

HARWIN

Component Specification

C01812

M22 Series Connectors
November 2022

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1. DESCRIPTION OF CONNECTOR AND INTENDED APPLICATION

A range of 2mm pitch square pin connectors for interconnecting board to board. The socket is a box section design with barbs, to locate and hold in an insulated housing. Terminations are available for throughboard solder or surface mount in a vertical mounting.

The 0.5mm square plug pins are retained in a housing, and are available in either horizontal or vertical, throughboard solder mounting or surface mount.

Connectors are available in single and double row variations. Contacts may be gold with tin terminations, all-over gold or all-over tin plated.

2. RATINGS

Note:

- Individual components may exceed below ratings – check individual customer information sheets.
- Ratings for M22 Throughboard Pin Headers (including Pin header variants but excluding M22-220, M22-221 and M22-241 series), are detailed below as “M22-PH”.

2.1. Material & Finish

Housing Material:	
For PC Tail or SMT connectors.....	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):	
M22-301/302/304/305.....	1A max
Other	2A max
Contact Resistance.....	20mΩ max
Dielectric Withstanding Voltage (Voltage Proof)	500V AC/DC for 1 minute
Insulation Resistance.....	1,000MΩ min

2.3. Environmental Characteristics

Operating Temperature Range:	
M22-301/302/304/305.....	-25°C to +85°C
M22-220/221/306/307/308	-25°C to +105°C
Others.....	-40°C to +105°C
Vibration:	
M22-PH, M22-241/532/533/543/634/636/654/655	50-2,000Hz, 3.13G _{rms} , Duration 15 mins in each axis
Other	Not tested
Shock:	
M22-PH, M22-241//532/533/543/634/636/654/655	30G for 11ms
Other	Not tested

2.4. Mechanical Characteristics

Durability:	
M22-307	1 operation MAXIMUM
<i>M22-307 is not designed to be pulled apart or separated easily. This connector is ideal for one cycle only.</i>	
M22-306/308	100 operations
Others:	300 operations
Insertion Force (maximum):	
M22-304/305	2.94N per contact
M22-306/308	6.9N per contact
M22-533/543/634/636/654/655/713/714	2.0N per contact
Withdrawal Force (minimum):	
M22-304/305/306/308	0.98N per contact
M22-533/543/634/636/654/655/713/714	0.2N per contact
Contact Retention Force (minimum):	
M22-PH, M22-220/221/306/308/530	9.8N per contact
M22-241/532/533/543/655/713/714	4.9N per contact

2.5. Soldering Data

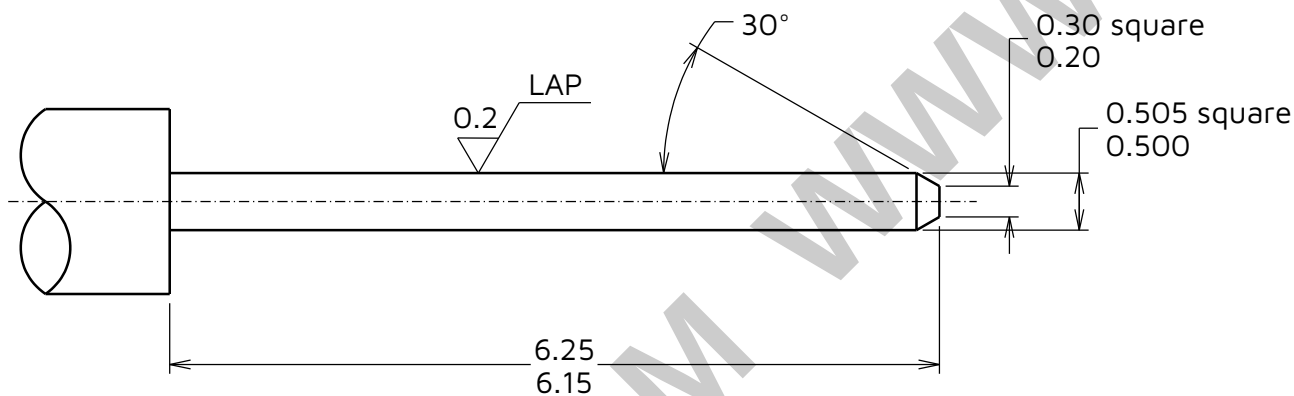
Solderability (for PC Tail & SMT products):	
M22-220/221	235°C for 3 seconds
M22-PH, M22-241/532/533/543/634/636/655	245°C for 5 seconds
M22-530	250°C for 5 seconds

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.
4. Unless otherwise stated, all dimensions are maxima.

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.

A1.1. Sizing Gauge**A1.2. Holding Gauge (after conditioning)**