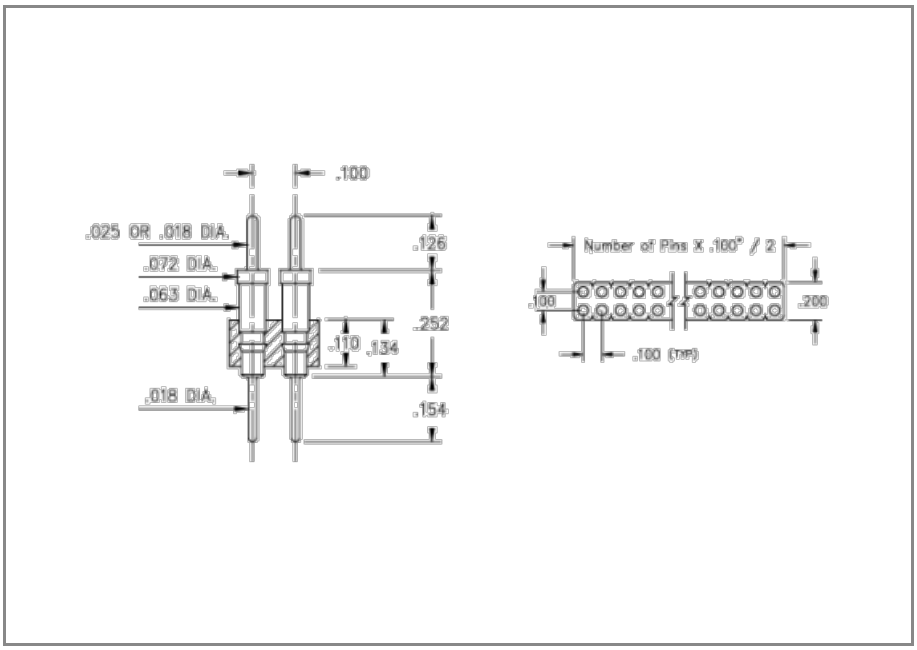
PRODUCT NUMBER: 451-10-220-00-009000

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DATA SHEET





General Information		
1	**Product Lifecycle:**	Active
	Product Family:	PCB Connector
	Type:	Machined Pin Header
2	**Description:**	Board Stacking Pin Header
	Description2:	.018" (0,46mm) Pin Head
	Pitch:	.100" (2,540mm)
	Number of Pins:	20
	Head Type:	Pin Head
	Tail Type:	Solder Tail
3	**Operating Temperature Range:**	-55/+125° C
	Country of Origin:	USA
4	**ROHS:**	Yes

451-10-220-00-009000 - SPECIFICATIONS

Product Attributes	
5 Plating Code:	10 - shell: 10 µ" Gold over 100 µ" Nickel
Insulator Material:	High Temp Thermoplastic
Rows:	Double Row
Frame Type:	N/A
Contact Number:	N/A
Mounting Tab:	N/A

Key Dimensions	
Above Board Height:	.378" (9,601mm)
Head Diameter:	.018" (0,457mm)
Insulator Height:	.110" (2,794mm)
Tail Diameter:	.018" (0,457mm)
Tail Length:	.154" (3,912mm)

Electrical Specifications	
6 Current Rating:	Application Specific
Insulation Resistance:	10,000 MΩ min.
Rated Voltage:	100 VRMS/150 VDC
Dielectric Withstanding Voltage:	1,000 VRMS min.

Mounting Specifications	
Mounting Type:	Through Hole Solder Mount
Mounting Hole:	.026" (0,660mm)
Mounting Tab:	N/A
SMT Pad Size:	N/A

Packaging Information	
7 Packaging:	Packaged in Box or Tube
Tape Width:	N/A

Environmental & Export Classifications	
REACH Status:	REACH Unaffected
ECCN:	Contact Factory
HTSUS:	8536.90.4040
Cage Code:	3N087
Moisture Sensitivity Level (MSL):	1 (Unlimited)
Special Handling Code:	UNDF
Prop 65:	N
Static Sensitive:	N

NOTES:

1. Part is Active and in Production, No Scheduled Obsolescence
2. **Standard Tolerances**
   Assembly tolerance: +/-.010" (.25mm)
   Connector Length "L"

Connector Length "L"	Tolerance
L ≤ 2" (L ≤ 50.8 mm)	+/- .005" (+/- .127 mm)
2< L ≤ 3" (50.8 < L ≤ 76.2 mm)	+ .007/ - .006" (+ .178/ -.152 mm)
3< L ≤ 4" (76.2 < L ≤ 101.6 mm)	+ .009 / - .007" (+ .229 / - .178 mm)
4< L ≤ 5" (101.6 < L ≤ 127 mm)	+ .011 / - .008" (+ .279 / - .203 mm)
5< L ≤ 6.4" (127 < L ≤ 162.56 mm)	+ .013 / - .009" (+ .330 / - .229 mm)

   Insulator width: +/-.005 (.13mm)
   Insulator height: +/-.005 (.13mm)
   Co-planarity of SMT connectors: .005" (.13mm) up to 1" (25.4mm) in connector length
   Insulator Flatness: .005" (.13mm) up to 1" (25.4mm) in connector length
   Pin Length: +/-.005 (.13mm)
   Pin Diameter: +/-.002 (.051mm)
   Pin Angle: +/-2°
3. Per IEC 60512-11-(4,-9,-10,-12)
4. Mill-Max products labeled with the RoHS symbol are compliant with all three ROHS Directives. All of our products previously described as RoHS (2002/95/EC) and RoHS-2 (2011/65/EC) are also compliant with RoHS-3 (2015/863/EU).
5. **Pin Plating:** 10 µ" Gold over 100 µ" Nickel
6. Current rating is typically a measured function of the female socket/connector. The amount of current a solid, male, brass pin can tolerate is a direct relation of the heat displaced based on current and the ability of neighboring components to handle displaced heat.
7. Not all part numbers in the series may be packaged in tubes. Some specific part numbers may be packaged in a box.

ADDITIONAL NOTES AND SPECIFICATIONS

In the interest of improved design, quality and performance , Mill-Max reserves the right to make changes in its specifications without prior notice. Specifications and tolerances are provided wherever possible. The tolerance on dimensions of critical to function features is typically held tighter than the stated standard tolerances, such as press-fits, holes and lengths affecting the coplanarity of SMT products. Due to the wide variety of interconnects Mill-Max offers, the specific tolerances vary from product to product. If you need information regarding the tolerance of a particular part, please contact Technical Services.

RELATED LINKS AND DOCUMENTS

- Product Detail: 451-10-220-00-009000 - Board Stacking Pin Header
- Engineering Notebook: **Introduction to Machined Pin PCB Connectors & Interconnects**
- Environmental Compliance: https://www.mill-max.com/rohs