ACES Electronics Co., Ltd.

Server & Storage
Medical
Automotive
Wearable Devices
Computer Peripheral Devices
Mobile Phone & DSC

Ultrabook Tablet PC

Achieve Your Ideas.

Aces offers extensive design, engineering and manufacturing to serve variant products in industries that include computer, computer peripherals, business equipment, home entertainment and telecommunications.
知識的力量
Power of Knowledge
About Us

Company name: ACES Electronic Co., Ltd

- Established: November, 1996
- Staff Strength: > 4000
- Headquarters: Taoyuan, Taiwan
- Manufacturing Sites: Taiwan PEC; Kunshan, China; Dongguan, China
- Certifications: ISO 9001, ISO 14001, TL9000, ISO/TS16949, OHSAS 18001, QC 080000

ACES offers comprehensive connector solutions for a wide array of electronic applications, including NB Computers, Cellular Phones, Digital Cameras, etc., headquartered in Taoyuan Taiwan with overseas manufacturing facilities in Dongguan, Kunshan.

ACES provides shorter product development and production cycles to meet business and development goals through its matured capability in product development, tooling design/ fabrication, and well-established manufacturing processes. Its highly experienced team is committed to realizing customers’ vision in business and technology. Meanwhile, ACES is reaching out to wider spectrum of customers with its recent development in the arena of high-speed/high-frequency telecommunications and automotive electronics.

In 2015, ACES is more aggressive on the integration of vertical & horizontal markets. Currently, the Electroplating Factory – Gals has been officially operated. ACES co-works with NTGEC on the Development of Automotive Wiring Harness, also, works with MEC on Development of Wiring for both consumer and industrial grade markets. The main target is to extract the experience on technology, and increase the capability to improve the competitiveness of quality and service.

In the future, ACES will keep focusing on quality, productivity, and speed to delivery to earn more trust of global companies. Keep looking for the advanced technology, then deploy to worldwide to achieve the leading brand of Connector.
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<tr>
<th>Photos</th>
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| ![0.4mm](image) | 0.4mm | Features:  
- Ultra-slim 0.4mm pitch SMT Board-to-Board connector  
- Mating height range support from 0.9mm to 4.0mm.  
- Low profile and space efficient connector  
Applications:  
- Cellular phone / mobile PC / Slim Notebook-PC / MP3 Player / DSC /DVD |
| ![0.5mm](image) | 0.5mm | Features:  
- 0.5mm pitch SMT Board-To-Board connectors  
- Mating height ranges support from 2.0mm to 13.8mm.  
- Over 20 series of connector to meet widely requirement  
Applications:  
- Camcorders / Notebook PC / Game player |
| ![0.635mm](image) | 0.635mm | Features:  
- 0.635mm pitch SMT Board-To-Board connectors  
- The mating range from 4.0 to 8.0 mm  
- Ni barrier on contact of both plug and receptacle prevents solder wicking  
Applications:  
- PDAs / cellular phones / notebook PCs and other compact equipment. |
| ![0.8mm](image) | 0.8mm | Features:  
- 0.8mm pitch SMT Board-to-Board connector  
- The family covers mating height ranges support from 2.3mm to 18mm  
- Ni barrier on contact of both plug and receptacle prevents solder wicking  
Applications:  
- Personal computer audio and modem codec solutions / Game Player / Medical equipment |
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★ High Speed (SATA gen3 • USB3.0 • Type C)
© Key P/N
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*High Speed (SATA gen3 · USB3.0 · Type C)*

© Key P/N
## Board To Board Connector

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- **High Speed (SATA gen3 · USB3.0 · Type C)**
- **Key P/N**

*Aces offers extensive design, engineering and manufacturing to solve custom products in industries that include computer, computer peripherals, business equipment, home entertainment and telecommunications.*
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- High Speed (SATA gen3 - USB3.0 - Type C)
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★ High Speed (SATA gen3 \ USB3.0 \ Type C)
** Key P/N
### Board To Board Connector

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- High Speed (SATA gen3 + USB3.0 + Type C)
- Key P/N

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A c h i e v e Y o u r I d e a s.

Aces offers extensive design, engineering and manufacturing to serve various products in industries that include computer, computer peripherals, business equipment, home entertainment and telecommunications.
### Board To Board Connector

#### Pitch: 0.635mm
**Series:** A635M

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#### Pitch: 1.0mm
**Series:** A1J

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**Series:** A125T

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★ High Speed (SATA gen3 - USB3.0 - Type C)
© Key P/N
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<th>Features</th>
<th>Reference Information</th>
<th>Mated P/N</th>
<th>High Speed Product</th>
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| **51167 Series** | 0.4mm Pitch BTB Plug Conn. SMT D/R S/T H=0.65mm Type | Voltage: 60V AC/DC (Per Pin)  
Current: 0.3A (Per Pin)  
Contact Resistance: 70mΩ max.  
Dielectric Withstanding Voltage: 150V AC/DC  
Insulation Resistance: 1000 MΩ min.  
Operating Temp.: -55°C ~ +85°C | Mated P/N: 51167  
★ High Speed Product: SATA gen3, USB3.0 - Type C |                          |                                    |
| **51168 Series** | 0.4mm Pitch BTB Rcept. Conn. SMT D/R S/T H=0.77mm Type | Voltage: 60V AC/DC (Per Pin)  
Current: 0.3A (Per Pin)  
Contact Resistance: 70mΩ max.  
Dielectric Withstanding Voltage: 150V AC/DC  
Insulation Resistance: 1000 MΩ min.  
Operating Temp.: -55°C ~ +85°C | Mated P/N: 51167  
★ High Speed Product: SATA gen3, USB3.0 - Type C |                          |                                    |
| **51023 Series** | 0.4mm Pitch BTB Plug Conn. SMT D/R S/T H=0.83mm Type | Voltage: 60V AC/DC (Per Pin)  
Current: 0.5A (Per Pin)  
Contact Resistance: 70mΩ max.  
Dielectric Withstanding Voltage: 300V AC/DC  
Insulation Resistance: 500 MΩ min.  
Operating Temp.: -55°C ~ +85°C | Mated P/N: 51024  
★ High Speed Product: SATA gen3, USB3.0 - Type C |                          |                                    |
| **51024 Series** | 0.4mm Pitch BTB Rcept. Conn. SMT D/R S/T H=0.97mm Type | Voltage: 60V AC/DC (Per Pin)  
Current: 0.5A (Per Pin)  
Contact Resistance: 55mΩ max.  
Dielectric Withstanding Voltage: 150V AC/DC  
Insulation Resistance: 1000 MΩ min.  
Operating Temp.: -55°C ~ +80°C | Mated P/N: 51023  
★ High Speed Product: SATA gen3, USB3.0 - Type C |                          |                                    |
| **50185 Series** | 0.4mm Pitch BTB Plug Conn. SMT D/R S/T H=1.2mm Type | Voltage: 50V AC (Per Pin)  
Current: 0.5A (Per Pin)  
Contact Resistance: 70mΩ max.  
Dielectric Withstanding Voltage: 300V AC/DC  
Insulation Resistance: 500 MΩ min.  
Operating Temp.: -55°C ~ +85°C | Mated P/N: 51049, 50170, 50010, 50009  
★ High Speed Product: SATA gen3, USB3.0 |                          |                                    |
| **51049 Series** | 0.4mm Pitch BTB Rcept. Conn. SMT D/R S/T H=1.34mm Type | Voltage: 50V AC (Per Pin)  
Current: 0.5A (Per Pin)  
Contact Resistance: 55mΩ max.  
Dielectric Withstanding Voltage: 300V AC/DC  
Insulation Resistance: 500 MΩ min.  
Operating Temp.: -55°C ~ +80°C | Mated P/N: 51085, 50011  
★ High Speed Product: SATA gen3, USB3.0 |                          |                                    |
**50011 Series**
0.4mm Pitch BTB Plug Conn.
SMT D/R S/T H=1.64mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: 0.5A (Per Pin)
- Contact Resistance: 55mΩ max.
- Dielectric Withstanding Voltage: 300V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +80°C

Reference Information
Mated P/N: 51050, 51049, 50012

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**50180 Series**
0.4mm Pitch BTB Rct. Conn.
SMT D/R S/T H=3.4mm Type

**Electrical**
- Voltage: 50V AC (per pin)
- Current: 0.5A (per pin)
- Contact Resistance: 70mΩ max.
- Dielectric Withstanding Voltage: 250V AC
- Insulation Resistance: 1000 MΩ min.
- Operating Temp.: -40°C ~ +80°C

Reference Information
Mated P/N: 50177

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**50013 Series**
0.5mm Pitch BTB Plug Conn.
SMT D/R S/T H=2.3mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: 0.5A (Per Pin)
- Contact Resistance: 55mΩ max.
- Dielectric Withstanding Voltage: 300V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +80°C

Reference Information
Mated P/N: 50014

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**50014 Series**
0.5mm Pitch BTB Plug Conn.
SMT D/R S/T H=2.3mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: 0.5A (Per Pin)
- Contact Resistance: 55mΩ max.
- Dielectric Withstanding Voltage: 300V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +80°C

Reference Information
Mated P/N: 50013

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**51005 Series**
0.5mm Pitch BTB Plug Conn.
SMT D/R S/T H=2.8mm Type

**Electrical**
- Voltage: 100V AC (Per Pin)
- Current: 0.5Amperees (Per Pin)
- Contact Resistance: 50mΩ max.
- Dielectric Withstanding Voltage: 250V AC/rms
- Insulation Resistance: 1000 MΩ min.
- Operating Temp.: -40°C ~ +85°C

Reference Information
Mated P/N: 50014, 51006

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**51006 Series**
0.5mm Pitch BTB Rct. Conn.
SMT D/R S/T H=2.2mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: 0.3 Amperees (per pin)
- Contact Resistance: 55mΩ max.
- Dielectric Withstanding Voltage: 150 VAC Min.
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +85°C

Reference Information
Mated P/N: 51005
Board To Board Connector

51038 Series
0.80mm Pitch BTB Plug Conn.
SMT D/R S/T H=4.65mm Type

Electrical
Voltage : 50V AC (Per Pin)
Current : 0.5A (Per Pin)
Contact Resistance : 40mΩ max.
Dielectric Withstanding Voltage : 300V AC/rms
Insulation Resistance : 500 MΩ min.
Operating Temp. : -40°C ~ +85°C

Reference Information
Mated P/N : 51039

51039 Series
0.80mm Pitch BTB Rcept. Conn.
SMT D/R S/T H=3.8mm Type

Electrical
Voltage : 50V AC (Per Pin)
Current : 0.5A (Per Pin)
Contact Resistance : 40mΩ max.
Dielectric Withstanding Voltage : 300V AC/rms
Insulation Resistance : 500 MΩ min.
Operating Temp. : -40°C ~ +85°C

Reference Information
Mated P/N : 51038 - 51053

50111 Series
0.8mm BTB D/R Plug Conn.
SMT D/R S/T H=2.84mm Type

Electrical
Voltage : 100V AC (Per Pin)
Current : 0.5Amperes (Per Pin)
Contact Resistance : 50mΩ max.
Dielectric Withstanding Voltage : 250V AC/rms
Insulation Resistance : 1000 MΩ min.
Operating Temp. : -40°C ~ +85°C

Reference Information
Mated P/N : 50103,50105,50106,50103,50104,50164,50128,50139,50100

50100 Series
0.8mm Pitch BTB Rcept.Conn.
SMT D/R S/T H=2.35mm Type

Electrical
Voltage : 100V AC (Per Pin)
Current : 0.5Amperes (Per Pin)
Contact Resistance : 50mΩ max.
Dielectric Withstanding Voltage : 250V AC/rms
Insulation Resistance : 1000 MΩ min.
Operating Temp. : -55°C ~ +85°C

Reference Information
Mated P/N : 50107,50110,50109,50111,50112,50113,50114,50115,50116,50117,50118,50119,50120,50121,50122,50123,50124,50125,50126,50127,50189
★ High Speed Product : USB3.0

51035 Series
1.25mm Pitch BTB Plug Conn.
SMT D/R S/T H=4.25mm Type

Electrical
Voltage : 50V AC (Per Pin)
Current : 0.5A (Per Pin)
Contact Resistance : 50mΩ max.
Dielectric Withstanding Voltage : 300V AC/rms
Insulation Resistance : 500 MΩ min.
Operating Temp. : -30°C ~ +105°C

Reference Information
Mated P/N : 51036

51036 Series
1.25mm Pitch BTB Rcept. Conn.
SMT D/R S/T H=3.4mm Type

Electrical
Voltage : 50V AC (Per Pin)
Current : 0.5A (Per Pin)
Contact Resistance : 50mΩ max.
Dielectric Withstanding Voltage : 300V AC/rms
Insulation Resistance : 500 MΩ min.
Operating Temp. : -30°C ~ +105°C

