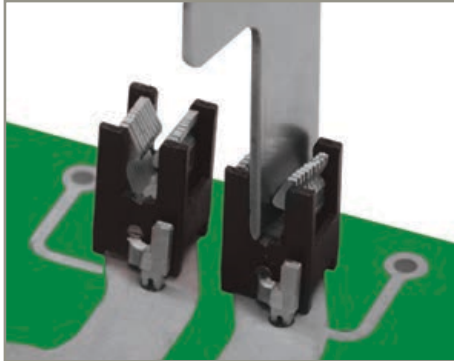
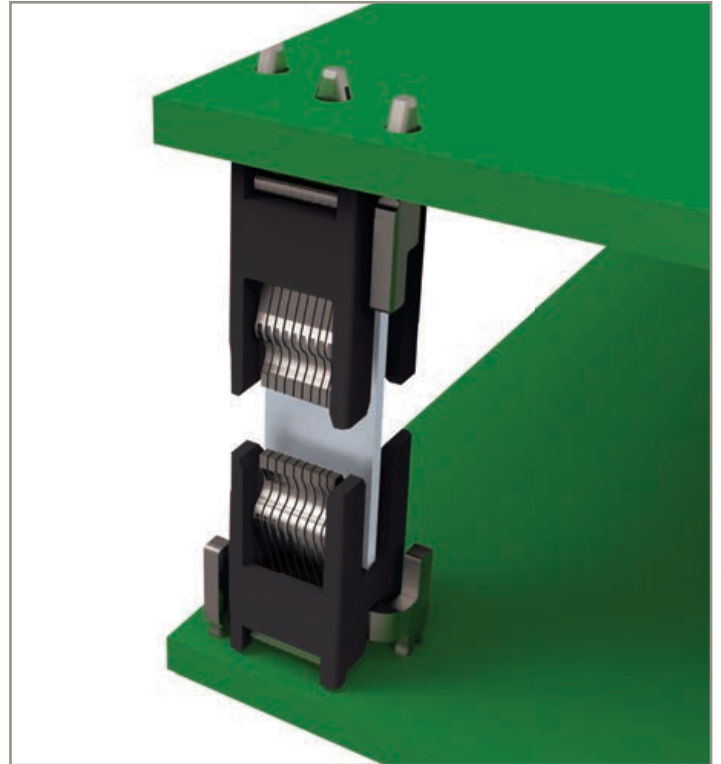


# BusMate™

## Power Busbar Connector System

- Low and high voltage applications
- Compact size
- Excellent ampacity-size ratio
- Accommodates large assembly tolerances:  $\pm 0.8\text{mm}$
- Solderless and pluggable
- Customizable and scalable
- High temperature construction:  $125^{\circ}\text{C}$



## Applications

- Hybrid Vehicle Power Systems
- Electric Power Steering
- Busbar Systems for Motors and Pumps
- Power Mechatronics
- Charging Systems

