mates With: 87012, 87571 and 87572
Designed In: Inches

Electrical

Voltage: 30V
Current: 1.0A
Contact Resistance: 20 milliohms max.
Dielectric Withstanding Voltage: 500V AC
Insulation Resistance: 1000 Megohms min.

Mechanical

Contact Retention to Housing: 500g min.
Mating Force: 90g max.
Unmating Force: 15g min.
Normal Force: 90g
Durability: 500 cycles min.

Physical

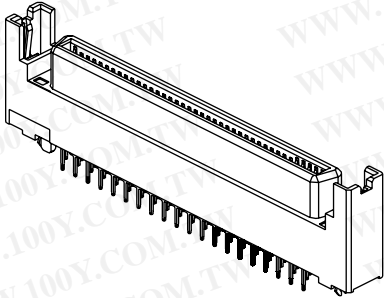
Housing: High-temperature thermoplastic, UL 94V-0
Retention Clip: Copper Alloy
Contact: Copper Alloy
Plating: 30µ" min. Gold over Nickel in contact area,
100µ" min. Tin over Nickel on tails

Circuits	Order No.	PC Tail Length	Lead-free
40	71743-1041	2.79 (.110)	Yes
	71743-1040	3.18 (.125)	
	71743-1044	3.40 (.134)	
	71743-1045	3.75 (.148)	
80	71743-1081	2.79 (.110)	
	71743-1080	3.18 (.125)	
	71743-1084	3.40 (.134)	
	71743-1085	3.75 (.148)	

1.27mm (.050") Pitch EBBI™ 50D Receptacle

71744

**Vertical, Extended Height
SCA-2**



Features and Benefits

- Meets SCA-2 Enhanced Single Connector Attach specifications for small form factor disk drives
- Metal retention clips for mechanical hold down before and after processing
- Blind-mate guide ears on ends with integral ESD grounding contacts
- Staggered "hot plug" first-mate/last-break contacts
- Surface Mount Compatible

Reference Information

Product Specification: PS-73826-0000
Packaging: Tray
UL File No.: E29179
CSA File No.: LR19980-239A
Mates With: 71661, 87012, 87571 and 87572
Designed In: Inches

Electrical

Voltage: 30V
Current: 1.0A
Contact Resistance: 20 milliohms max.
Dielectric Withstanding Voltage: 500V AC
Insulation Resistance: 1000 Megohms min.

Mechanical

Contact Retention to Housing: 500g min.
Mating Force: 90g max.
Unmating Force: 15g min.
Normal Force: 90g
Durability: 500 cycles min.

Physical

Housing: High-temperature thermoplastic, UL 94V-0
Retention Clip: Copper Alloy
Contact: Copper Alloy
Plating: 30µ" min. Gold over Nickel in contact area, 100µ" min. Tin over Nickel on tails

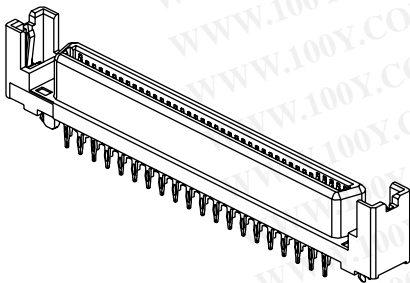
Circuits	Order No.		Lead-free
	Tail Length 3.18mm (.125")	Tail Length 3.68mm (.145")	
40	71744-1040	71744-1041	Yes
80	71744-1080	Contact Molex	

www.molex.com/product/micro/ebbi.html

1.27mm (.050") Pitch EBBI™ 50D Receptacle

73826

**Vertical, Press-Fit
SCA-2**



Features and Benefits

- Meets SCA-2 Enhanced Single Connector Attach specifications for small form factor disk drives
- Blind-mate guide ears on ends with integral ESD grounding contacts
- Staggered "hot plug" first-mate/last-break contacts
- Mates to standard .062" PC board card edge
- Press-fit tails save in applied processing costs
- Two tail lengths available

Reference Information

Product Specification: PS-73826-0000
Application Tooling:
40 circuit—Top aligner: 62100-2502
Lower support: 62100-2501
80 circuit—Top aligner: 62100-2602
Lower support: 62100-2601
Packaging: Tray
UL File No.: E29179
CSA File No.: LR19980-239A
Mates With: 71661, 87012, 87571 and 87572
Designed In: Inches

Electrical

Voltage: 30V
Current: 1.0A
Contact Resistance: 20 milliohms max.
Dielectric Withstanding Voltage: 500V AC
Insulation Resistance: 1000 Megohms min.