Reference Information
Mated P/N : 51035
### Wire To Board Connector

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<th>Photos</th>
<th>Product Family</th>
<th>Product Family Description</th>
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<td><img src="image1" alt="IDC Type" /></td>
<td>IDC Type</td>
<td>0.6/0.8/1.0mm pitch wire-to-board insulation displacement connector. Compact and low profile feature with the lowest height of 1.2mm to 3.0mm availability.</td>
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<tr>
<td><img src="image2" alt="Crimping Type" /></td>
<td>Crimping Type</td>
<td>1.0/1.25/1.5/2.0/2.5mm pitch wire-to-board connector series are designed for a wide variety of applications in Industrial and Consumer markets. The range consists of terminals, crimp housings and PCB headers in straight and right angle, surface mount and through mount configurations. Single row and double row design with space saving, available from 2 to 60 circuits.</td>
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<tr>
<td><img src="image3" alt="Power Type" /></td>
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<td>1.2/1.5/2.0mm pitch wire to board connectors are low profile and compact with pin count availability for 2~18 circuits. The low profile and compact design of the connector gives its advantage in applications where space is tight and also offer larger current for battery usage.</td>
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<td><img src="image4" alt="Lock type" /></td>
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<td>These highly reliable connectors are available in surface mount and through mount, single row and double row, side and top entry configurations. They incorporate both polarization and a secure locking feature designed to provide strong mating retention for consumer, commercial and industrial applications.</td>
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# Wire To Board Connector

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<th>TYPE</th>
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<th>Operation Direction</th>
<th>Product Height (mm)</th>
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|               |           |        |            |             |                     |                    |           | AWG#32 0.8A       |      |
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|               | Terminal  | 87214-W| 1.0        | -            | -                   | -                  | 50233     |                    |      |
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|               |           |        |            |             |                     |                    |           | AWG#32 1.0A       |      |
|               | Housing   | 50247  | 1.0        | -            | D/R                 | 4.9                | 50238     |                    |      |
|               | Terminal  | 87214-W| 1.0        | -            | -                   | -                  | 50247     |                    |      |
| Crimping Type | Wafer     | 50257  | 1.0        | SMT          | D/R R/A             | 4.68               | 50258     | AWG#28 1A         |      |
|               |           |        |            |             |                     |                    |           | AWG#30 1A         |      |
|               |           |        |            |             |                     |                    |           | AWG#32 1A         |      |
|               | Housing   | 50258  | 1.0        | -            | D/R                 | -                  | 50257     |                    |      |
|               | Terminal  | 88252-0001 | 1.0      | -            | -                   | -                  | 50257     |                    |      |

★ High Speed (SATA gen3 - USB3.0 - Type C)
◎ Key P/N
## Wire To Board Connector

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★ High Speed (SATA gen3 - USB3.0 - Type C)  
© Key P/N
# Wire To Board Connector

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*High Speed (SATA gen3 \cdot USB3.0 \cdot Type C)*
© Key P/N
# Wire To Board Connector

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<th>Type</th>
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- High Speed (SATA gen3  •  USB3.0  •  Type C)
- Key P/N
50376 Series
0.6mm Pitch WTB IDC Male Conn.
SMT S/R A/H = 1.60mm Type

Electrical
Voltage: 30V AC (Per Pin)
Current: AWG#34/0.5A - AWG#36/0.5A
Contact Resistance: 50mΩ max.
Dielectric Withstanding Voltage: 200V AC/ rms
Insulation Resistance: 100 MΩ min.
Operating Temp: -40°C ~ +85°C

Reference Information
Mated P/N: 51224

51232 Series
0.8mm Pitch WTB IDC Male Conn.
SMT S/R A/H = 1.2mm Type

Electrical
Voltage: 30V AC (Per Pin)
Current: AWG#32/1.0A
Contact Resistance: 40mΩ max.
Dielectric Withstanding Voltage: 250V AC/ rms
Insulation Resistance: 100 MΩ min.
Operating Temp: -40°C ~ +85°C

Reference Information
Mated P/N: 51233

51224 Series
0.6mm Pitch WTB IDC Female Conn.

Electrical
Voltage: 30V AC (Per Pin)
Current: AWG#34/0.5A - AWG#36/0.5A
Contact Resistance: 50mΩ max.
Dielectric Withstanding Voltage: 200V AC/ rms
Insulation Resistance: 100 MΩ min.
Operating Temp: -40°C ~ +85°C

Reference Information
Mated P/N: 50376

51233 Series
0.8mm Pitch WTB IDC Female Conn.

Electrical
Voltage: 30V AC (Per Pin)
Current: AWG#32/1.0A
Contact Resistance: 40mΩ max.
Dielectric Withstanding Voltage: 250V AC/ rms
Insulation Resistance: 100 MΩ min.
Operating Temp: -40°C ~ +85°C

Reference Information
Mated P/N: 51232

50208 Series
0.8mm Pitch WTB IDC Male Conn.
SMT S/R A/H = 1.70mm Type

Electrical
Voltage: 36V AC (Per Pin)
Current: AWG#32/0.7A
Contact Resistance: 40mΩ max.
Dielectric Withstanding Voltage: 500V AC/ rms
Insulation Resistance: 100 MΩ min.
Operating Temp: -25°C ~ +85°C

Reference Information
Mated P/N: 50375

50375 Series
0.8mm Pitch WTB IDC Female Conn.

Electrical
Voltage: 50V AC (Per Pin)
Current: AWG#32/0.7A
Contact Resistance: 40mΩ max.
Dielectric Withstanding Voltage: 500V AC/ rms
Insulation Resistance: 100 MΩ min.
Operating Temp: -25°C ~ +85°C

Reference Information
Mated P/N: 50208
Wire To Board Connector

**50214 Series**
1.0mm Pitch WTB IDC Male Conn.
SMT S/R R/A H=2.0mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: AWG#32/0.5A
- Contact Resistance: 40mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 1000 MΩ min.
- Operating Temp.: -40°C ~ +85°C

**Reference Information**
Mated P/N: 50216

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**50216 Series**
1.0mm Pitch WTB IDC Female Conn.

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: AWG#32/0.5A
- Contact Resistance: 40mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 1000 MΩ min.
- Operating Temp.: -40°C ~ +85°C

**Reference Information**
Mated P/N: 50214

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**51309 Series**
1.25 mm Pitch IDC Male Conn.
SMT S/R R/A H=4.15mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: AWG#26/2.0A
- Contact Resistance: 30mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 100 MΩ min.
- Operating Temp.: -25°C ~ +75°C

**Reference Information**
Mated P/N: 51308

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**51308 Series**
1.25 mm Pitch IDC Female Conn.

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: AWG#26/2.0A
- Contact Resistance: 30mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 100 MΩ min.
- Operating Temp.: -25°C ~ +75°C

**Reference Information**
Mated P/N: 51309
Wire To Board Connector

**51263 Series**
1.2mm Pitch WTB Wafer Conn.
SMT S/R S/T H=1.2mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: AWG#28/3.0A - AWG#30/2.5A
- Contact Resistance: 20mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 1000 MΩ min.
- Operating Temp.: -40°C ~ +85°C

Reference Information
Mated Housing: 51264
Mated Terminal: 51264-T

**51264-T Series**
1.2mm Pitch WTB Crimp Terminal

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: AWG#28/3.0A - AWG#30/2.5A
- Contact Resistance: 20mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 1000 MΩ min.
- Operating Temp.: -40°C ~ +85°C

Reference Information
Mated Wafer: 51263
Mated Housing: 51264

**51491 Series**
1.2mm Pitch WTB Wafer Conn.
SMT S/R S/T H=1.2mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: AWG#28/3A
- Contact Resistance: 20mΩ max.
- Dielectric Withstanding Voltage: 300V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +85°C

Reference Information
Mated Housing: 51492
Mated Terminal: 51492-T

**51492-T Series**
1.2mm Pitch WTB Crimp Terminal

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: AWG#28/3A
- Contact Resistance: 20mΩ max.
- Dielectric Withstanding Voltage: 300V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +85°C

Reference Information
Mated Wafer: 51491
Mated Housing: 51492
51273 Series
1.2mm Pitch WTB Wafer Conn
SMT S/R S/T H=1.45mm Type

Electrical
Voltage: 50V AC (Per Pin)
Current: AWG#28/3.0A - AWG#30/2.0A
Contact Resistance: 20mΩ max. - 40mΩ max
Dielectric Withstanding Voltage: 500V AC/rms
Insulation Resistance: 100 MΩ min.
Operating Temp.: -25°C ~ +85°C

Reference Information
Mated Housing: 50270
Mated Terminal: 91224

50270 Series
1.2mm Pitch WTB Housing

Reference Information
Mated Wafer: 51273
Mated Terminal: 91224

91224 Series
1.2mm Pitch WTB Crimp Terminal

Electrical
Voltage: 50V AC (Per Pin)
Current: AWG#28/3.0A - AWG#30/2.0A
Contact Resistance: 40mΩ max.
Dielectric Withstanding Voltage: 500V AC/rms
Insulation Resistance: 100 MΩ min.
Operating Temp.: -25°C ~ +85°C

Reference Information
Mated Wafer: 51273
Mated Housing: 50270

51306 Series
2.0mm Pitch WTB Wafer Conn.
SMT S/R R/A H=2.02mm Type

Electrical
Voltage: 50V AC (Per Pin)
Current: AWG#24/4.0A - AWG#26/3.5A - AWG#28/3.5A
Contact Resistance: 20mΩ max.
Dielectric Withstanding Voltage: 300V AC/rms
Insulation Resistance: 500 MΩ min.
Operating Temp.: -40°C ~ +80°C

Reference Information
Mated Housing: 50459
Mated Terminal: 50459-T07

50459 Series
2.0mm Pitch WTB Housing

Reference Information
Mated Wafer: 51306
Mated Terminal: 50459-T07

50459-T07 Series
2.0mm WTB Crimp Terminal

Electrical
Voltage: 50V AC (Per Pin)
Current: AWG#24/4.0A - AWG#26/3.5A - AWG#28/3.5A
Contact Resistance: 20mΩ max.
Dielectric Withstanding Voltage: 300V AC/rms
Insulation Resistance: 500 MΩ min.
Operating Temp.: -40°C ~ +80°C

Reference Information
Mated Wafer: 51306
Mated Housing: 50459
**Wire To Board Connector**

### 50224 Series
1.0mm Pitch WTB Wafer Conn.  
SMT S/R R/A H=2.9mm Type

**Electrical**  
Voltage: 50V AC (Per Pin)  
Current: AWG#28/1.5A - AWG#30/1.0A - AWG#32/0.8A  
Contact Resistance: 10mΩ max.  
Dielectric Withstanding Voltage: 250V AC/ rms  
Insulation Resistance: 100 MΩ min.  
Operating Temp.: -40°C ~ +85°C

Reference Information  
Mated Housing: 50233  
Mated Terminal: 87214-W

### 87214-W Series
1.0mm Pitch WTB Crimp Terminal

**Electrical**  
Voltage: 50V AC (Per Pin)  
Current: AWG#28/1.5A - AWG#30/1.0A - AWG#32/0.8A  
Contact Resistance: 55mΩ max.  
Dielectric Withstanding Voltage: 250V AC/ rms  
Insulation Resistance: 100 MΩ min.  
Operating Temp.: -40°C ~ +85°C

Reference Information  
Mated Wafer: 50224  
Mated Housing: 50233

### 50233 Series
1.0mm Pitch WTB Housing

**Electrical**  
Voltage: 50V AC (Per Pin)  
Contact Resistance: 55mΩ max.  
Dielectric Withstanding Voltage: 250V AC/ rms  
Insulation Resistance: 100 MΩ min.  
Operating Temp.: -40°C ~ +85°C

Reference Information  
Mated Wafer: 50224  
Mated Terminal: 87214-W

### 51241 Series
1.25mm Pitch WTB Wafer Conn.  
SMT S/R S/T H=4.9mm type

**Electrical**  
Voltage: 125V AC (Per Pin)  
Current: AWG#28/1.0A - AWG#30/1.0A - AWG#32/0.8A  
Contact Resistance: 55mΩ max.  
Dielectric Withstanding Voltage: 300V AC/ rms  
Insulation Resistance: 100 MΩ min.  
Operating Temp.: -45°C ~ +85°C

Reference Information  
Mated Housing: 50276  
Mated Terminal: 85206-T

### 85206-T Series
1.25mm Pitch WTB Crimp Terminal

**Electrical**  
Voltage: 125V AC (Per Pin)  
Current: AWG#28/1.0A - AWG#30/1.0A - AWG#32/0.8A  
Contact Resistance: 20mΩ max.  
Dielectric Withstanding Voltage: 500V AC/ rms  
Insulation Resistance: 100 MΩ min.  
Operating Temp.: -40°C ~ +85°C

Reference Information  
Mated Wafer: 51241  
Mated Housing: 50276
**Wire To Board Connector**

**51202 Series**
1.5mm Pitch WTB Wafer Conn.
SMT S/R R/A H=2.76mm Type

**Electrical**
- Voltage : 50V AC (Per Pin)
- Current : AWG#24/4.0A - AWG#26/3.0A
- Contact Resistance : 20mΩ max.
- Dielectric Withstanding Voltage : 500V AC/rms
- Insulation Resistance : 500 MΩ min.
- Operating Temp. : -40°C ~ +85°C

**Reference Information**
- Mated Housing : 51203
- Mated Terminal : 51203-T

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**51203 Series**
1.5mm Pitch WTB Housing

**Electrical**
- Voltage : 50V AC (Per Pin)
- Contact Resistance : 20mΩ max.
- Dielectric Withstanding Voltage : 500V AC/rms
- Insulation Resistance : 500 MΩ min.
- Operating Temp. : -40°C ~ +85°C

