

# **Component Specification**

C00119

## M20 Series Connectors October 2021

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## 1. <u>DESCRIPTION OF CONNECTOR AND INTENDED APPLICATION</u>

A range of 2.54mm (0.1") pitch connectors, having 0.64mm (0.025") square pins and sockets suitable for interconnecting board to board and board to wire.

The socket is a box section design with a latch to locate and hold in an insulated housing. Terminations are available for wire crimp, through board solder or surface mount in either horizontal or vertical mounting.

The plug pin is held in a moulding, and is available for either horizontal or vertical, surface mount or through board solder mounting. Plug mouldings are available in unlatched or latched versions. Contacts may be gold. Surface mountable pin headers are available in single and double row, vertical and horizontal variations.

## 2. RATINGS

Note:

- Individual components may exceed below ratings check individual customer information sheets.
- Ratings for all M20 Throughboard Pin Headers, including Pin header variants, are detailed below as "M20-PH".

## 2.1. Material & Finish

Housing Material:	
For PC Tail or SMT connector	High Temperature Thermoplastic, UL94V-0
For Cable connectors	See individual drawing
Contact Material	Copper alloy
Contact Finish	See individual drawing

#### 2.2. Electrical Characteristics

Current Rating (per contact)	3A max
Contact Resistance (initial)	20mΩ max
Contact Resistance (after conditioning)	30mΩ max
Dielectric Withstanding Voltage (Voltage Proof):	
M20-PH, M20-785/6/7/9, M20-875	500V AC for 1 minute
M20-106/7, M20-116/8	800V AC for 1 minute
Other	1,000V AC for 1 minute
Insulation Resistance:	
M20-PH	500MΩ min
Other	1,000MΩ min

#### 2.3. Environmental Characteristics

Operating Temperature Range: M20-106/7	
Other	40°C to +105°C
Vibration:	
M20-PH, M20-781/2/3/6/7/8/9, M20-791/2, M20-889/90/91	50-2,000Hz, 3.13Grms, Duration 15 mins in each axis
Other	Not tested
Shock:	
M20-PH, M20-781/2/3/6/7/8/9, M20-791/2, M20-889/90/91	30G for 11ms
Other	Not tested

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## 2.4. Mechanical Characteristics

Durability:	
Gold finish on contact area	.300 operations
Tin finish on contact area	.50 operations
Insertion Force (maximum):	
M20-116/8	.1.2N per contact
M20-781/2/3/6/7/8/9, M20-791/2	.2.0N per contact
Withdrawal Force (minimum):	
M20-116/8	.0.8N per contact
M20-781/2/3/6/7/8/9	.0.3N per contact
M20-791/2	.0.2N per contact
Contact Retention Force (minimum)	
Contact Crimp Pull-off Force:	
30AWG	.9N minimum
28AWG	.11N minimum
26AWG	.18N minimum
24AWG	.29N minimum
22AWG	.45N minimum

## 2.5. Soldering Data

Solderability (for PC Tail & SMT products)	245°C for 5 seconds
Soldering heat resistance (for PC Tail & SMT products)	260°C for 10 seconds

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#### **APPENDICES NOTES:**

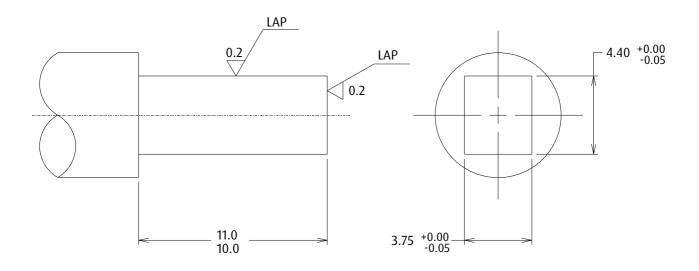
- 1. Third angle projection is used where projected views are shown.
- 2. All dimensions are in millimetres.
- 3. For explanation of dimensions, etc. see BS8888.

## **APPENDIX 1 - GAUGES**

## **NOTES:**

- 1. Material = Steel to BS1407 or equivalent.
- 2. Gauging surfaces to be hardened/ground, 650 HV5 min.
- 3. These gauges to be used for testing fully assembled components only.
- 4. Ultimate wear limit 0.005mm is allowable on gauging dimensions.

## **Contact Push-out Gauge**



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