Mechanical

Contact Retention to Housing: 500g min.
Mating Force: 90g max.
Unmating Force: 15g min.
Normal Force: 90g
Durability: 500 cycles min.

Physical

Housing: High-temperature thermoplastic, UL 94V-0
Retention Clip: Copper Alloy
Contact: Copper Alloy
Plating: 30µ" min. Gold over Nickel in contact area, 100µ" min. Tin over Nickel on tails

Circuits	Order No.		Lead-free
	PC Tail Length 3.18mm (.125")	PC Tail Length 3.43mm (.135")	
40	73826-0002	73826-0004	RoHS compliant by exemption
80	73826-0001	73826-0003	

www.molex.com/product/micro/sca2.html

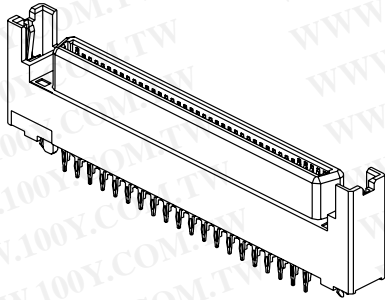


MX10 I-13

1.27mm (.050") Pitch EBBI™ 50D Receptacle

73829

Vertical, Extended Height Press Fit SCA-2



Circuits	Order No.	Lead-free
40	73829-0002	RoHS compliant by exemption
80	73829-0001	

Features and Benefits

- Meets SCA-2 Enhanced Single Connector Attach specifications for small form factor disk drives
- Blind-mate guide ears on ends with integral ESD grounding contacts
- Staggered "hot plug" first-mate/last-break contacts
- Mates to standard .062" PC board card edge
- Press-fit tails save in applied processing costs
- 3.18mm (.125") tail length

Reference Information

Product Specification: PS-73826-0000

Application Tooling:

40 circuit—Top aligner: 62100-2502
Lower support: 62100-2501

80 circuit—Top aligner: 62100-2602
Lower support: 62100-2601

Packaging: Tray

UL File No.: E29179

CSA File No.: LR19980-239A

Mates With: 71661, 87012, 87571 and 87572

Designed In: Inches

Electrical

Voltage: 30V

Current: 1.0A

Contact Resistance: 20 milliohms max.

Dielectric Withstanding Voltage: 500V AC

Insulation Resistance: 1000 Megohms min.

Mechanical

Contact Retention to Housing: 500g min.

Mating Force: 90g max. per contact

Unmating Force: 15g min. per contact

Normal Force: 90g

Durability: 500 cycles min.

Physical

Housing: High-temperature thermoplastic, UL 94V-0

Retention Clip: Copper Alloy

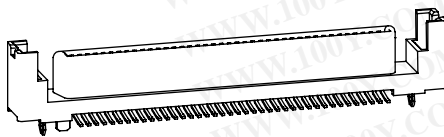
Contact: Copper Alloy

Plating: 30 μ m min. Gold over Nickel in contact area,
100 μ m min. Tin over Nickel on tails

1.27mm (.050") Pitch EBBI™ 50D Receptacle

71743

Vertical SCA-2, SMT



Features and Benefits

- Meets SCA-2 Enhanced Single Connector Attach specifications for small form factor disk drives
- Metal retention clips for mechanical hold down before and after processing
- Blind-mate guide ears on ends with integral ESD grounding contacts
- Staggered "hot plug" first-mate/last-break contacts
- Mates to standard .062" PC board card edge with low insertion force
- Surface Mount Compatible

Reference Information

Product Specification: PS-73826-0000

Packaging: Tray

UL File No.: E29179

CSA File No.: LR19980-239A

Mates With: 87012, 87571 and 87572

Designed In: Inches

Electrical

Voltage: 30V

Current: 1.0A

Contact Resistance: 20 milliohms max.