**Reference Information**
- Mated Wafer : 51203
- Mated Terminal : 51203-T

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**50459 Series**
2.0mm Pitch WTB Housing

**Electrical**
- Voltage : 50V AC (Per Pin)
- Contact Resistance : 20mΩ max.
- Dielectric Withstanding Voltage : 300V AC/rms
- Insulation Resistance : 500 MΩ min.
- Operating Temp. : -40°C ~ +80°C

**Reference Information**
- Mated Wafer : 50459
- Mated Terminal : 50459-T01

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**50459-T Series**
2.0mm Pitch WTB Crimp Terminal

**Electrical**
- Voltage : 50V AC (Per Pin)
- Current : AWG#24/3.5A - AWG#26/3.5A - AWG#28/3.0A
- Contact Resistance : 20mΩ max.
- Dielectric Withstanding Voltage : 300V AC/rms
- Insulation Resistance : 500 MΩ min.
- Operating Temp. : -40°C ~ +80°C

**Reference Information**
- Mated Wafer : 50459
- Mated Housing : 50459
**Wire To Board Connector**

**51323 Series**
1.25mm Pitch WTB Wafer Conn
SMT D/R /R/A H=7.75mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: AWG#26/1.5 A - AWG#28/1.0A - AWG#30/1.0A
- Contact Resistance: 50mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 100 MΩ min.
- Operating Temp.: -40°C ~ +85°C

**Reference Information**
- Mated Housing: 51324
- Mated Terminal: 51324-T

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**51324 Series**
1.25mm Pitch WTB Housing

**Electrical**
- Voltage: 50V AC (Per Pin)
- Contact Resistance: 20mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 100 MΩ min.
- Operating Temp.: -40°C ~ +85°C

**Reference Information**
- Mated Wafer: 51323
- Mated Terminal: 51324-T

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**51209 Series**
2.0mm Pitch WTB Wafer Conn.
T/H S/R S/T H=7.8mm Type

**Electrical**
- Voltage: 30V AC (Per Pin)
- Current: AWG#22/3.0A - AWG#24/2.0A - AWG#26/1.0A - AWG#28/1.0A
- Contact Resistance: 30mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 100 MΩ min.
- Operating Temp.: -40°C ~ +85°C

**Reference Information**
- Mated Housing: 51210
- Mated Terminal: 51210-T

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**51210-T Series**
2.0mm Pitch WTB Crimp Terminal

**Electrical**
- Voltage: 30V AC (Per Pin)
- Current: AWG#22/3.0A - AWG#24/2.0A - AWG#26/1.0A - AWG#28/1.0A
- Contact Resistance: 30mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 100 MΩ min.
- Operating Temp.: -40°C ~ +85°C

**Reference Information**
- Mated Wafer: 51209
- Mated Housing: 51210
### 51283 Series
2.5mm Pitch WTB Wafer Conn.
T/H S/R S/T H=7.0mm Type

**Electrical**
- Voltage: 250V AC (Per Pin)
- Current: AWG#22/3.0A
- Contact Resistance: 200Ω max.
- Dielectric Withstanding Voltage: 300V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +85°C

Reference Information
- Mated Housing: 51284
- Mated Terminal: 51284-T

### 51284 Series
2.5mm Pitch WTB Housing

**Electrical**
- Voltage: 250V AC (Per Pin)
- Contact Resistance: 20mΩ max.
- Dielectric Withstanding Voltage: 300V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +85°C

Reference Information
- Mated Wafer: 51283
- Mated Terminal: 51284-T

### 51284-T Series
2.5mm Pitch WTB Crimp Terminal

**Electrical**
- Voltage: 250V AC (Per Pin)
- Contact Resistance: 20mΩ max.
- Dielectric Withstanding Voltage: 300V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +85°C

Reference Information
- Mated Housing: 51284
- Mated Wafer: 51283

### 51281 Series
3.96mm Pitch WTB Wafer Conn.
T/H S/R S/T H=10.9mm Type

**Electrical**
- Voltage: 250V AC (Per Pin)
- Current: AWG#19/10A - AWG# 22/4A
- Contact Resistance: 50mΩ max.
- Dielectric Withstanding Voltage: 300V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +80°C

Reference Information
- Mated Housing: 51282
- Mated Terminal: 51282-T

### 51282 Series
3.96mm Pitch WTB Housing

**Electrical**
- Voltage: 250V AC (Per Pin)
- Contact Resistance: 50mΩ max.
- Dielectric Withstanding Voltage: 300V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +80°C

Reference Information
- Mated Wafer: 51281
- Mated Housing: 51282

### 51282-T Series
3.96mm Pitch WTB Crimp Terminal

**Electrical**
- Voltage: 250V AC (Per Pin)
- Current: AWG#18/10A - AWG# 22/4A
- Contact Resistance: 50mΩ max.
- Dielectric Withstanding Voltage: 300V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +85°C

Reference Information
- Mated Wafer: 51281
- Mated Housing: 51282
Product Profile

Aces offers extensive design, engineering and manufacturing to serve variant products in industries that include computer, computer peripherals, business equipment, home entertainment and telecommunication.
<table>
<thead>
<tr>
<th>Photos</th>
<th>Product Family</th>
<th>Product Family Description</th>
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</thead>
<tbody>
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<td><img src="image1" alt="Easy on" /></td>
<td>Easy on</td>
<td>The easy insertion of FPC/FFC connections are provided by a guide deviseed from a fastener with rotary actuator. The can integrated actuator retains the FPC at all contact points to ensure secure connection, even with multiple contacts. This connector is the low cost solution for many board-to-cable applications on various devices.</td>
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<tr>
<td><img src="image2" alt="ZIF" /></td>
<td>ZIF</td>
<td>ACES offers a wide variety of connectors for flat flexible cable (FFC) and flexible printed circuitry (FPC). Included in this FFC/FPC family are connectors with actuators on 0.5, 0.8, and 1.0mm pitch. Actuators are pre-assembled covers that secure the connection between the FFC/FPC and the connector terminals. ACES also offers a wide variety of ultra low-profile SMT FFC/FPC connectors for tight packaging applications. Features include profile heights as low as 1.0mm, pull-type actuators, straight and right-angle versions.</td>
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<tr>
<td><img src="image3" alt="Non-ZIF" /></td>
<td>Non-ZIF</td>
<td>Suitable for heavy insertion force. SMT and T/H type for automatic mounting. Right-angle and straight type are available. Variety of product height is 1.2mm to 5.3mm.</td>
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### FFC/FPC Connector

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<tr>
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<th>P / N</th>
<th>Pitch (mm)</th>
<th>PCB Mounting</th>
<th>Operation Direction</th>
<th>Contact Position</th>
<th>Product Height (mm)</th>
<th>Cable Thickness (mm)</th>
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★ High Speed (SATA gen3 · USB3.0 · Type C)
◎ Key P/N
## FFC/FPC Connector

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<th>Contact Position</th>
<th>Product Height (mm)</th>
<th>Cable Thickness (mm)</th>
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- **High Speed (SATA gen3 • USB3.0 • Type C)**
- **Key P/N**
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<th>TYPE</th>
<th>P/N</th>
<th>Pitch (mm)</th>
<th>PCB Mounting</th>
<th>Operation Direction</th>
<th>Contact Position</th>
<th>Product Height (mm)</th>
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🌟 High Speed (SATA gen3 · USB3.0 · Type C)
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★ High Speed (SATA gen3 · USB3.0 · Type C)  
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<th>Contact Position</th>
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* High Speed (SATA gen3 • USB3.0 • Type C)

© Key P/N
**FFC/FPC Connector**

**51688 Series**
0.3mm Pitch Easy-on
Back Flip FPC Conn.
SMT R/A D/C H=1.0mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: 0.2A (Per Pin)
- Contact Resistance: 100mΩ max.
- Dielectric Withstanding Voltage: 150V AC/rms
- Insulation Resistance: 1000 MΩ min.
- Operating Temp.: -40°C ~ +85°C

**51515 Series**
0.3mm Pitch Easy-on
Back Flip FPC Conn.
SMT R/A D/C H=1.1mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: 0.2A (Per Pin)
- Contact Resistance: 50mΩ max.
- Dielectric Withstanding Voltage: 125V AC/rms
- Insulation Resistance: 50 MΩ min.
- Operating Temp.: -40°C ~ +85°C

**51607 Series**
0.3mm Pitch Easy-on FPC Conn.
SMT R/A B/C H=1.06mm Type

**Electrical**
- Voltage: 30V AC (Per Pin)
- Current: 0.2A (Per Pin)
- Contact Resistance: 100mΩ max.
- Dielectric Withstanding Voltage: 90V AC/rms
- Insulation Resistance: 50 MΩ min.
- Operating Temp.: -55°C ~ +85°C

**50515 Series**
0.3mm Pitch Easy-on FPC Conn.
SMT R/A B/C H=1.2mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: 0.3A (Per Pin)
- Contact Resistance: 80mΩ max.
- Dielectric Withstanding Voltage: 250V AC/rms
- Insulation Resistance: 50 MΩ min.
- Operating Temp.: -40°C ~ +85°C

**50696 Series**
0.5mm Pitch Easy-on
Back Flip FPC Conn.
SMT R/A B/C H=1.0mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: 0.5A (Per Pin)
- Contact Resistance: 60mΩ max.
- Dielectric Withstanding Voltage: 200V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +80°C

**Reference Information**
★ High Speed Product: USB3.0
**51614 Series**
0.5mm Pitch Easy-on FFC/FPC Conn.
SMT R/A B/C H=1.0mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: 0.5A (Per Pin)
- Contact Resistance: 50mΩ max.
- Dielectric Withstanding Voltage: 300V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +85°C

**51579 Series**
0.5mm Pitch Easy-on FFC/FPC Conn.
SMT R/A B/C H=1.6mm Type

**Electrical**
- Voltage: 50V AC / DC (r.m.s)
- Current: 0.5A (Per Pin)
- Contact Resistance: 40mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 1000 MΩ min.
- Operating Temp.: -40°C ~ +85°C

**51540 Series**
0.5mm Pitch Easy-on FFC/FPC Conn.
SMT R/A B/C H=1.8mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: 0.5A (Per Pin)
- Contact Resistance: 100mΩ max.
- Dielectric Withstanding Voltage: 250V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +85°C

**51619 Series**
0.5mm Pitch Easy-on FFC/FPC Conn.
SMT R/A B/C H=2.0mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: 0.5A (Per Pin)
- Contact Resistance: 50mΩ max.
- Dielectric Withstanding Voltage: 250V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +85°C

**Reference Information**
- High Speed Product: SATA gen3 ~ USB3.0

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**Achieve Your Ideas.**
Aces offers extensive design, engineering and manufacturing to serve various products in industries that include computer, computer peripherals, business equipment, home entertainment and telecommunications.
**FFC/FPC Connector**

### 51652 Series
0.5mm Pitch Easy-on FFC/FPC Conn.
SMT R/A B/C H=2.0mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: 0.5A (Per Pin)
- Contact Resistance: 55mΩ max.
- Dielectric Withstanding Voltage: 250V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +85°C

### 51636 Series
0.5mm Pitch Easy-on FFC/FPC Conn.
SMT R/A B/C H=2.2mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: 0.5A (Per Pin)
- Contact Resistance: 55mΩ max.
- Dielectric Withstanding Voltage: 250V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -25°C ~ +85°C

### 50520 Series
0.5mm Pitch Easy-on FFC/FPC Conn.
SMT R/A B/C H=2.5mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: 0.5A (Per Pin)
- Contact Resistance: 40mΩ max.
- Dielectric Withstanding Voltage: 300V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +85°C

### 51596 Series
0.6mm Pitch Easy-on
Back Flip FFC/FPC Conn.
SMT R/A T/C H=1.5mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: 0.5A (Per Pin)
- Contact Resistance: 50mΩ max.
- Dielectric Withstanding Voltage: 300V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +85°C

### 51612 Series
0.8mm Pitch Easy-on
Back Flip FFC/FPC Conn.
SMT R/A D/C H=1.6mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: 0.8A (Per Pin)
- Contact Resistance: 60mΩ max.
- Dielectric Withstanding Voltage: 300V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +85°C

### 51660 Series
0.8mm Pitch Easy-on
Back Flip FFC/FPC Conn.
SMT R/A D/C H=1.6mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: 0.8A (Per Pin)
- Contact Resistance: 60mΩ max.
- Dielectric Withstanding Voltage: 300V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +85°C
**51637 Series**
1.0mm Pitch Easy-on FFC/FPC Conn.
SMT R/A B/C H=1.0mm Type

**Electrical**
- Voltage : 50V AC (Per Pin)
- Current : 0.5A (Per Pin)
- Contact Resistance : 55mΩ max.
- Dielectric Withstanding Voltage : 300V AC/rms
- Insulation Resistance : 500 MΩ min.
- Operating Temp. : -40°C ~ +85°C

**50505 Series**
1.0mm Pitch Easy-on FFC/FPC Conn.
SMT R/A B/C H=1.5mm Type

**Electrical**
- Voltage : 50V AC (Per Pin)
- Current : 1.0A (Per Pin)
- Contact Resistance : 40mΩ max.
- Dielectric Withstanding Voltage : 500V AC/rms
- Insulation Resistance : 1000 MΩ min.
- Operating Temp. : -40°C ~ +85°C