## Industries



Automotive



Energy



Industrial



Datacom & Telecom



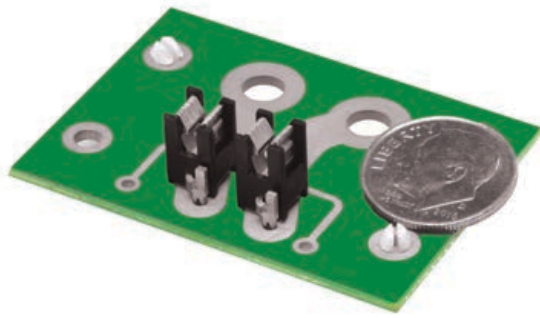
Transportation



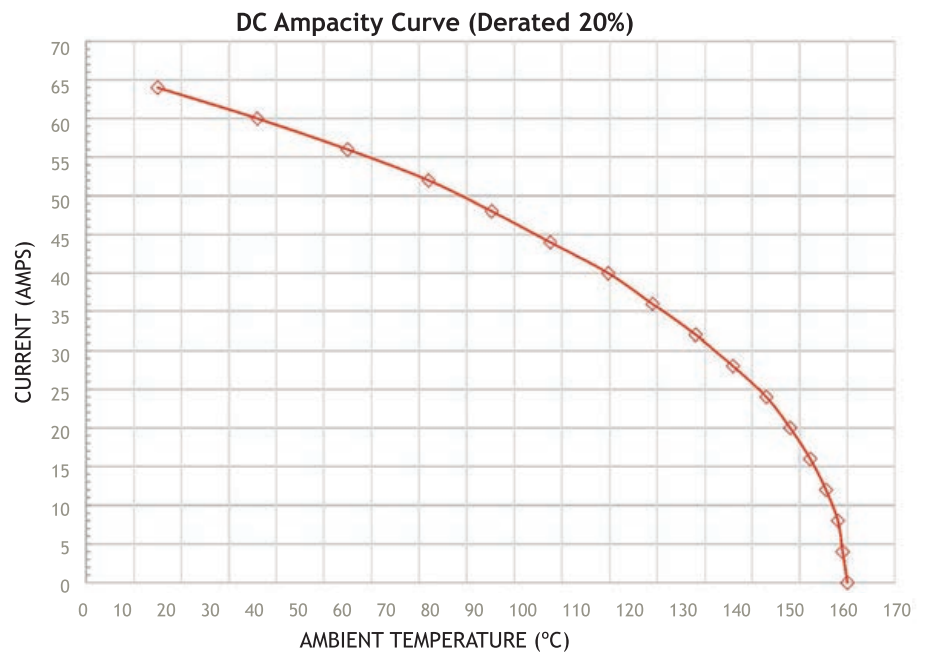
Medical & Life Sciences

## SMALL FOOTPRINT

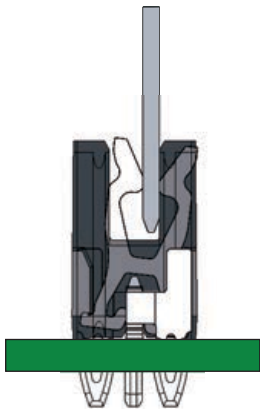
8.4mm x 6.0mm x 9.9mm



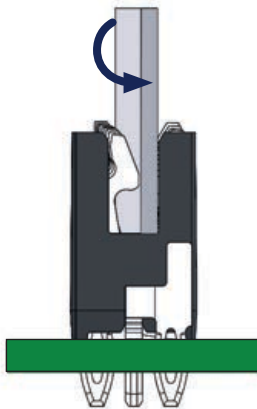
## LARGE AMPACITY-SIZE RATIO



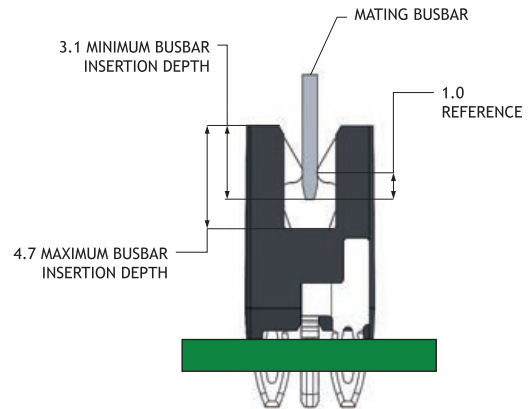
## LARGE BUSBAR ASSEMBLY TOLERANCES



±0.8mm  
Mating Offset

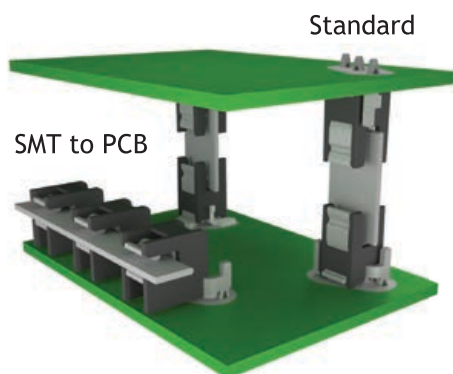


±0.8mm  
Skew/Twist Offset



±0.8mm  
Insertion Depth

## CUSTOMIZED OPTIONS



Horizontal Busbar  
to PCB Mount



SMT

## SCALABLE

40A / 60A / 80A



## SOLDERLESS AND PLUGGABLE

Busbar pluggable and automotive-proven  
Press-Fit technology to PCB

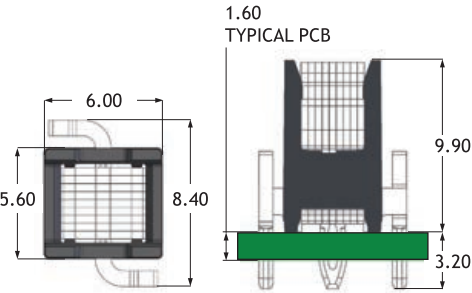
## HIGH TEMPERATURE CONSTRUCTION

Up to 125°C

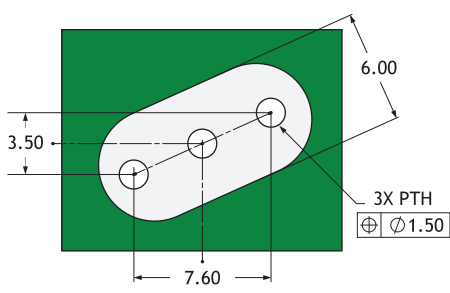
# BASIC DIMENSIONS AND SPECIFICATIONS

Reference: Application DWG # E-IPX30013  
All dimensions in mm

## BusMate™ Dimensions

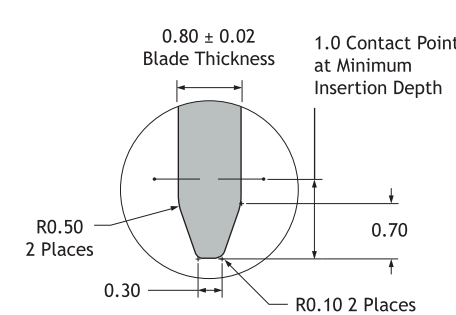


## Suggested PCB Pad Layout



\*Oval pad 3oz copper, both sides of board

## Mating Busbar Lead-in Geometry



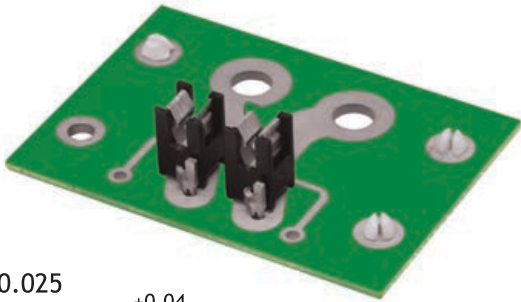
\*Busbar tested with tin plating

## BusMate™ Materials

- **Metal Contacts:** CuNiSi (high conductivity spring alloy)
- **Housing:** Glass-filled PPA, 150°C RTI (tested up to 125 °C)

## Required PCB Hole Construction

- **PCB Laminate:** FR-4
- **PCB Thickness:** 1.57mm
- **Tg:** 170 °C minimum
- **Drill (mm):** Ø1.600 ± 0.025
- **Copper Thickness (mm):** 0.050 ± 0.025
- **Plated-through Hole Diameter (mm):** Ø1.50 <sup>+0.04</sup>/<sub>-0.05</sub>



# MECHANICAL SPECIFICATIONS

	Specifications	Additional Information
PCB Press-in Force	450N typical (Interplex-designed tooling for assembly)	0.8mm Press-Fits (quantity 3) Ref: DWG # E-MLG03034-APP
Mating Busbar Force	90N typical	Dependent on mating angle @ rate of 50mm/min
Busbar Retention	40N typical	Disengagement rate of 50mm/min
Mating Cycles	Maximum 3 typical (in controlled assembly)	Electrically tested to 10 cycles

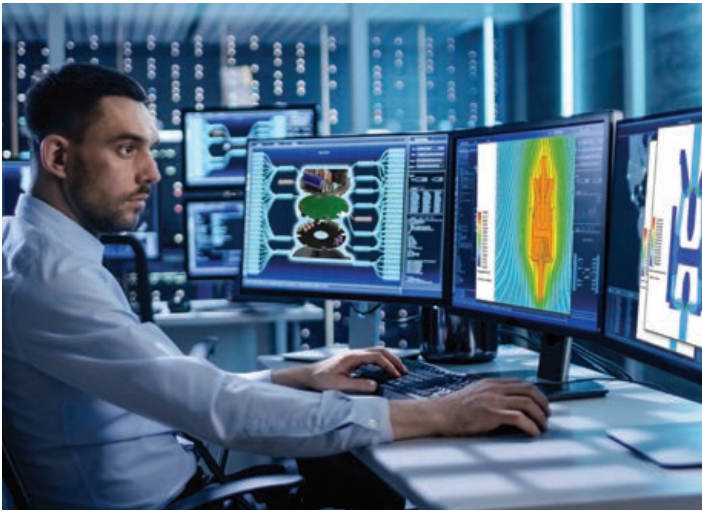