Dielectric Withstanding Voltage: 500V AC

Insulation Resistance: 1000 Megohms min.

Mechanical

Contact Retention to Housing: 500g min.

Mating Force: 90g max.

Unmating Force: 15g min.

Normal Force: 90g

Durability: 500 cycles min.

Physical

Housing: High-temperature thermoplastic, UL 94V-0

Retention Clip: Copper Alloy

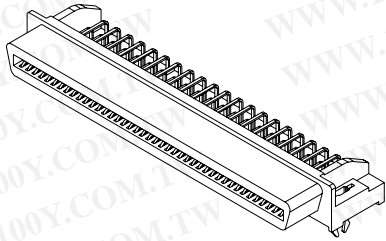
Contact: Copper Alloy

Plating: 30 μ m min. Gold over Nickel in contact area,
100 μ m min. Tin over Nickel on tails

Circuits	Order No.		Lead-free
	Retention Clip Length 2.49mm (.098")	Retention Clip Length 3.00mm (.118")	
40	71743-4040	71743-4240	Yes
80	71743-4080	71743-4280	

1.27mm (.050") Pitch EBBI™ 50D Receptacle

87552 Right Angle



Circuits	Order No.	Lead-free
50	87552-0507	Yes
68	87552-0687	
80	87552-0807	

Features and Benefits

- Sizes 50, 68 and 80 circuits
- High-density contacts with .050" spacing on 4 rows
- Leaf-style interface provides high durability
- Metal forklock provides excellent PCB retention

Reference Information

Product Specification: PS 87552-006
 Packaging: Tray
 Mates With: 71661
 Designed In: Millimeters

Electrical

Voltage: 30V
 Current: 1.0A
 Contact Resistance: 30 milliohms max.
 Dielectric Withstanding Voltage: 500V AC
 Insulation Resistance: 1000 Megohms min.

Mechanical

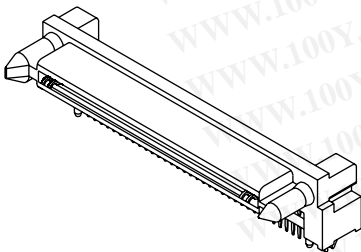
Contact Retention to Housing: 0.45kg min.
 Mating Force: 70.6N (15.87 lb) max.
 Unmating Force: 11.77N (2.64 lb) min.
 Durability: 500 cycles min.

Physical

Housing: Black high-temperature thermoplastic, UL 94V-0
 Contact: Copper Alloy
 Plating: 0.76µm min. select Gold

1.27mm (.050") Pitch EBBI™ 50D Receptacle

87537 Right Angle, Blind Mate Through Hole



Circuits	Order No.	Lead-free
68	87537-8811	Yes
	87537-8812	

Features and Benefits

- Parallel, perpendicular and in-line interconnections
- First-mate/last-break terminal
- Polarized guide posts on ends provide 2.00mm (.079") radial lead-in for blind mating
- Metal forklock provides excellent mechanical PCB retention before and after processing
- Card slot accommodates standard 1.57mm (.062") PCB

Reference Information

Product Specification: PS-87537-0001
 Packaging: Tray
 UL File No.: E29179
 CSA File No.: LR19980
 Mates With: 71661-25XX and 71661-7XXX
 Designed In: Millimeters

Electrical

Voltage: 30V AC
 Current: 1.0A
 Contact Resistance: 30 milliohms max.
 Dielectric Withstanding Voltage: 500V AC
 Insulation Resistance: 1000 Megohms min.

Mechanical

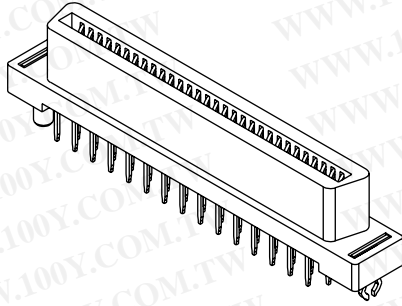
Contact Retention to Housing: 4.4N (.99 lb) min.
 Mating Force: 58.84N (13.23 lb) max.
 Unmating Force: 9.8N (2.20 lb) min.
 Durability: 2000 cycles