**51592 Series**
1.0mm Pitch Easy-on Back Flip FFC/FPC Conn.
SMT R/A D/C H=1.5mm Type

**Electrical**
- Voltage : 50V AC (Per Pin)
- Current : 0.5A (Per Pin)
- Contact Resistance : 50mΩ max.
- Dielectric Withstanding Voltage : 300V AC/rms
- Insulation Resistance : 500 MΩ min.
- Operating Temp. : -40°C ~ +60°C

**51678 Series**
1.0mm Pitch Easy-on FFC/FPC Conn.
SMT R/A B/C H=1.8mm Type

**Electrical**
- Voltage : 50V AC (Per Pin)
- Current : 0.5A (Per Pin)
- Contact Resistance : 40mΩ max.
- Dielectric Withstanding Voltage : 250V AC/rms
- Insulation Resistance : 500 MΩ min.
- Operating Temp. : -40°C ~ +85°C

**51677 Series**
1.0mm Pitch Easy-on FFC/FPC Conn.
SMT R/A B/C H=2.0mm Type

**Electrical**
- Voltage : 50V AC (Per Pin)
- Current : 1.0A (Per Pin)
- Contact Resistance : 55mΩ max.
- Dielectric Withstanding Voltage : 250V AC/rms
- Insulation Resistance : 500 MΩ min.
- Operating Temp. : -40°C ~ +85°C
「FFC/FPC Connector」

51646 Series
0.8mm Pitch ZIF FFC/FPC Conn.
SMT R/A T/C H=2.0mm Type

Electrical
- Voltage: 50V AC (Per Pin)
- Current: 0.5A (Per Pin)
- Contact Resistance: 20mΩ max.
- Dielectric Withstanding Voltage: 300V AC/rms
- Insulation Resistance: 500MΩ min.
- Operating Temp.: -25°C ~ +85°C

51597 Series
0.8mm Pitch ZIF FFC/FPC Conn.
SMT V/T D/C H=6.2mm Type

Electrical
- Voltage: 50V AC (Per Pin)
- Current: 0.5A (Per Pin)
- Contact Resistance: 55mΩ max.
- Dielectric Withstanding Voltage: 300V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +85°C

50584 Series
1.0mm Pitch ZIF FFC/FPC Conn.
SMT R/A T/C H=1.95mm Type

Electrical
- Voltage: 50V AC (Per Pin)
- Current: 0.5A (Per Pin)
- Contact Resistance: 55mΩ max.
- Dielectric Withstanding Voltage: 250V AC/rms
- Insulation Resistance: 100 MΩ min.
- Operating Temp.: -40°C ~ +60°C

50591 Series
1.0mm Pitch ZIF FFC/FPC Conn.
SMT V/A B/C H=2.0mm Type

Electrical
- Voltage: 50V AC (Per Pin)
- Current: 0.5A (Per Pin)
- Contact Resistance: 55mΩ max.
- Dielectric Withstanding Voltage: 250V AC/rms
- Insulation Resistance: 100 MΩ min.
- Operating Temp.: -40°C ~ +60°C

50686 Series
1.0mm Non-ZIF FFC/FPC Conn.
SMT R/A T/C H=3.1mm Type

Electrical
- Voltage: 50 Volts AC (per pin)
- Current: 0.5 Amperes (per pin)
- Contact Resistance: 55mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 100 MΩ min.
- Operating Temp.: -40°C ~ +85°C

50654 Series
1.0mm Non-ZIF FFC/FPC Conn.
SMT S/T S/C H=5.0mm Type

Electrical
- Voltage: 50 Volts AC (per pin)
- Current: 0.5 Amperes (per pin)
- Contact Resistance: 55mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 100 MΩ min.
- Operating Temp.: -40°C ~ +85°C
Product Profile

Aces offers extensive design, engineering and manufacturing to serve variant products in industries that include computer, computer peripherals, business equipment, home entertainment and telecommunications.

ACES
USB Conn.
# USB Connector

<table>
<thead>
<tr>
<th>Photos</th>
<th>Product Family</th>
<th>Product Family Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="USB 3.1 type C" /></td>
<td>USB 3.1 type C</td>
<td>The new USB interface will replace most of IO in the future. ACES has critical technology of insert molding, high power and high speed design to keep high quality and performance. ACES USB 3.1 type C meet PD spec(100W).</td>
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<tr>
<td><img src="image" alt="USB 2.0 A’s type C" /></td>
<td>USB 2.0 A’s type C</td>
<td>The competitive cost type C design to meet the application of smart phone, tablet, external HDD, power bank, PC peripherals, etc. USB 2.0 A’s type C has strengths of price, low temperature rise, low resistance and high positive force. ACES USB 2.0 A type C meet PD spec (100W).</td>
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<tr>
<td><img src="image" alt="USB power A’s type C" /></td>
<td>USB power A’s type C</td>
<td>The competitive cost type C design to meet the adapter of NB application. USB power A’s type C has strengths of price, low temperature rise, low resistance and high positive force. ACES USB power A’s type C meet PD spec (100W).</td>
</tr>
<tr>
<td><img src="image" alt="USB 3.0 type A" /></td>
<td>USB 3.0 type A</td>
<td>The Super-speed Universal Serial Bus 3.0 (USB 3.0) offers the transmission speed of up to 5 Gbit/s, reduces power consumption, and is backward compatible with USB 2.0. As a member of the USB Implementer Forum, ACES provides wide range of right angle USB 3.0 type A receptacle connector for a various of applications with low cost and high quality standard.</td>
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<tr>
<td><img src="image" alt="USB 2.0 type A" /></td>
<td>USB 2.0 type A</td>
<td>The Universal Serial Bus 2.0 (USB 2.0) released in April 2000 has been one of the most popular I/O connector. Hot plugging, plug-and-play, and high-speed signaling rate (480Mbit/s) are the most significant features. ACES offers USB 2.0 A type receptacle.</td>
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<tr>
<td><img src="image" alt="Micro USB type B" /></td>
<td>Micro USB type B</td>
<td>Micro-USB connector offers smaller size comparing with Standard USB to achieve the thinner and lighter portable devices, such as mobile and tablet.</td>
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### USB Type C Connector

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<td>DIP+SMT</td>
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#### Note
- ★ High Speed (SATA gen3 - USB3.0 - Type C)
- © Key P/N

### USB 3.0 Connector

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- ★ High Speed (SATA gen3 - USB3.0 - Type C)
- © Key P/N
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★ High Speed (SATA gen3 · USB3.0 · Type C)
© Key P/N
### USB 2.0 Connector

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* High Speed (SATA gen3 · USB3.0 · Type C)
© Key P/N
『USB Type C Connector』

**55907 Series**
USB 3.1 Type-C Rctpt. Conn.
Hybrid R/A On-mount CH=1.63mm
Insert depth 6.2mm Type

**Electrical**
Voltage : 20V AC
Current : 5A (MAX.)
Contact Resistance : 40mΩ max. (initial)
Dielectric Withstanding Voltage : 100V AC/rms
Insulation Resistance : 100 MΩ min.
Operating Temp. : -30°C ~ +80°C
Mating cycles : 10000

**54926 Series**
USB 3.1 Type-C Rctpt. Conn.
Hybrid R/A Mid-mount CH=0.93mm
Insert depth 6.2mm Type

**Electrical**
Voltage : 20V AC
Current : 5A (MAX.)
Contact Resistance : 40mΩ max. (initial)
Dielectric Withstanding Voltage : 100V AC/rms
Insulation Resistance : 100 MΩ min.
Operating Temp. : -30°C ~ +80°C
Mating cycles : 10000

**55914 Series**
USB 3.1 Type-C Rctpt. Conn.
Hybrid R/A Mid-mount CH=0.93mm
Insert depth 4.85mm Type

**Electrical**
Voltage : 20V AC
Current : 5A (MAX.)
Contact Resistance : 40mΩ max. (initial)
Dielectric Withstanding Voltage : 100V AC/rms
Insulation Resistance : 100 MΩ min.
Operating Temp. : -30°C ~ +80°C
Mating cycles : 10000

**55915 Series**
USB 3.1 Type-C Rctpt. Conn.
Hybrid R/A Mid-mount CH=1.37mm
Insert depth 5.8mm Type

**Electrical**
Voltage : 20V AC
Current : 5A (MAX.)
Contact Resistance : 40mΩ max. (initial)
Dielectric Withstanding Voltage : 100V AC/rms
Insulation Resistance : 100 MΩ min.
Operating Temp. : -30°C ~ +80°C
Mating cycles : 10000

**55912 Series**
USB 3.1 Type-C Rctpt. Conn.
Hybrid R/A On-mount CH=2.20mm
Insert depth 4.85mm Type

**Electrical**
Voltage : 20V AC
Current : 5A (MAX.)
Contact Resistance : 40mΩ max. (initial)
Dielectric Withstanding Voltage : 100V AC/rms
Insulation Resistance : 100 MΩ min.
Operating Temp. : -30°C ~ +80°C
Mating cycles : 10000
**Type C Connector**

**55937 Series**
USB 3.1 Type-C Plug Conn.
Straddle Extrusion Type

**Electrical**
Voltage: 20V AC  
Current: 5A (MAX.)  
Contact Resistance: 40mΩ max. (initial)  
Dielectric Withstanding Voltage: 100V AC/rms  
Insulation Resistance: 100 MΩ min.  
Operating Temp.: -30°C ~ +80°C  
Mating cycles: 10000

**55918 Series**
USB 3.1 Type-C Plug Conn.
Straddle Riveting Type

**Electrical**
Voltage: 20V AC  
Current: 5A (MAX.)  
Contact Resistance: 40mΩ max. (initial)  
Dielectric Withstanding Voltage: 100V AC/rms  
Insulation Resistance: 100 MΩ min.  
Operating Temp.: -30°C ~ +80°C  
Mating cycles: 10000

**55919 Series**
USB 2.0 Type-C Rct. Conn.
SMT R/A Mid-mount CH=0.90mm  
Insert depth 4.85mm Type

**Electrical**
Voltage: 20V AC  
Current: 5A (MAX.)  
Contact Resistance: 40mΩ max. (initial)  
Dielectric Withstanding Voltage: 100V AC/rms  
Insulation Resistance: 100 MΩ min.  
Operating Temp.: -30°C ~ +80°C  
Mating cycles: 10000

**55920 Series**
USB Type-C Plug Conn.
Riveting Power Type

**Electrical**
Voltage: 20V AC  
Current: 5A (MAX.)  
Contact Resistance: 40mΩ max. (initial)  
Dielectric Withstanding Voltage: 100V AC/rms  
Insulation Resistance: 100 MΩ min.  
Operating Temp.: -30°C ~ +80°C  
Mating cycles: 10000

**55911 Series**
USB 2.0 Type-C Plug Conn.
Straddle Riveting Type

**Electrical**
Voltage: 20V AC  
Current: 3.0A For VBUS & GND Pin  
0.25A For the other Pin  
Contact Resistance: 40mΩ max. (initial)  
Dielectric Withstanding Voltage: 100V AC/rms  
Insulation Resistance: 100 MΩ min.  
Operating Temp.: -40°C ~ +85°C  
Mating cycles: 10000
『USB 3.0 Connector』

50928 Series
2.00/2.50mm Pitch USB3.0 Type A
Rcpt.Conn.
T/H R/A CH=0.36mm Rev.Sink Type

**Electrical**
Voltage : 30V AC
Current : 1.8A
Contact Resistance : 50mΩ max.
Dielectric Withstanding Voltage : 100V AC/rms
Insulation Resistance : 100 MΩ min.
Operating Temp. : -55℃ ~ +85℃

53051 Series
2.00/2.50mm Pitch USB3.0 Type A
Rcpt.Conn.
T/H R/A CH=1.0mm Rev.Sink Type

**Electrical**
Voltage : 30V AC
Current : 1.8A
Contact Resistance : 50mΩ max.
Dielectric Withstanding Voltage : 100V AC/rms
Insulation Resistance : 100 MΩ min.
Operating Temp. : -55℃ ~ +85℃

53060 Series
2.00/2.50mm Pitch USB3.0 Type A
Rcpt.Conn.
T/H R/A CH=4.06mm Rev.Type

**Electrical**
Voltage : 30V AC
Current : 1.8A
Contact Resistance : 50mΩ max.
Dielectric Withstanding Voltage : 100V AC/rms
Insulation Resistance : 100 MΩ min.
Operating Temp. : -55℃ ~ +85℃

53065 Series
2.00/2.50mm Pitch USB3.0 Type A
Rcpt.Conn.
T/H R/A CH=0.0MM Rev. Sink Type

**Electrical**
Voltage : 30V AC
Current : 1.8A
Contact Resistance : 50mΩ max.
Dielectric Withstanding Voltage : 100V AC/rms
Insulation Resistance : 100 MΩ min.
Operating Temp. : -55℃ ~ +85℃
『USB 2.0 Connector』

**53081 Series**
2.00/2.50mm Pitch USB2.0 Type A
Rcpt.Conn.
T/H R/A CH=4.00mm Normal Type

**Electrical**
- Voltage : 30V AC (Per Pin)
- Current : 1.8A (Per Pin)
- Contact Resistance : 30mΩ max.
- Dielectric Withstanding Voltage : 100V AC/rms
- Insulation Resistance : 100 MΩ min.
- Operating Temp. : -55°C ~ +85°C