For more detailed specifications, refer to application DWG # E-IPX30013

# PERFORMANCE SPECIFICATIONS

	Specifications	Additional Information
Contact Resistance	217μΩ	PCB hole to mating busbar
Power Dissipation	266mW	35A @ 25 °C ambient
Ampacity	40A	@ 125°C ambient with no derating
Vibration Under Temperature & Load	Temperature: 125 °C ambient Cycles: 1000 cycles of 3 axis vibrations, 8 hours each Vibration Profile: 10 - 2000Hz, 181m/s <sup>2</sup> (18.5G) RMS Load: 35A, constant Continuity Monitoring: Continuous	10 mates before test Inline, offset & skewed busbar positions
High Temperature Exposure	Duration: 1008 hours Temperature: 125 °C Load: 35A, constant Continuity Monitoring: Continuous	10 mates before test Dry circuit contact resistance Subgroup tested in series after vibration tests above

# ENGINEERING AND DEVELOPMENT (IPD)

The Interplex Product Development (IPD) team offers innovative, applications-engineered solutions to our customers' most difficult challenges. Our dynamic team of technical professionals utilizes emerging technologies to develop customized products designed for optimal manufacturability and industrialization. With 9 locations across the globe, we bring the highest quality solutions to our customers, wherever they are.



## INTERPLEX PRODUCT DEVELOPMENT

DESIGN

INDUSTRIALIZE

VALIDATE

CUSTOMER DESIGN TEAM

CUSTOMER MANUFACTURING TEAM



Interplex is a leading multinational technological manufacturer and award-winning custom applications specialist. We are 100% dedicated to providing the best customized solutions for top tier companies to tackle their most demanding engineering challenges.

Our diverse portfolio encompasses complex precision mechanical and electro-mechanical components, precision rubber elements, and integrated modules and systems. Our engineering, manufacturing, R&D and testing expertise excels in numerous industries including automotive, medical and life sciences, datacom and telecom, and so much more. With an expansive global footprint, we take pride in consistently delivering **Any solution, Anywhere™** to our valued customers regardless of their location.