Physical

Housing: LCP liquid crystal polymer, UL 94V-0
 Contact: Copper Alloy
 Plating: Contact Area—0.76µm (30µ") Gold
 Solder Tail Area—100µm (2.54µ") Tin
 Underplating—Nickel

1.27mm (.050") Pitch EBBI™ 50D Receptacle

71660
Vertical



Features and Benefits

- Polarized D-shaped leaf-contact connector
- Chamfered lead-in on tails for PCB mounting
- Metal retention clips for mechanical hold down before and after processing
- Low profile—12.50mm (.492") stack height for parallel board packaging
- Mates to standard 1.60mm (.062") PCB card edge with low insertion force
- Surface Mount Compatible

Reference Information

Product Specification: PS-71660
Packaging: Tray
UL File No.: E29179
CSA File No.: LR19980-239A
Mates With: 71661
Designed In: Inches

Electrical

Voltage: 30V
Current: 1.0A
Contact Resistance: 20 milliohms max.
Dielectric Withstanding Voltage: 500V AC
Insulation Resistance: 100 Megohms min.

Mechanical

Contact Retention to Housing: 500g min.
Mating Force: 90g max.
Unmating Force: 15g min.
Normal Force: 90g
Durability: 500 cycles min.

Physical

Housing: High-temperature thermoplastic, UL 94V-0
Retention Clip: Copper Alloy
Contact: Copper Alloy
Plating: 30μ" min. Gold over Nickel in contact area,
100μ" min. Tin over Nickel on tails

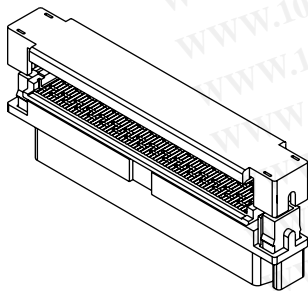
Circuits	Order No.			Lead-free
	PC Tail Length 2.79mm (.110")	PC Tail Length 3.40mm (.134")	PC Tail Length 3.94mm (.155")	
30	15-92-1430	15-92-1030	71660-1630	Yes
40	15-92-1440	15-92-1040	71660-1640	
50	15-92-1450	15-92-1050	71660-1650	
50*	15-92-1550			
60	15-92-1460	15-92-1060	71660-1660	
60	15-92-1460	15-92-1060	71660-1660	

* Circuit numbers 2-4, 8-11, 14, 17, 20, 23, 26-29, 31-32, 34, 36, 39, 42, 45, 48-49 are advanced terminals for first-mate/last-break mating

Circuits	Order No.			Lead-free
	PC Tail Length 2.79mm (.110")	PC Tail Length 3.40mm (.134")	PC Tail Length 3.94mm (.155")	
68	15-92-1468	15-92-1068	71660-1668	Yes
80	15-92-1480	15-92-1080	71660-1680	
100	15-92-1500	15-92-1100	71660-1700	
120	15-92-1520	15-92-1120	71660-1720	
130	15-92-1530	15-92-1130	71660-1730	
130	15-92-1530	15-92-1130	71660-1730	
130	15-92-1530	15-92-1130	71660-1730	

1.27mm (.050") Pitch EBBI™ 50D Receptacle

71660
Vertical
IDT



Features and Benefits

- Polarized D-shaped leaf-contact connector for wire-to-board packaging
- Terminates to 30 AWG solid or stranded .025" ribbon cable or laminated discrete wire cable (including high-performance FEP cable)
- Card slot accommodates standard .062" PCB
- Polarizing key orients connector to PCB

Reference Information

Product Specification: PS-71662
Packaging: Tray (subassembly) and bag (cover)
Tooling Information: Ribbon cable manual press and tool kit
UL File No.: E29179
CSA File No.: LR19980-239A
Mates With: 71661
Designed In: Inches

Electrical

Voltage: 30V
Current: 1.0A
Contact Resistance: 20 milliohms max.
Dielectric Withstanding Voltage: 500V AC
Insulation Resistance: 100 Megohms min.

Mechanical

Contact Retention to Housing: 500g min.
Mating Force: 90g max.
Unmating Force: 15g min.
Normal Force: 90g
Durability: 500 cycles min.