**53086 Series**
2.00/2.50mm Pitch USB2.0 Type A
Rcpt.Conn.
T/H R/A CH=1.75mm REV.SINK Type

**Electrical**
- Voltage : 30V AC (Per Pin)
- Current : 1.8A (Per Pin)
- Contact Resistance : 30mΩ max.
- Dielectric Withstanding Voltage : 100V AC/rms
- Insulation Resistance : 100 MΩ min.
- Operating Temp. : -55°C ~ +85°C

**53094 Series**
2.00/2.50mm Pitch USB2.0 Type A
Rcpt.Conn.
T/H R/A CH=1.4mm Normal Type

**Electrical**
- Voltage : 30V AC (Per Pin)
- Current : 1.8A (Per Pin)
- Contact Resistance : 30mΩ (Max) initial for VBUS and GND contacts / 50 mΩ (Max) initial for all other contacts
- Dielectric Withstanding Voltage : 100V AC/rms
- Insulation Resistance : 100 MΩ min.
- Operating Temp. : -55°C ~ +85°C

**59480 Series**
0.65mm Pitch USB 2.0 Micro B
Rcpt. Conn.
SMT R/A CH=1.25mm Standard Type

**Electrical**
- Voltage : 30V AC (Per Pin)
- Current : 1.85A (Per Pin)
- Contact Resistance : 30mΩ (Max) initial for VBUS and GND contacts / 50 mΩ (Max) initial for all other contacts
- Dielectric Withstanding Voltage : 100V AC/rms
- Insulation Resistance : 100 MΩ min.
- Operating Temp. : -55°C ~ +85°C

**59486 Series**
0.65mm Pitch USB 2.0 Micro B
Rcpt. Conn.
SMT R/A CH=0.28mm Sink Type

**Electrical**
- Voltage : 30V AC (Per Pin)
- Current : 1.8A (Per Pin)
- Contact Resistance : 30mΩ (Max) initial for VBUS and GND contacts / 50 mΩ (Max) initial for all other contacts
- Dielectric Withstanding Voltage : 100V AC/rms
- Insulation Resistance : 100 MΩ min.
- Operating Temp. : -55°C ~ +80°C
Achieve Your Ideas.

AQO offers extensive design, engineering and manufacturing to serve variant products in industries that include computer, computer peripherals, business equipment, home entertainment and telecommunications.
<table>
<thead>
<tr>
<th>Photos</th>
<th>Product Family</th>
<th>Product Family Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Mag Fit Connector" /></td>
<td>Mag-fit</td>
<td>Magnetics connection which is easier to position, without additional guide pins. The protection cover prevents the pins be damaged. Customized design is flexible to meet low profile or any other requirements. Molding design makes the unit price lower than pogo pin.</td>
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<tr>
<td>TYPE</td>
<td>P/N</td>
<td>Pitch (mm)</td>
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<td>Mag-Fit</td>
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<td>3.00</td>
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<td>1.27</td>
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<tr>
<td>Mag-Fit</td>
<td>57904</td>
<td>1.27</td>
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</table>

⭐️ High Speed (SATA gen3 · USB3.0 · Type C)
⚫️ Key P/N
**57902 Series**
3.0mm Pitch Mag-Fit Conn.
T/H R/A H=3.3mm Type

**Electrical**
- Voltage: 20V DC (Per Pin)
- Current: 1A (Per Pin)
- Contact Resistance: 100mΩ max.
- Dielectric Withstanding Voltage: 300V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +85°C

**57903 Series**
1.27mm Pitch Mag-Fit Conn. Pad side

**Electrical**
- Voltage: 20V DC (Per Pin)
- Current:
  - For power (#1, #2, #11 and #12): 2.5 Amperes (per pin)
  - For signal (#3~#10): 150mA (per pin)
- Contact Resistance: 100mΩ max.
- Dielectric Withstanding Voltage: 300V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -20°C ~ +95°C

**Reference Information**
Mated P/N: 57904

**57904 Series**
1.27mm Pitch Mag-Fit Conn.
Spring side

**Electrical**
- Voltage: 20V AC (Per Pin)
- Current:
  - For power (#1, #2, #11 and #12): 2.5 Amperes (per pin)
  - For signal (#3~#10): 150mA (per pin)
- Contact Resistance: 100mΩ max.
- Dielectric Withstanding Voltage: 300V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -20°C ~ +95°C

**Reference Information**
Mated P/N: 57903
Product Profile
# Power Connector

<table>
<thead>
<tr>
<th>Photos</th>
<th>Product Family</th>
<th>Product Family Description</th>
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</table>
| ![Power Conn](image.png) | Power Conn | Features & Benefits  
High-current and compact compatible connectors used in the connection of power circuits.  
Made with LCP and High Performance Copper Alloy.  
High-reliability contact design.  
High-pluggable  
Customizations available.  
Application  
Server/storage/power supply/switches/routers/UPS |
### Power Connector

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<tr>
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<th>P / N</th>
<th>Pitch (mm)</th>
<th>PCB Mounting</th>
<th>Operation Direction</th>
<th>Current / Power pin (A)</th>
<th>Pin Configurations</th>
<th>Receptacle/Header</th>
<th>Note</th>
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<td>Post / T/H</td>
<td>R/A</td>
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<td>10P + 80S + 10P</td>
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**Note:**
- **High Speed (SAS3.0 - SATA gen3 - USB3.0 - Type C)**
- **Key P/N**

-59-
**Power Connector**

**52900-001672P-111 Series**

- 2.54/6.35mm Pitch Power Access
- Female Conn.
- T/H R/A 16S+7P Type

**Electrical**
- Voltage: 600V AC (Per Pin)
- Current: 35A (Per Power Pin)
- Contact Resistance: 1mΩ max.
- Dielectric Withstanding Voltage: 2500V AC/rms
- Insulation Resistance: 5000 MΩ min.
- Operating Temp.: -40°C ~ +125°C

**Reference Information**
Mated P/N: 52901-701602P-111

**52900-202422P-110 Series**

- 2.54/6.35mm Pitch Power Access
- Female Conn.
- T/H R/A 2P+24S+2P Type

**Electrical**
- Voltage: 600V AC (Per Pin)
- Current: 35A (Per Power Pin)
- Contact Resistance: 1mΩ max.
- Dielectric Withstanding Voltage: 2500V AC/rms
- Insulation Resistance: 5000 MΩ min.
- Operating Temp.: -40°C ~ +125°C

**Reference Information**
Mated P/N: 52901-202422P-131

**52900-401642P-111 Series**

- 2.54/6.35mm Pitch Power Access
- Female Conn.
- T/H R/A 4P+16S+4P Type

**Electrical**
- Voltage: 600V AC (Per Pin)
- Current: 35A (Per Power Pin)
- Contact Resistance: 1mΩ max.
- Dielectric Withstanding Voltage: 2500V AC/rms
- Insulation Resistance: 5000 MΩ min.
- Operating Temp.: -40°C ~ +125°C

**Reference Information**
Mated P/N: 52901-401642P-110

**52901-201622P-130 Series**

- 2.54/6.35mm Pitch Power Access
- Male Conn.
- T/H R/A 2P+16S+2P Type

**Electrical**
- Voltage: 600V AC (Per Pin)
- Current: 35A (Per Power Pin)
- Contact Resistance: 1mΩ max.
- Dielectric Withstanding Voltage: 2500V AC/rms
- Insulation Resistance: 5000 MΩ min.
- Operating Temp.: -40°C ~ +125°C

**Reference Information**
Mated P/N: 52900-201622P-XXX

**52901-701602P-111 Series**

- 2.54/6.35mm Pitch Power Access
- Male Conn.
- T/H R/A 7P+16S Type

**Electrical**
- Voltage: 600V AC (Per Pin)
- Current: 35A (Per Power Pin)
- Contact Resistance: 1mΩ max.
- Dielectric Withstanding Voltage: 2500V AC/rms
- Insulation Resistance: 5000 MΩ min.
- Operating Temp.: -40°C ~ +125°C

**Reference Information**
Mated P/N: 52900-001672P-111
『Power Connector』

**52910-002442P-104 Series**
1.27mm Pitch Power Card Edge Conn.
T/H R/A 24S+4P Type

**Electrical**
- Voltage: 250V AC (Per Pin)
- Current: 35A (Per Power Pin)
- Contact Resistance: 40mΩ max.
- Dielectric Withstanding Voltage: 1500V AC/rms
- Insulation Resistance: 5000 MΩ min.
- Operating Temp.: -40°C ~ +125°C

**52932-0502K-101 Series**
2.54mm Pitch Power Card Edge Conn.
T/H R/A 50Pin Type

**Electrical**
- Voltage: 48V AC (Per Pin)
- Current: 9A (Per Pin)
- Contact Resistance: 25mΩ max.
- Dielectric Withstanding Voltage: 1500V AC/rms
- Insulation Resistance: 5000 MΩ min.
- Operating Temp.: -40°C ~ +125°C

**52931-0642K-111 Series**
2.54mm Pitch Power Card Edge Conn.
T/H R/A 64 Pin Type

**Electrical**
- Voltage: 48V AC (Per Pin)
- Current: 7A (Per Pin)
- Contact Resistance: 25mΩ max.
- Dielectric Withstanding Voltage: 1000V AC/rms
- Insulation Resistance: 5000 MΩ min.
- Operating Temp.: -40°C ~ +125°C

**52951-206401K-310 Series**
0.75mm Pitch Power Card
Edge 12G Conn.
Hybrid 2P+64S Type

**Electrical**
- Voltage: 250V AC (Per Pin)
- Current: 40A (Per Power pin)
- Contact Resistance: 40mΩ max.
- Dielectric Withstanding Voltage: 1500V AC/rms
- Insulation Resistance: 5000 MΩ min.
- Operating Temp.: -40°C ~ +125°C
Achieve Your Ideas.

Acce offers extensive design, engineering and manufacturing to specific industry products in industries that include computer, computer peripherals, business equipment, finance, entertainment and telecommunications.
### HDMI Connector

<table>
<thead>
<tr>
<th>Photos</th>
<th>0.5mm(HDMI A Type)</th>
<th>0.4mm(HDMI D Type)</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="HDMI A Type" /></td>
<td><strong>Product Family</strong>&lt;br&gt;HDMI (High-Definition Multimedia Interface) connector is a digital interface for audio and video that provides a single-cable solution for home theater and consumer electronics equipment such as TVs, Blu-ray/DVD players and set-top boxes. One HDMI cable took the place of nine different analog audio and video cables. HDMI is the desired connector on the rear panel of Audio/Video gear. The applications for HDMI A Type: TV/DVD/DVR/PC/NB.</td>
<td><strong>Product Family Description</strong>&lt;br&gt;Micro-HDMI (HDMI type D) is a miniaturized version of the High Definition Multimedia Interface specification that provides a single-cable solution for home theater and consumer electronics equipment such as smartphones/ tablets and other mobile devices. One HDMI cable took the place of nine different analog audio and video cables. HDMI is the desired connector on the rear panel of Audio/Video gear. The applications for HDMI D Type: Compact portable equipment, such as cell phones or any small device.</td>
</tr>
<tr>
<td>Family Type</td>
<td>P / N</td>
<td>Pitch (mm)</td>
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</table>

★ High Speed (SATA gen3 · USB3.0 · Type C)
© Key P/N
HDMI Connector

**59065 Series**
1.0mm Pitch HDMI Conn.
T/H D/R R/A Reverse Sink
CH=2.37mm Type

**Electrical**
- Voltage: 40V AC (Per Pin)
- Current: 0.5A (Per Pin)
- Contact Resistance: 10 mΩ max. initial
- 30 mΩ max. after test.
- Dielectric Withstanding Voltage: 300V AC/rms
- Insulation Resistance: 10 MΩ min.
- Operating Temp. : -40℃ ~ +85℃

**59557 Series**
0.4mm Pitch Micro HDMI Rcept. Conn
SMT T/H D/R R/A Normal Sink
CH=1.95mm Type

**Electrical**
- Voltage: 40V AC (Per Pin)
- Current: 0.3A (Per Pin)
- Contact Resistance: 10mΩ max.
- Dielectric Withstanding Voltage:
  - Unmated Connectors: 250V AC/rms
  - Mated Connectors: 150V AC/rms
- Insulation Resistance:
  - Unmated Connectors: 100 MΩ min.
  - Mated Connectors: 10 MΩ min.
- Operating Temp. : -40℃ ~ +85℃

**59558 Series**
0.4mm Pitch Micro HDMI Rcept. Conn
SMT T/H D/R R/A Normal Sink
CH=0.9mm Type

**Electrical**
- Voltage: 40V AC (Per Pin)
- Current: 0.3A (Per Pin)
- Contact Resistance: 10mΩ max.
- Dielectric Withstanding Voltage:
  - Unmated Connectors: 250V AC/rms
  - Mated Connectors: 150V AC/rms
- Insulation Resistance:
  - Unmated Connectors: 100 MΩ min.
  - Mated Connectors: 10 MΩ min.
- Operating Temp. : -40℃ ~ +85℃
Product Profile

ACES offers extensive design, engineering and manufacturing to serve a variety of products in industries that include computer, computer peripherals, business equipment, home entertainment and telecommunications.

DC Jack Conn.
### DC Jack Connector

<table>
<thead>
<tr>
<th>Photos</th>
<th>Product Family</th>
<th>Product Family Description</th>
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</thead>
<tbody>
<tr>
<td><img src="image1" alt="With cable type" /></td>
<td>With cable type</td>
<td>3Φ DC Power Jack.</td>
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<tr>
<td><img src="image2" alt="Sink type" /></td>
<td>Sink type</td>
<td>4Φ DC Power Jack.</td>
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<tr>
<td><img src="image3" alt="Bevel type" /></td>
<td>Bevel type</td>
<td>4Φ DC Power Jack with bevel type.</td>
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</tbody>
</table>

DC jack is a component used in many portable consumer electronic devices that allows a steady power source to be plugged in.

ACES DC jack, application for Notebook/Portable device and for mounting on PCB boards with a variety of center height options.
<table>
<thead>
<tr>
<th>Product Family</th>
<th>P/N</th>
<th>PCB Mount</th>
<th>Operation Direction</th>
<th>Product Height (mm)</th>
<th>Center Height (mm)</th>
<th>Above Height (mm)</th>
<th>Current Rating (A)</th>
<th>Rated Voltage (V)</th>
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<td>-1.70</td>
<td>2.60</td>
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<td>4Φ</td>
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<td>T/H</td>
<td>R/A</td>
<td>5.8</td>
<td>0.90</td>
<td>3.80</td>
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<td>R/A</td>
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<td>R/A</td>
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<td>R/A</td>
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</table>

★ High Speed (SATA gen3・USB3.0・Type C)
◎ Key P/N
**DC Jack Connector**

**58900 Series**
3Ø DC Power Jack Conn.
R/A CH=1.98mm Type.

**Electrical**
- Voltage: 20V DC (Per Pin)
- Current: 5A (Per Pin)
- Contact Resistance: 30mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 100 MΩ min.
- Operating Temp: -40°C ~ +85°C

**58904 Series**
4Ø DC Power Jack Conn.
T/H R/A CH=2.9mm Type.

**Electrical**
- Voltage: 20V DC (Per Pin)
- Current: 5A (Per Pin)
- Contact Resistance: 15mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 100 MΩ min.
- Operating Temp: -40°C ~ +85°C

**58901 Series**
4Ø DC Power Jack Conn.
T/H R/A CH=1.5mm Type.

**Electrical**
- Voltage: 20V DC (Per Pin)
- Current: 5A (Per Pin)
- Contact Resistance: 15mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 100 MΩ min.
- Operating Temp: -40°C ~ +85°C

**58908 Series**
4Ø DC Power Jack Conn.
T/H R/A CH=1.63mm Type.

**Electrical**
- Voltage: 20V DC (Per Pin)
- Current: 5A (Per Pin)
- Contact Resistance: 15mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 100 MΩ min.
- Operating Temp: -40°C ~ +85°C

**58913 Series**
4Ø DC Power Jack Conn.
T/H R/A CH=0.9mm Type.

**Electrical**
- Voltage: 20V DC (Per Pin)
- Current: 5A (Per Pin)
- Contact Resistance: 15mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 100 MΩ min.
- Operating Temp: -40°C ~ +85°C
**58915 Series**
4Ø DC Power Jack Conn.
T/H R/A CH=0.8mm Type.

**Electrical**
- Voltage: 20V DC (Per Pin)
- Current: 5A (Per Pin)
- Contact Resistance: 15mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 100 MΩ min.
- Operating Temp.: -40°C ~ +85°C

---

**58916 Series**
4Ø DC Power Jack Conn.
T/H R/A CH=1mm Type.

**Electrical**
- Voltage: 20V DC (Per Pin)
- Current: 5A (Per Pin)
- Contact Resistance: 15mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 100 MΩ min.
- Operating Temp.: -40°C ~ +85°C

---

**58919 Series**
4Ø DC Power Jack Conn.
T/H R/A CH=0 mm Type

**Electrical**
- Voltage: 20V DC (Per Pin)
- Current: 5A (Per Pin)
- Contact Resistance: 15mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 100 MΩ min.
- Operating Temp.: -40°C ~ +85°C

---

**58922 Series**
4Ø DC Power Jack Conn.
T/H R/A CH=2.65 mm Type

**Electrical**
- Voltage: 20V DC (Per Pin)
- Current: 5A (Per Pin)
- Contact Resistance: 15mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 100 MΩ min.
- Operating Temp.: -40°C ~ +85°C

---

**58918 Series**
4Ø DC Power Jack Conn.
T/H R/A CH=0.25mm Type.

**Electrical**
- Voltage: 20V DC (Per Pin)
- Current: 5A (Per Pin)
- Contact Resistance: 15mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 100 MΩ min.
- Operating Temp.: -40°C ~ +85°C
Achieve Your Ideas.

Our extensive design, engineering and manufacturing to serve various products in the market such as computer peripherals, business equipment, home entertainment and telecommunications.
<table>
<thead>
<tr>
<th>Photos</th>
<th>Product Family</th>
<th>Product Family Description</th>
</tr>
</thead>
</table>
| ![SAS Connector](image1) | SAS | Features & Benefits  
Made with high-temperature thermoplastic and high performance copper alloy.  
Design for blind-mating and hot-plugging of HDDs.  
Fitting nail design for additional mechanical strength after soldering.  
SAS receptacles also accept SATA drives.  
Meet ROHS and lead-free  
Application  
Server/Storage/HDDs /Mezzanine cards /Embedded system boards |
| ![ODD SATA](image2) | ODD SATA | Features & Benefits  
- combined signal and power interface  
- Increased disk drive data rates  
- Smaller, easier-to-route cables  
- Improved in bandwidth performance and data transmission reliability  
Application  
- Hard Disk Drives / Desktop / Consumer electronic products |
| ![HDD SATA](image3) | HDD SATA | |

**Key Points:**
- **SAS**
  - High-temperature thermoplastic and high performance copper alloy.
  - Design for blind-mating and hot-plugging.
  - Fitting nail design for extra mechanical strength after soldering.
  - Suitable for SAS and SATA drives.
  - Meets ROHS and lead-free standards.
- **ODD SATA**
  - Combined signal and power interface.
  - Increased disk drive data rates.
  - Smaller, easier-to-route cables.
  - Improved bandwidth performance and data transmission reliability.
- **HDD SATA**
  - Specific applications include hard disk drives, desktops, and consumer electronic products.
### SAS Connector

<table>
<thead>
<tr>
<th>Type</th>
<th>P / N</th>
<th>Pitch (mm)</th>
<th>PCB Mounting</th>
<th>Operation Direction</th>
<th>BTB (Mated) Height</th>
<th>Circuits</th>
<th>Note</th>
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<tr>
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<td>SAS</td>
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### SATA Connector

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<th>PCB Mounting</th>
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<th>Center Height / mm</th>
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- HDD SATA 50802 1.27 SMT R/A 0.60 22
- HDD SATA 50813 1.27 SMT R/A 0.60 22
- HDD SATA 50887 1.27 SMT R/A 1.00 22
- HDD SATA 50801 1.27 SMT R/A 1.40 22
- HDD SATA 50888 1.27 SMT R/A 1.90 22
- HDD SATA 50824 1.27 T/H R/A 2.10 22
- HDD SATA 50823 1.27 T/H R/A 2.50 22
- HDD SATA 50814 1.27 T/H R/A 3.69 22
- HDD SATA 50822 1.27 T/H R/A 4.10 22
- HDD SATA 50825 1.27 T/H R/A 4.50 22
- HDD SATA 50812 1.27 SMT R/A 5.55 22

★ High Speed (SATA gen3 - USB3.0 - Type C)
© Key P/N
50911 Series
1.27/0.8mm Pitch SAS 3G Rept. Conn.
Hybrid D/R S/T Standard Type

Electrical
Voltage : 30V DC (Per Pin)
Current : 1.5A (Per Pin)
Contact Resistance : 30mΩ max.
Dielectric Withstanding Voltage : 500V AC/rms
Insulation Resistance : 1000 MΩ min.
Operating Temp. : -40° ~ +85°C

50912 Series
1.27/0.8mm Pitch SAS 3G Rept. Conn.
SMT D/R S/T Standard Type

Electrical
Voltage : 30V DC (Per Pin)
Current : 1.5A (Per Pin)
Contact Resistance : 30mΩ max.
Dielectric Withstanding Voltage : 500V AC/rms
Insulation Resistance : 1000 MΩ min.
Operating Temp. : -40° ~ +85°C

50913 Series
1.27/0.8mm Pitch SAS 3G Rept. Conn.
T/H D/R S/T Standard Type

Electrical
Voltage : 30V DC (Per Pin)
Current : 1.5A (Per Pin)
Contact Resistance : 30mΩ max.
Dielectric Withstanding Voltage : 500V AC/rms
Insulation Resistance : 1000 MΩ min.
Operating Temp. : -40° ~ +85°C

51890 Series
1.27/0.8mm Pitch SAS 6G Rept. Conn.
Hybrid D/R S/T Standard Type

Electrical
Voltage : 30V DC (Per Pin)
Current : 1.5A (Per Pin)
Contact Resistance : 30mΩ max.
Dielectric Withstanding Voltage : 500V AC/rms
Insulation Resistance : 1000 MΩ min.
Operating Temp. : -40° ~ +85°C

51892 Series
1.27/0.8mm Pitch SAS 12G Rept. Conn.
SMT D/R S/T Standard Type

Electrical
Voltage : 30V DC (Per Pin)
Current : 1.5A (Per Pin)
Contact Resistance : 30mΩ max.
Dielectric Withstanding Voltage : 500V AC/rms
Insulation Resistance : 1000 MΩ min.
Operating Temp. : 0° ~ +85°C
**50886 Series**
1.27mm Pitch HDD SATA Conn.
T/H R/A T/C CH=7.21mm Type

**Electrical**
- Voltage: 15V AC (Per Pin)
- Current: 1.5A DC (Per Pin)
- Contact Resistance: 30mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 1000 MΩ min.
- Operating Temp.: -55°C ~ +85°C

**50879 Series**
1.27/1.0mm Pitch ODD SATA Conn.
SMT R/A T/C CH=2.0 Type

**Electrical**
- Voltage: 15V AC (Per Pin)
- Current: 1.5A DC (Per Pin)
- Contact Resistance: 30mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 1000 MΩ min.
- Operating Temp.: -35°C ~ +85°C

**50858 Series**
1.27/1.0mm Pitch ODD SATA Conn.
T/H R/A T/C CH=2.4mm Type

**Electrical**
- Voltage: 15V AC (Per Pin)
- Current: 1.5A DC (Per Pin)
- Contact Resistance: 30mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 1000 MΩ min.
- Operating Temp.: -35°C ~ +85°C

**50802 Series**
1.27mm Pitch HDD SATA Rupt. Conn.
SMT R/A T/C CH=0.6mm Type

**Electrical**
- Voltage: 15V AC (Per Pin)
- Current: 1.5A DC (Per Pin)
- Contact Resistance: 30mΩ max.
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 1000 MΩ min.
- Operating Temp.: -35°C ~ +85°C

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Achieve Your Ideas.

Aces offers extensive design, engineering and manufacturing to serve various products in industries that include computer, computer peripherals, business equipment, home entertainment and telecommunications.
SATA Connector

**50813 Series**
1.27mm HDD SATA Rupt. Conn.
SMT R/A T/C CH=0.6mm Type

**Electrical**
- Voltage: 15V AC (Per Pin)
- Current: 1.5A (Per Pin)
- Contact Resistance: 30mΩ max.
- Dielectric Withstanding Voltage: 500V AC\(\text{rms}\)
- Insulation Resistance: 1000 MΩ min.
- Operating Temp.: -35°C ~ +85°C

**50824 Series**
1.27mm Pitch HDD SATA Conn.
T/H R/A T/C CH=2.1mm Type

**Electrical**
- Voltage: 15V AC (Per Pin)
- Current: 1.5A DC (Per Pin)
- Contact Resistance: 30mΩ max.
- Dielectric Withstanding Voltage: 500V AC\(\text{rms}\)
- Insulation Resistance: 1000 MΩ min.
- Operating Temp.: -35°C ~ +85°C

**50814 Series**
1.27mm Pitch HDD SATA Conn.
T/H R/A T/C CH=3.69mm Type

**Electrical**
- Voltage: 15V AC (Per Pin)
- Current: 1.5A DC (Per Pin)
- Contact Resistance: 30mΩ max.
- Dielectric Withstanding Voltage: 500V AC\(\text{rms}\)
- Insulation Resistance: 1000 MΩ min.
- Operating Temp.: -35°C ~ +85°C