Physical

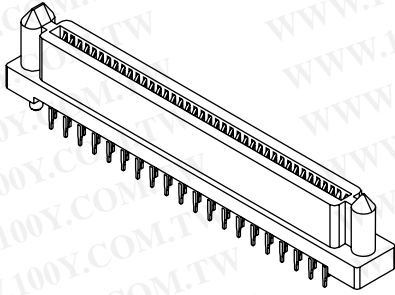
Housing: Thermoplastic, UL 94V-0
Contact: Copper Alloy
Plating: 30μ" min. Gold over Nickel in contact area,
100μ" min. Tin over Nickel on tails
Wire Range: 30 AWG solid or stranded Tinned Copper

Circuits	Order No.	Lead-free
30	71660-3530	Yes
40	71660-3540	
50	71660-3550	
60	71660-3560	
68	71660-3568	
80	71660-3580	

1.27mm (.050") Pitch EBBI™ 50D Receptacle

71660

Vertical, Blind Mate



Features and Benefits

- Polarized guide posts on ends provide generous 2.0mm radial lead-in for blind mating
- Chamfered lead-in on tails for PCB mounting
- Press-fit retention pegs for mechanical hold down before and after processing
- Mates to standard 1.60mm (.062") PCB card edge
- First-mate/last-break terminal option available
- Surface Mount Compatible

Reference Information

Product Specification: PS-71660
Packaging: Tray
UL File No.: E29179
CSA File No.: LR19980-239A
Mates With: 71661-7XXX and 71661-25XX
Designed In: Inches

Electrical

Voltage: 30V
Current: 1.0A
Contact Resistance: 20 milliohms max.
Dielectric Withstanding Voltage: 500V AC
Insulation Resistance: 100 Megohms min.

Mechanical

Contact Retention to Housing: 500g min.
Mating Force: 90g max.
Unmating Force: 15g min.
Normal Force: 90g
Durability: 500 cycles min.

Physical

Housing: High-temperature thermoplastic, UL 94V-0
Contact: Copper Alloy
Plating: 30µ" min. Gold over Nickel in contact area, 100µ" min. Tin over Nickel on tails

Circuits	Order No.			Lead-free
	PC Tail Length 2.79mm (.110")	PC Tail Length 3.40mm (.134")	PC Tail Length 3.94mm (.155")	
30	71660-7030	71660-7230	71660-7630	Yes
40*	71660-7040	71660-7240	71660-7640	
50*	71660-7050	71660-7250	71660-7650	
60	71660-7060	71660-7260	71660-7660	
68*	71660-7068	71660-7268	71660-7668	

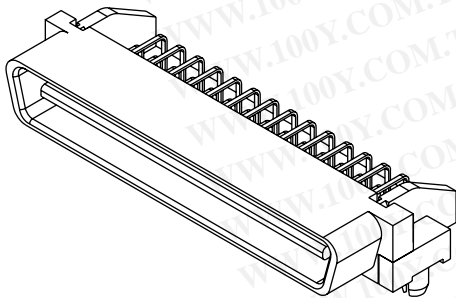
Circuits	Order No.			Lead-free
	PC Tail Length 2.79mm (.110")	PC Tail Length 3.40mm (.134")	PC Tail Length 3.94mm (.155")	
80*	71660-7080	71660-7280	71660-7680	Yes
100	71660-7100	71660-7300	71660-7700	
120	71660-7120	71660-7320	71660-7720	
130	71660-7130	71660-7330	71660-7730	

* Contact Molex for part numbers with advanced terminals for first-mate/last-break mating

1.27mm (.050") Pitch EBBI™ 50D Plug

71661

Right Angle



Features and Benefits

- Polarized D-shaped leaf-contact connector for perpendicular board packaging
- Chamfered lead-in on tails for PCB mounting
- Press-fit retention pegs for mechanical hold down before and after processing
- Surface Mount Compatible

Reference Information

Product Specification: PS-71660
Packaging: Tray
UL File No.: E29179
CSA File No.: LR19980-239A
Mates With: 71660 and 87552
Designed In: Inches

Electrical

Voltage: 30V
Current: 1.0A
Contact Resistance: 20 milliohms max.
Dielectric Withstanding Voltage: 500V AC
Insulation Resistance: 100 Megohms min.