**50812 Series**
1.27mm Pitch HDD SATA Conn.
SMT R/A T/C CH=5.55mm Type

**Electrical**
- Voltage: 15V AC (Per Pin)
- Current: 1.5A DC (Per Pin)
- Contact Resistance: 30mΩ max.
- Dielectric Withstanding Voltage: 500V AC\(\text{rms}\)
- Insulation Resistance: 1000 MΩ min.
- Operating Temp.: -35°C ~ +85°C
<table>
<thead>
<tr>
<th>Photos</th>
<th>Product Family</th>
<th>Product Family Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Blade Type" /></td>
<td>Blade Type</td>
<td>Battery connector is the most typical component for connecting a removable battery found in most of portable devices. Aces provides the most reliable battery connector with not only securing the connection in contact area, connector pitch size included 1.4/ 2.0 / 2.25/2.5 /3.5/5.0 mm, the amper from 1.0 to 10 but also fulfilling all the customized requirements including the required various mating height for space saving. ACES have many molds and different type of battery connector that could match what customer need.</td>
</tr>
<tr>
<td><img src="image2" alt="Spring Type" /></td>
<td>Spring Type</td>
<td>The spring type battery is also widely used. Aces could provide right angle type and straight type to match what you need, we already have different pins with different pitch and many moulds that could revise it or build the new moulds for you.</td>
</tr>
<tr>
<td><img src="image3" alt="Holder Type" /></td>
<td>Holder Type</td>
<td>A battery holder is one or more compartments or chambers for holding a battery. For dry cells, the holder must also make electrical contact with the battery terminals. A battery holder is either a plastic case with the shape of the housing molded as a compartment that accepts a battery. So far Aces provides the battery holder for CR2032 and CR1225, it has a low-profile dip-style design for densely packed boards. The battery can easily be pushed into the holder from the top. if you need the other types, we also could develop for you.</td>
</tr>
<tr>
<td>Family Type</td>
<td>Type</td>
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<td>Battery Holder</td>
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</tr>
</tbody>
</table>

★ High Speed (SATA gen3 - USB3.0 - Type C)  
© Key P/N
『 Battery Connector 』

**50978 Series**
2.0mm Pitch Battery Male Conn.  
SMT R/A H=4.0mm Type

**Electrical**
- Voltage : 30V DC (Per Pin)  
- Current : DC 4.5A/Amperes(2pin)  
- DC 0.5A/Amperes(OTHER 6pin)
- Contact Resistance : 20mΩ max.
- Dielectric Withstanding Voltage : 650V AC Min
- Insulation Resistance : 500 MΩ min.
- Operating Temp. : -55°C ~ +85°C

Reference Information  
Mated P/N : 50979

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**50979 Series**
2.0mm Pitch Battery Female Conn.  
T/H R/A H=5.0mm Type

**Electrical**
- Voltage : 30V VOLTS DC  
- Current : DC 4.5A/Amperes(2pin)  
- DC 0.5A/Amperes(OTHER 6pin)
- Contact Resistance : 20mΩ max.
- Dielectric Withstanding Voltage : 650V AC Min
- Insulation Resistance : 500 MΩ min.
- Operating Temp. : -55°C ~ +85°C

Reference Information  
Mated P/N : 50978

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**53022 Series**
2.5mm Pitch Battery Male Conn.  
T/H R/A H=5.7mm

**Electrical**
- Voltage : 30V AC (Per Pin)  
- Current : 5.0A (Per Pin)
- Contact Resistance : 20mΩ max. (initial)/per contact
- Dielectric Withstanding Voltage : 500V AC/rms
- Insulation Resistance : 1000 MΩ min.
- Operating Temp. : -40°C ~ +85°C

Reference Information  
Mated P/N : 53029

---

**53029 Series**
2.5mm Pitch Battery Female Conn.  
T/H S/T H=5.2mm Type

**Electrical**
- Voltage : 30V VOLTS DC  
- Current : DC 4.5A/Amperes(2pin)  
- DC 0.5A/Amperes(OTHER 6pin)
- Contact Resistance : 20mΩ max.
- Dielectric Withstanding Voltage : 650V AC Min
- Insulation Resistance : 500 MΩ min.
- Operating Temp. : -55°C ~ +85°C

Reference Information  
Mated P/N : 53029

---

**53035 Series**
2.5mm Pitch Battery Male Conn.  
T/H R/A H=10.7mm Type

**Electrical**
- Voltage : 30V AC(Per Pin)  
- Current : 7.0A (Per Pin)
- Contact Resistance : 20mΩ max. (initial)/per contact
- Dielectric Withstanding Voltage : 500V AC/rms
- Insulation Resistance : 500 MΩ min.
- Operating Temp. : -40°C ~ +85°C

Reference Information  
Mated P/N : 53036

---

**53036 Series**
2.5mm Pitch Battery Female Conn.  
T/H S/T H=8.7mm Type

**Electrical**
- Voltage : 30V AC(Per Pin)  
- Current : 7.0A (Per Pin)
- Contact Resistance : 20mΩ max.
- Dielectric Withstanding Voltage : 300V AC/rms
- Insulation Resistance : 500 MΩ min.
- Operating Temp. : -40°C ~ +85°C

Reference Information  
Mated P/N : 53035
**Battery Connector**

**51998 Series**
2.5mm Pitch Battery Male Conn.  
T/H R/A H=6.1mm Type  

**Electrical**  
Voltage : 36V AC  
Current : 5.0A  
Contact Resistance : 20mΩ max.  
Dielectric Withstanding Voltage : 500V AC/rms  
Insulation Resistance : 500 MΩ min.  
Operating Temp. : -40°C ~ +85°C  

Reference Information  
Mated P/N : 51973

---

**53039 Series**
2.0mm Pitch Battery Male Conn.  
T/H R/A Sink H=4.3mm Type  

**Electrical**  
Voltage : 30V AC (Per Pin)  
Current : 5.0A (Per Pin)  
Contact Resistance : 40mΩ max.  
Dielectric Withstanding Voltage : 500V AC/rms  
Insulation Resistance : 500 MΩ min.  
Operating Temp. : -40°C ~ +85°C

---

**50981 Series**
2.5mm Pitch Battery Spring Conn.  
SMT R/A H=7.85 mm Type  

**Electrical**  
Voltage : 30V AC (Per Pin)  
Current : 1.5A (Per Pin)  
Contact Resistance : 50mΩ max.  
Dielectric Withstanding Voltage : 600V AC/rms  
Insulation Resistance : 500 MΩ min.  
Operating Temp. : -40°C ~ +80°C

---

**53011 Series**
Battery Holder Conn.  
SMT H=4.2mm Type  

**Electrical**  
Voltage : 25V AC (Per Pin)  
Current : 3.0A (Per Pin)  
Contact Resistance : 50mΩ max.  
Dielectric Withstanding Voltage : 1000V AC/rms  
Insulation Resistance : 1000 MΩ min.  
Operating Temp. : -40°C ~ +85°C  
Button cell battery : CR2032
Achieve Your Ideas.

ACEI offers extensive design, engineering and manufacturing to serve various products and industries that include computer, computer peripherals, business equipment, home and entertainment and telecommunications.
<table>
<thead>
<tr>
<th>Photos</th>
<th>Product Family</th>
<th>Product Family Description</th>
</tr>
</thead>
</table>
| ![RF Coaxial Connector](image1) | RF Coaxial Connector | Features:
- RF coaxial connector includes mated plug and cable
- Designed for the use in application of 50Ω impedance requirements
- Reliable, higher performance support from 3-6GHz
- Flexible to support any length for widely requirements
- Low profile, ideal for the space where space is limited |
| ![RF Switch Connector](image2) | RF Switch Connector | Applications:
- Smartphone & Cell Phone
- Notebook PC & Tablet PC
- Flat panel display
- Professional TV camera
- Digital camera & Video camera
- Security & Network camera
- Multifunction printer
- Printer
- AV equipment
- Medical equipment
- Digital measurement instrument
- Robot
- Industrial
- Projector
- Handy terminal
- Amusement
- Car electronics |
| ![RF Cable](image3) | RF Cable | |
### RF Connector

<table>
<thead>
<tr>
<th>Type</th>
<th>P / N</th>
<th>PCB Mounting</th>
<th>Operation Direction</th>
<th>Product length (mm)</th>
<th>Product width (mm)</th>
<th>Product Height (mm)</th>
<th>Φ 径 (mm)</th>
<th>Note</th>
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<tbody>
<tr>
<td>RF coaxial conn.</td>
<td>50990</td>
<td>SMT</td>
<td>S/T</td>
<td>3.0</td>
<td>3.1</td>
<td>1.25</td>
<td>φ 2.0</td>
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<tr>
<td>RF coaxial conn.</td>
<td>50993</td>
<td>SMT</td>
<td>S/T</td>
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<td>3.1</td>
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<tr>
<td>RF coaxial conn.</td>
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<td>SMT</td>
<td>S/T</td>
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<td>φ 1.5</td>
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<tr>
<td>RF Switch type</td>
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<td>SMT</td>
<td>S/T</td>
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<td>2.1</td>
<td>0.9</td>
<td>φ 1.35</td>
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</tbody>
</table>

### RF Cable

<table>
<thead>
<tr>
<th>Type</th>
<th>P / N</th>
<th>Product length (mm)</th>
<th>Operation Direction</th>
<th>Mating P/N</th>
<th>Φ 径 (mm)</th>
<th>Note</th>
</tr>
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<tbody>
<tr>
<td>RF Cable-</td>
<td>56990-00001-001</td>
<td>40~100</td>
<td>Vertical</td>
<td>50990</td>
<td>φ 1.13</td>
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<tr>
<td>RF Cable-</td>
<td>56990-00002-001</td>
<td>40~100</td>
<td>Vertical</td>
<td>50990</td>
<td>φ 1.37</td>
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<td>56994-00001-001</td>
<td>40~100</td>
<td>Vertical</td>
<td>50994</td>
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<td>40~100</td>
<td>Vertical</td>
<td>50994</td>
<td>φ 1.13</td>
<td></td>
</tr>
</tbody>
</table>

★ High Speed (SATA gen3・USB3.0・Type C)
© Key P/N

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Aces offers extensive design, engineering and manufacturing to serve various products in industries that include computer, computer peripherals, building equipment, home entertainment and telecommunications.
50990 Series
Micro RF Coaxial Conn.
SMT S/T H=1.25mm Type

**Electrical**
- Voltage: 60V AC (Per Pin)
- Impedance: 50Ω (Per Pin)
- Contact Resistance: 25mΩ max.
- Dielectric Withstanding Voltage: 200V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +85°C

Reference Information
Mated P/N: 56990

50993 Series
Micro RF Coaxial Conn.
SMT S/T H=0.63mm Type

**Electrical**
- Voltage: 60V AC (Per Pin)
- Impedance: 50Ω (Per Pin)
- Contact Resistance: 25mΩ max.
- Dielectric Withstanding Voltage: 200V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +85°C

50994 Series
Micro RF Coaxial Conn.
SMT S/T H=0.6mm Type

**Electrical**
- Voltage: 60V AC (Per Pin)
- Impedance: 50Ω (Per Pin)
- Contact Resistance: 25mΩ max.
- Dielectric Withstanding Voltage: 200V AC/rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +85°C

Reference Information
Mated P/N: 56994

50996 Series
RF Coaxial Switch Conn.
SMT S/T H=0.9mm Type

**Electrical**
- Voltage: 250V AC (Per Pin)
- Impedance: 50Ω
- Contact Resistance: 50 mΩ Max.
- Dielectric Withstanding Voltage: 300 V AC/rms
- Insulation Resistance: 500 MΩ min. initial
- Operating Temp.: -40°C ~ +85°C

56994 Series
0.81/1.13 Ø RF Cable
L=40~100mm

**Electrical**
- Voltage: 60V AC (Per Pin)
- Current: 0.5A (Per Pin)
- Contact Resistance: 20 mΩ Max. initial
- Dielectric Withstanding Voltage: 200 V AC/rms
- Insulation Resistance: 500 MΩ min. initial
- Operating Temp.: -40°C ~ +85°C
Product Profile

ACES offers extensive design, engineering and manufacturing to serve
relevant products in industries that include computer, computer peripherals,
business equipment, home entertainment and telecommunications.
<table>
<thead>
<tr>
<th>Photos</th>
<th>Product Family</th>
<th>Product Family Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Standard Type" /></td>
<td><strong>Standard Type</strong></td>
<td>Description: 67 Circuits, 0.5 Pitch, Standard type, Key A/B/E/M, Product Height: 2.2/3.2/4.2/6.7mm(Max)</td>
</tr>
<tr>
<td><img src="image" alt="Sink Type" /></td>
<td><strong>Sink Type</strong></td>
<td>Description: 67 Circuits, 0.5 Pitch, Sink type, Key B/E/M, Above Height: 1.4/1.8mm</td>
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</tbody>
</table>

It is a natural transition from the Mini Card and Half Mini Card to a smaller form factor both in size and volume. M.2's more flexible physical specification allows different module widths and lengths, and, paired with the availability of more advanced interfacing features, makes the M.2 more suitable than mSATA for solid-state storage applications in general and particularly for the use in small devices such as ultrabooks or tablets. ACES offers a wide range of M.2 connectors that includes different body height, different key position options and can mating with single or double-sided modules. The new smaller form factor is suitable for applications in new thin platform.
<table>
<thead>
<tr>
<th>Product Family</th>
<th>P/N</th>
<th>Pitch (mm)</th>
<th>PCB Mount</th>
<th>Operation Direction</th>
<th>Product Height (mm)</th>
<th>Center Height (mm)</th>
<th>Above Height (mm)</th>
<th>Contact Position</th>
<th>Interface</th>
<th>Note</th>
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<tbody>
<tr>
<td>Standard type</td>
<td>51733</td>
<td>0.5</td>
<td>SMT</td>
<td>R/A</td>
<td>3.20</td>
<td>1.85</td>
<td>3.20</td>
<td>D/C</td>
<td>Standard</td>
<td>⭐</td>
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<tr>
<td>Standard type</td>
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<td>0.5</td>
<td>SMT</td>
<td>R/A</td>
<td>4.20</td>
<td>2.85</td>
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<tr>
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<td>SMT</td>
<td>R/A</td>
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<td>0.90</td>
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<td>Standard type</td>
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<td>SMT</td>
<td>R/A</td>
<td>6.70</td>
<td>5.45</td>
<td>6.70</td>
<td>D/C</td>
<td>Standard</td>
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<td>Sink type</td>
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<td>SMT/TH</td>
<td>R/A</td>
<td>3.00</td>
<td>0.40</td>
<td>1.40</td>
<td>D/C</td>
<td>Sink</td>
<td>⭐</td>
</tr>
<tr>
<td>Sink type</td>
<td>51749</td>
<td>0.5</td>
<td>SMT/TH</td>
<td>R/A</td>
<td>3.50</td>
<td>0.05</td>
<td>1.80</td>
<td>D/C</td>
<td>Sink</td>
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</tr>
</tbody>
</table>