Mechanical

Contact Retention to Housing: 500g min.
Mating Force: 90g max.
Unmating Force: 15g min.
Normal Force: 90g
Durability: 500 cycles min.

Physical

Housing: High-temperature thermoplastic, UL 94V-0
Contact: Copper Alloy
Plating: 30µ" min. Gold over Nickel in contact area, 100µ" min. Tin over Nickel on tails

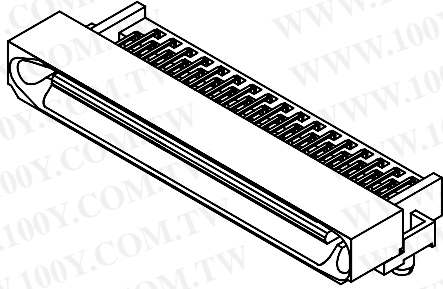
Circuits	Order No.		Lead-free
	PC Tail Length 2.79mm (.110")	PC Tail Length 3.18mm (.125")	
30	71661-2030	71661-2330	Yes
40	71661-2040	71661-2340	
50	71661-2050	71661-2350	
60	71661-2060	71661-2360	
68	71661-2068	71661-2368	

Circuits	Order No.		Lead-free
	PC Tail Length 2.79mm (.110")	PC Tail Length 3.18mm (.125")	
80	71661-2080	71661-2380	Yes
100	71661-2100	71661-2400	
120	71661-2120	71661-2420	
130	71661-2130	71661-2430	

1.27mm (.050") Pitch EBBI™ 50D Plug

71661

Right Angle, Blind Mate



Circuits	Order No.	Lead-free
30	Contact Molex	Yes
40	71661-2540	
50	Contact Molex	
60	Contact Molex	
68	71661-2568	
	71661-2518*	
80	71661-2580	
100	71661-2511	
130	71661-2513	

* 3.18mm (.125") tails for thicker boards

Features and Benefits

- Polarized guide features provide generous 2.0mm radial lead-in for blind mating
- Chamfered lead-in on tails for PCB mounting
- Press-fit retention pegs for mechanical hold down before and after processing
- Surface Mount Compatible
- 2.79mm (.110") tail length

Reference Information

Product Specification: PS-71660
Packaging: Tray
UL File No.: E29179
CSA File No.: LR19980-239A
Mates With: 71660-7XXX, 87537
Designed In: Inches

Electrical

Voltage: 30V
Current: 1.0A
Contact Resistance: 20 milliohms max.
Dielectric Withstanding Voltage: 500V AC
Insulation Resistance: 100 Megohms min.

Mechanical

Contact Retention to Housing: 500g min.
Mating Force: 90g max.
Unmating Force: 15g min.
Normal Force: 90g
Durability: 500 cycles min.

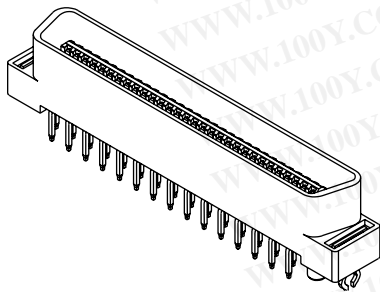
Physical

Housing: High-temperature thermoplastic, UL 94V-0
Contact: Copper Alloy
Plating: 30μ" min. Gold over Nickel in contact area,
100μ" min. Tin over Nickel on tails

1.27mm (.050") Pitch EBBI™ 50D Plug

71661

Vertical



Features and Benefits

- Polarized D-shaped leaf-contact connector
- Metal retention clips for mechanical hold down before and after processing
- Low profile—12.50mm (.492") stack height for parallel board packaging
- Surface Mount Compatible

Reference Information

Product Specification: PS-71660
Packaging: Tray
UL File No.: E29179
CSA File No.: LR19980-239A
Mates With: 71660 and 87552
Designed In: Inches

Electrical

Voltage: 30V
Current: 1.0A
Contact Resistance: 20 milliohms max.
Dielectric Withstanding Voltage: 500V AC
Insulation Resistance: 100 Megohms min.

Mechanical

Contact Retention to Housing: 500g min.
Mating Force: 90g max.
Unmating Force: 15g min.
Normal Force: 90g
Durability: 500 cycles min.

Physical

Housing: High-temperature thermoplastic, UL 94V-0
Retention Clip: Copper Alloy
Contact: Copper Alloy
Plating: 30μ" min. Gold over Nickel in contact area,
100μ" min. Tin over Nickel on tails

Circuits	Order No.		Lead-free
	PC Tail Length 2.79mm (.110")	PC Tail Length 3.40mm (.134")	
30	15-92-2430	15-92-2030	Yes
40	15-92-2440	15-92-2040	
50	15-92-2450	15-92-2050	
60	15-92-2460	15-92-2060	
68	15-92-2468	15-92-2068	

Circuits	Order No.		Lead-free
	PC Tail Length 2.79mm (.110")	PC Tail Length 3.40mm (.134")	
80	15-92-2480	15-92-2080	Yes
100	15-92-2500	15-92-2100	
120	15-92-2520	15-92-2120	
130	15-92-2530	15-92-2130	

1.27mm (.050") Pitch EBBI™ 50D Plug 71661 Vertical, Blind Mate



Features and Benefits

- Polarized guide features provide generous 2.0mm radial lead-in for blind mating
- Press-fit retention pegs for mechanical hold down before and after processing
- Low profile—12.50mm (.492") stack height for parallel board stacking
- Surface Mount Compatible

Reference Information

Product Specification: PS-71660
Packaging: Tray
UL File No.: E29179
CSA File No.: LR19980-239A
Mates With: 71660-7XXX
Designed In: Inches

Electrical

Voltage: 30V
Current: 1.0A
Contact Resistance: 20 milliohms max.
Dielectric Withstanding Voltage: 500V AC
Insulation Resistance: 100 Megohms min.

Mechanical

Contact Retention to Housing: 500g min.
Mating Force: 90g max.
Unmating Force: 15g min.
Normal Force: 90g
Durability: 500 cycles min.

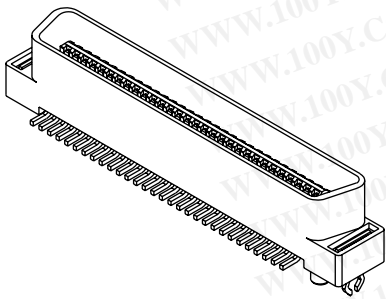
Physical

Housing: High-temperature thermoplastic, UL 94V-0
Contact: Copper Alloy
Plating: 30μ" min. Gold over Nickel in contact area,
100μ" min. Tin over Nickel on tails

Circuits	Order No.		Lead-free
	PC Tail Length 2.79mm (.110")	PC Tail Length 3.40mm (.134")	
30	71661-7030	71661-7230	Yes
40	71661-7040	71661-7240	
50	71661-7050	71661-7250	
60	71661-7060	71661-7260	
68	71661-7068	71661-7268	

Circuits	Order No.		Lead-free
	PC Tail Length 2.79mm (.110")	PC Tail Length 3.40mm (.134")	
80	71661-7080	71661-7280	Yes
100	71661-7100	71661-7300	
120	71661-7120	71661-7320	
130	71661-7130	71661-7330	

1.27mm (.050") Pitch EBBI™ 50D Plug 74139 Vertical SMT



Features and Benefits

- Polarized D-shaped leaf-contact connector for parallel board packaging
- SMT high-temperature 94V-0 thermoplastic
- Metal retention clips for mechanical hold down before and after processing
- SMT terminals in-line on 1.27mm (.050") spacing for easy processing

Reference Information

Product Specification: PS-71660
Packaging: Tray
UL File No.: E29179
CSA File No.: LR19980-239A
Mates With: 71660 and 87552
Designed In: Inches

Electrical

Voltage: 30V
Current: 1.0A
Contact Resistance: 20 milliohms max.
Dielectric Withstanding Voltage: 500V AC
Insulation Resistance: 100 Megohms min.

Mechanical

Contact Retention to Housing: 500g min.
Mating Force: 90g max.
Unmating Force: 15g min.
Normal Force: 90g
Durability: 500 cycles min.