⭐ High Speed (M.2 · SATA gen3 · USB3.0 · Type C)
© Key P/N
## M.2 Connector

### 51733 Series
- 0.5mm Pitch M.2 Conn.
- SMT D/R R/A H=3.2mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: 0.5A (Per Pin)
- Contact Resistance: 55mΩ max(Initial), 20mΩ max(After)
- Dielectric Withstanding Voltage: 300V AC rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +80°C

**Reference Information**
- ★ High Speed Product:M.2

### 51736 Series
- 0.5mm Pitch M.2 Conn.
- SMT D/R R/A H=4.2mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: 0.5A (Per Pin)
- Contact Resistance: 55mΩ max(Initial), 20mΩ max(After)
- Dielectric Withstanding Voltage: 300V AC rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +80°C

**Reference Information**
- ★ High Speed Product:M.2

### 51743 Series
- 0.5mm Pitch M.2 Conn.
- SMT D/R R/A H=6.7mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: 0.5A (Per Pin)
- Contact Resistance: 55mΩ max(Initial), 20mΩ max(After)
- Dielectric Withstanding Voltage: 300V AC rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +80°C

**Reference Information**
- ★ High Speed Product:M.2

### 51747 Series
- 0.5mm Pitch M.2 Conn.
- Hybrid D/R R/A H=3.0mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: 0.5A (Per Pin)
- Contact Resistance: 55mΩ max(Initial), 20mΩ max(After)
- Dielectric Withstanding Voltage: 300V AC rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +80°C

**Reference Information**
- ★ High Speed Product:M.2

### 51749 Series
- 0.5mm Pitch M.2 Conn.
- Hybrid D/R R/A H=3.5mm Type

**Electrical**
- Voltage: 50V AC (Per Pin)
- Current: 0.5A (Per Pin)
- Contact Resistance: 55mΩ max(Initial), 20mΩ max(After)
- Dielectric Withstanding Voltage: 300V AC rms
- Insulation Resistance: 500 MΩ min.
- Operating Temp.: -40°C ~ +80°C

**Reference Information**
- ★ High Speed Product:M.2

---

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Product Profile

ACES offers extensive design, engineering and manufacturing to serve a broad spectrum of industries and high volume applications.
<table>
<thead>
<tr>
<th>Photos</th>
<th>Product Family</th>
<th>Product Family Description</th>
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</thead>
<tbody>
<tr>
<td><img src="image" alt="0.4mm LVDS Connector" /></td>
<td>0.4mm</td>
<td>0.4mm pitch horizontal &amp; vertical type connector with shield cover over solder tails. Improved transmission efficiency, High level EMI shield performance and multi point ground. Applications: Smartphone &amp; Cell Phone / Notebook PC &amp; Tablet PC / Professional TV camera / Digital camera / Security &amp; Network camera / Multifunction printer / Printer /Projector / Amusement</td>
</tr>
<tr>
<td><img src="image" alt="0.5mm LVDS Connector" /></td>
<td>0.5mm</td>
<td>0.5mm pitch horizontal &amp; vertical type connector with shield cover over solder tails. Improved transmission efficiency, High level EMI shield performance and multi point ground. Applications: Various slim displays / Media streaming device / Set-top box /Projector / Notebook PC &amp; Tablet PC / LCD TV / Professional TV camera Printer /</td>
</tr>
<tr>
<td>Type</td>
<td>P / N</td>
<td>Pitch (mm)</td>
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<tr>
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<td>-------</td>
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<tr>
<td>Receptacle</td>
<td>50453</td>
<td>0.4</td>
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<tr>
<td>Plug</td>
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<td>Receptacle</td>
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<tr>
<td>Plug</td>
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</tbody>
</table>

☆ High Speed (SATA gen3 - USB3.0 - Type C)
© Key P/N
**ACES**

**LVDS Connector**

**50453 Series**
0.4mm Pitch WTB LVDS Coax. Rcpt. Conn. SMT S/R R/A Type.

**Electrical**
- Voltage: 100V AC
- Current: AWG#36/0.80A - AWG#40/0.30A
  - AWG#42/0.24 A - AWG#44/0.10 A
- Contact Resistance: 60mΩ max.
- Dielectric Withstanding Voltage: 250V AC/rms
- Insulation Resistance: 1000 MΩ min.
- Operating Temp.: -40°C ~ +85°C

**Reference Information**
- Mated P/N: 50453
- ★ High Speed Product: USB 3.0

**50454 Series**
0.4mm Pitch WTB LVDS Coax. Plug Conn. S/R R/A Type.

**Electrical**
- Voltage: 100V AC
- Current: AWG#36/0.80A - AWG#40/0.30A
  - AWG#42/0.24 A - AWG#44/0.10 A
- Contact Resistance: 60mΩ max.
- Dielectric Withstanding Voltage: 250V AC/rms
- Insulation Resistance: 1000 MΩ min.
- Operating Temp.: -40°C ~ +85°C

**Reference Information**
- Mated P/N: 50453
- ★ High Speed Product: USB 3.0

**50463 Series**
0.4mm Pitch WTB LVDS Coax. Rcpt. Conn. SMT S/R S/T Type

**Electrical**
- Voltage: 100V AC
- Current: AWG#36~42/0.24 A
- Contact Resistance: 60mΩ max.
- Dielectric Withstanding Voltage: 250V AC/rms
- Insulation Resistance: 1000 MΩ min.
- Operating Temp.: -40°C ~ +85°C

**Reference Information**
- Mated P/N: 50464
- ★ High Speed Product: USB 3.0

**50464 Series**
0.4mm Pitch WTB LVDS Coax. Plug Conn. S/R S/T Type

**Electrical**
- Voltage: 100V AC
- Current: AWG#36~42/0.24 A
- Contact Resistance: 60mΩ max.
- Dielectric Withstanding Voltage: 250V AC/rms
- Insulation Resistance: 1000 MΩ min.
- Operating Temp.: -40°C ~ +85°C

**Reference Information**
- Mated P/N: 50463
- ★ High Speed Product: USB 3.0
50203 Series
0.5mm Pitch WTB LVDS Coax. Rcpt. Conn.
SMT S/R R/A Type

Electrical
Voltage: 100V AC
Current: AWG#38/0.8A - AWG#38/0.6A - AWG#40/0.3A
Contact Resistance: 50mΩ max.
Dielectric Withstanding Voltage: 250V AC rms
Insulation Resistance: 1000 MΩ min.
Operating Temp.: -20°C ~ +85°C

Reference Information
Mated P/N: 50204

---

50204 Series
0.5mm Pitch WTB LVDS Coax. Plug Conn.
S/R R/A Type

Electrical
Voltage: 100V AC
Current: AWG#38/0.8A - AWG#38/0.6A - AWG#40/0.3A
Contact Resistance: 50mΩ max.
Dielectric Withstanding Voltage: 250V AC rms
Insulation Resistance: 1000 MΩ min.
Operating Temp.: -20°C ~ +85°C

Reference Information
Mated P/N: 50203

---

50406 Series
0.5mm Pitch WTB LVDS Coax. Rcpt. Conn.
SMT S/R S/T Type

Electrical
Voltage: 50V AC
Current: AWG#32/0.35 A - AWG#34/0.35 A - AWG#36/0.30 A - AWG#40/0.25 A - AWG#42/0.20 A
Contact Resistance: 90mΩ max.
Dielectric Withstanding Voltage: 150V AC rms
Insulation Resistance: 100 MΩ min.
Operating Temp.: -55°C ~ +85°C

★ High Speed Product: SATA gen3 - USB 3.0

Reference Information
Mated P/N: 50407

---

50407 Series
0.5mm Pitch WTB LVDS Coax. Plug Conn.
S/R S/T Type

Electrical
Voltage: 50V AC
Current: AWG#32/0.35 A - AWG#34/0.35 A - AWG#36/0.30 A - AWG#40/0.25 A - AWG#42/0.20 A
Contact Resistance: 90mΩ max.
Dielectric Withstanding Voltage: 150V AC rms
Insulation Resistance: 100 MΩ min.
Operating Temp.: -55°C ~ +85°C

Reference Information
Mated P/N: 50406
★ High Speed Product: SATA gen3 - USB 3.0

---

50384 Series
0.5mm Pitch WTB LVDS Coax. Plug Conn.
S/R R/A Type

Electrical
Voltage: 100V AC
Current: 0.8A
Contact Resistance: 40mΩ max.
Dielectric Withstanding Voltage: 250V AC rms
Insulation Resistance: 1000 MΩ min.
Operating Temp.: -40°C ~ +85°C

Reference Information
Mated P/N: 50384

---

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Product Profile

Aces offers extensive design, engineering and manufacturing to serve various products in industries that include computer, computer peripherals, business equipment, home entertainment and telecommunications.
<table>
<thead>
<tr>
<th>Photos</th>
<th>Product Family</th>
<th>Product Family Description</th>
</tr>
</thead>
</table>
| ![ECU connector](image1) | ECU conn | - Designed for interconnections for automotive electronic equipment.  
- Designed for high density packaging with numerous contacts in an electronic control unit.  
- Signal contacts and power contacts are housed in the same connector.  
- Several wire-terminated sockets are coupled with a pin header mounted on a board.  
- Mechanical socket structure design which is more reliable and stable for each module’s connection.  
- Simplified crimp type termination.  
Applications:  
- For Automobile, truck and bus connectivity solution. |
| ![Parking sensor](image2) | Parking sensor | - Supports wide range of temperatures from -40 to +105 degree  
- Highly reliable socket structure design which is more stable for module and pcbs connections.  
- Highly reliable and flexible for any molding requirements.  
- Compatible with most of the sensor modules.  
Applications:  
- For Automobile, truck and bus connectivity solution. |
| ![Camera module](image3) | Camera module | - Supports wide range of temperatures from -40 to +105 degree  
- Easy for wire and module installations  
- Highly reliable socket structure design which is more stable for module and pcbs connections.  
- Compatible with most of the sensor modules.  
- UV resistance  
- Meet EMI qualification  
Applications:  
- For Automobile, truck and bus connectivity solution. |
## Automotive Connector

<table>
<thead>
<tr>
<th>TYPE</th>
<th>P / N</th>
<th>Pitch (mm)</th>
<th>PCB Mounting</th>
<th>Operation Direction</th>
<th>Sealed</th>
<th>Note</th>
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<tr>
<td>Wafer</td>
<td>91235</td>
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<th>Note</th>
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* High Speed (sata gen3 · USB3.0 · Type C)
© Key P/N

-101-
**91325 Series**

2.24mm Pitch WTB Wafer Conn.
T/H D/R R/A Type

**Electrical**
- Voltage: 13V AC/DC (Per Pin)
- Current: 4A (Per Pin)
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 100 MΩ min.
- Operating Temp.: -40°C ~ +105°C

**92206 Series**

2.5m Pitch WTB Wafer Conn.
T/H D/R R/A Type

**Electrical**
- Voltage: 32V AC/DC (Per Pin)
- Current: 5A (Per Pin)
- Dielectric Withstanding Voltage: 1000V AC/rms
- Insulation Resistance: 100 MΩ min.
- Operating Temp.: -40°C ~ +105°C

**92207 Series**

2.5m Pitch WTB Wafer Conn.
T/H D/R R/A Type

**Electrical**
- Voltage: 14V AC/DC (Per Pin)
- Current: 5A (Per Pin)
- Dielectric Withstanding Voltage: 1600V AC/rms
- Insulation Resistance: 100 MΩ min.
- Operating Temp.: -40°C ~ +85°C

**92208 Series**

2.54mm Pitch WTB Wafer Conn.
T/H D/R R/A Type

**Electrical**
- Voltage: 14V AC/DC (Per Pin)
- Current: 3A (Per Pin)
- Dielectric Withstanding Voltage: 1600V AC/rms
- Insulation Resistance: 100 MΩ min.
- Operating Temp.: -40°C ~ +85°C

**92235 Series**

2.2m Pitch WTB Wafer Conn.
T/H D/R S/T H=23.4mm Type

**Electrical**
- Voltage: 13V AC/DC (Per Pin)
- Current: 4A (Per Pin)
- Dielectric Withstanding Voltage: 500V AC/rms
- Insulation Resistance: 100 MΩ min.
- Operating Temp.: -40°C ~ +105°C
Aces offers extensive design, engineering and manufacturing services in several industries that include computer, computer peripherals, business equipment, home entertainment and telecommunications.

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