Physical

Housing: High-temperature thermoplastic, UL 94V-0
Contact: Copper Alloy
Plating: 30μ" min. Gold over Nickel in contact area,
100μ" min. Tin over Nickel on tails

Circuits	Order No.	Lead-free
30	74139-5030	Yes
	74139-5031*	
40	74139-5040	
50	74139-5050	
60	74139-5060	

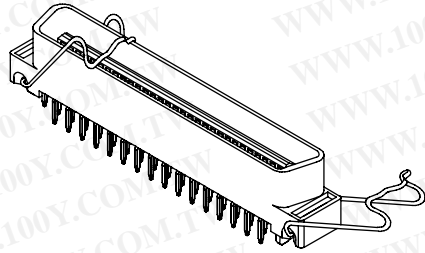
Circuits	Order No.	Lead-free
68	74139-5068	Yes
	74139-5069*	
80	74139-5080	
100	74139-5100	

* Longer clips for use with 2.95mm (.116") boards

1.27mm (.050") Pitch EBBI™ 50D Plug

71661

Vertical, with Bail Latches



Features and Benefits

- Bail latches provide secure mounting to mating EBBI receptacle
- Polarized D-shaped, leaf-contact connector
- Metal retention clips for mechanical hold down before and after processing
- Low profile—12.50mm (.492") stack height for parallel board packaging
- Surface Mount Compatible

Reference Information

Product Specification: PS-71660
Packaging: Tray
UL File No.: E29179
CSA File No.: LR19980-239A
Mates With: 71660 and 87552
Designed In: Inches

Electrical

Voltage: 30V
Current: 1.0A
Contact Resistance: 20 milliohms max.
Dielectric Withstanding Voltage: 500V AC
Insulation Resistance: 100 Megohms min.

Mechanical

Contact Retention to Housing: 500g min.
Mating Force: 90g max.
Unmating Force: 15g max.
Normal Force: 90g
Durability: 500 cycles min.

Physical

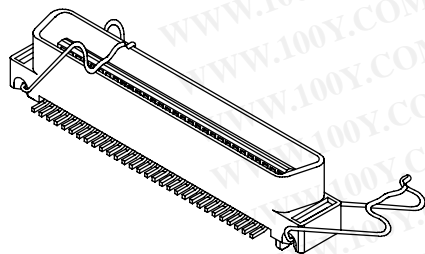
Housing: High temperature thermoplastic, UL 94V-0
Contact: Copper Alloy
Board Locks: Copper Alloy
Bail Latches: Stainless Steel
Plating: Contact Area—30μ" gold
Solder Tail Area—Tin
Underplating—Nickel

Circuits	Order No.	Tail length	Lead-free
30	71661-1530	2.79mm (.110")	Yes
60	71661-1560	3.40mm (.134")	
	71661-1561		
68	71661-1568	2.79mm (.110")	
	71661-1569	3.40mm (.134")	
80	71661-1580	2.79mm (.110")	

1.27mm (.050") Pitch EBBI™ 50D Plug

74139

Vertical, SMT, with Bail Latches



Features and Benefits

- Bail latches provide secure mounting to mating EBBI receptacle
- Polarized D-shaped, leaf-contact connector for parallel board packaging
- SMT high temperature thermoplastic

Reference Information

Product Specification: PS-71660
Packaging: Tray
UL File No.: E29179
CSA File No.: LR19980-239A
Mates With: 71660 and 87552
Designed In: Inches

Electrical

Voltage: 30V
Current: 1.0A
Contact Resistance: 20 milliohms max.
Dielectric Withstanding Voltage: 500V AC
Insulation Resistance: 100 Megohms min.

Mechanical

Contact Retention to Housing: 500g min.
Mating Force: 90g max.
Unmating Force: 15g max.
Normal Force: 90g
Durability: 500 cycles min.

Physical

Housing: High temperature thermoplastic, UL 94V-0
Contact: Copper Alloy
Board Locks: Copper Alloy
Bail Latches: Stainless Steel
Plating: Contact Area—30μ" Gold
Solder Tail Area—Tin
Underplating—Nickel

Circuits	Order No.	Lead-free
30	74139-5530	Yes
60	74139-5660	
68	74139-5568	
	74139-5569*	
100	74139-5600	

*Longer clips for use with 2.95mm (.116") boards