COMPONENT SPECIFICATION

HARWiN

G125 Series 1.25mm Pitch High Reliability Connectors

October 2015

1.0 DESCRIPTION OF CONNECTOR AND INTENDED APPLICATION.

The G125 series of connectors is comprised of barrel crimp contacts and crimp housings; available in Male and Female applications as well as Vertical PC-Tail and Surface Mount Connectors on a 1.25mm pitch.

The G125 Crimp variants are fully shrouded, unsealed connectors with replaceable contacts. They are designed for interconnecting cable-to-cable and cable-to-board. The housings have a low profile potting wall to allow back potting for additional strain relief and improved sealing where required. All pre-made cables are supplied back-potted for customer convenience. Male variants can be equipped with locking latches for secure interconnection with easy to release features.

The G125 Vertical variants are fully shrouded, unsealed connectors for interconnecting cable-to-board and board-to-board. The Male connectors can be equipped with locking latches for secure interconnection with easy to release features. Latches can be specified with through board locking features or surface mount pads for additional security.

All contacts are gold plated all over for high performance and long service life, the contact plating is hard acid gold of 98% purity.

The G125 series range covers 06, 10, 12, 16, 20, 26, 34 & 50 total number of contacts currently in a dual row configuration, suitable for various cable-to-cable, cable-to-board and board-to-board applications. Connector housings are polarised to prevent mis-matching and have contact position one indicated on the outside of the housings.

2. RATINGS.

2.1 MATERIALS

All materials are listed on individual drawings.

All Female Contacts	Beryllium Copper
Male PC-tail contacts	Phosphor Bronze
Male Crimp Contacts	Brass
Housing	30% Glass Filled Thermoplastic
Housing Flame Retardant rating	UL 94 V-0
Latches	Copper Nickel Tin alloy
Potting Compund	Stycast 2651 MM with catalyst 9

2.2 ELECTRICAL CHARACTERISTICS

EIA-364-70A : 1998 - Current – per individual contact 25°C ambient temperature ..... 2.8A max
(When only one contact per connector is electrically loaded)
EIA-364-70A : 1998 - Current – per contact through all contacts at 25°C ambient temperature ..... 2.0A max

EIA-364-20C : 2004 - Working Voltage (at 1006mbar, sea level) ..... 450V DC or AC peak
EIA-364-20C : 2004 - Voltage Proof (at 1013mbar, sea level) ..... 600V DC or AC peak

EIA-364-20C : 2004 - Working Voltage (at 44mbar, 21,336m (70,000ft)) ..... 250V DC or AC peak
EIA-364-20C : 2004 - Voltage Proof (at 44mbar, 21,336m (70,000ft)) ..... 350V DC or AC peak

EIA-364-06C : 2006 - Contact Resistance (initial)..... 20mΩ max
EIA-364-06C : 2006 - Contact Resistance (after conditioning) ..... 25mΩ max

EIA-364-21C : 2000 - Insulation Resistance (initial) ..... 10GΩ min at 500V DC
EIA-364-21C : 2000 - Insulation Resistance (after conditioning) ..... >1GΩ min at 500V DC

Creepage Distance (contact-to-contact) ..... 0.15mm min
Clearance Distance (contact-to-contact) ..... 0.15mm min

2. RATINGS (continued).

2.3 ENVIRONMENTAL CHARACTERISTICS

Environmental Classification .....65/150/56 days at 93% RH

EIA-364-32C : 2000 - Temperature Range .....Test Condition IV, Dwell 30mins, 5 cycles -65°C to +150°C

EIA-364-28D : 1999 - Vibration Severity ◊.....Test Condition IV: 10Hz to 2000Hz,1.5mm, 198 mm/s^2 (20G)
Duration = 2 Hours

EIA-364-26B : 1999 - Salt Mist .....Test Condition B, 48 hours continuous exposure

EIA-364-27B : 1996 - Shock Severity ◊.....Test Condition E: 981 mm/s^2 (100G) for 6ms in Z AXIS,
490 mm/s^2 (50G) for 11m/s in X&Y axis.

Bump Severity ◊.....390 mm/s^2 (40G), 4000 ±10 Bumps

EIA-364-01A : 2000 - Acceleration Severity .....490m/s^2 (50g)

◊ ***latches fully utilized***

2.4 MECHANICAL CHARACTERISTICS

Durability ..... 1000 operations

Durability (Latches)..... ..... 100 operations*

Contact Retention in Housing (All Contact types) .... 6N min

Insertion Force (per contact, using mating contact) ..... 2.8N max

Withdrawal Force (per contact, using mating contact) ..... 0.2N min

*By hand or with Z125-926XX00 tools. Minimum added retention of 20N.

2.5 WIRE TERMINATION RANGE - G125 SERIES CRIMP PRODUCTS ONLY

Wire Type (recommended) ..... BS 3G 210 type A, MIL-W-16878/6 type ET or NEMA HP3 type ET

Maximum Insulation Diameter Ø0.80mm

Insulation Strip Length..... ..... 1.50-1.75mm

Conductor						Max Insulation Dia in mm	Conductor Barrel		Minimum Pull-Off Force
Size	Stranding	Diameter	Area	Circular MIL Area	Crimp Tool Setting No.		Hand Crimp Tool: Z125-900 Positioner: Z125-901	Crimp Height	
AWG	No. x Ømm	mm	mm^2	CMA				mm	N
26	7 x 0.15	Ø0.533	0.128	253	6	Ø0.80		0.95-1.10	18
28	7 x 0.13	Ø0.381	0.072	159	5				13
30	7 x 0.10	Ø0.305	0.057	100	5				12
32	7 x 0.08	Ø0.203	0.035	62	5				6

2.6 G125 SERIES CRIMPING AND ASSEMBLY METHODS

For information on Crimping Gecko contacts refer to Tooling Instruction Sheet IS-37 - Hand Crimp Tool Z125-900.

For information regarding the insertion/removal of Gecko contacts refer to Tooling Instruction Sheet IS-38 - Gecko Assembly Tool Z125-902.

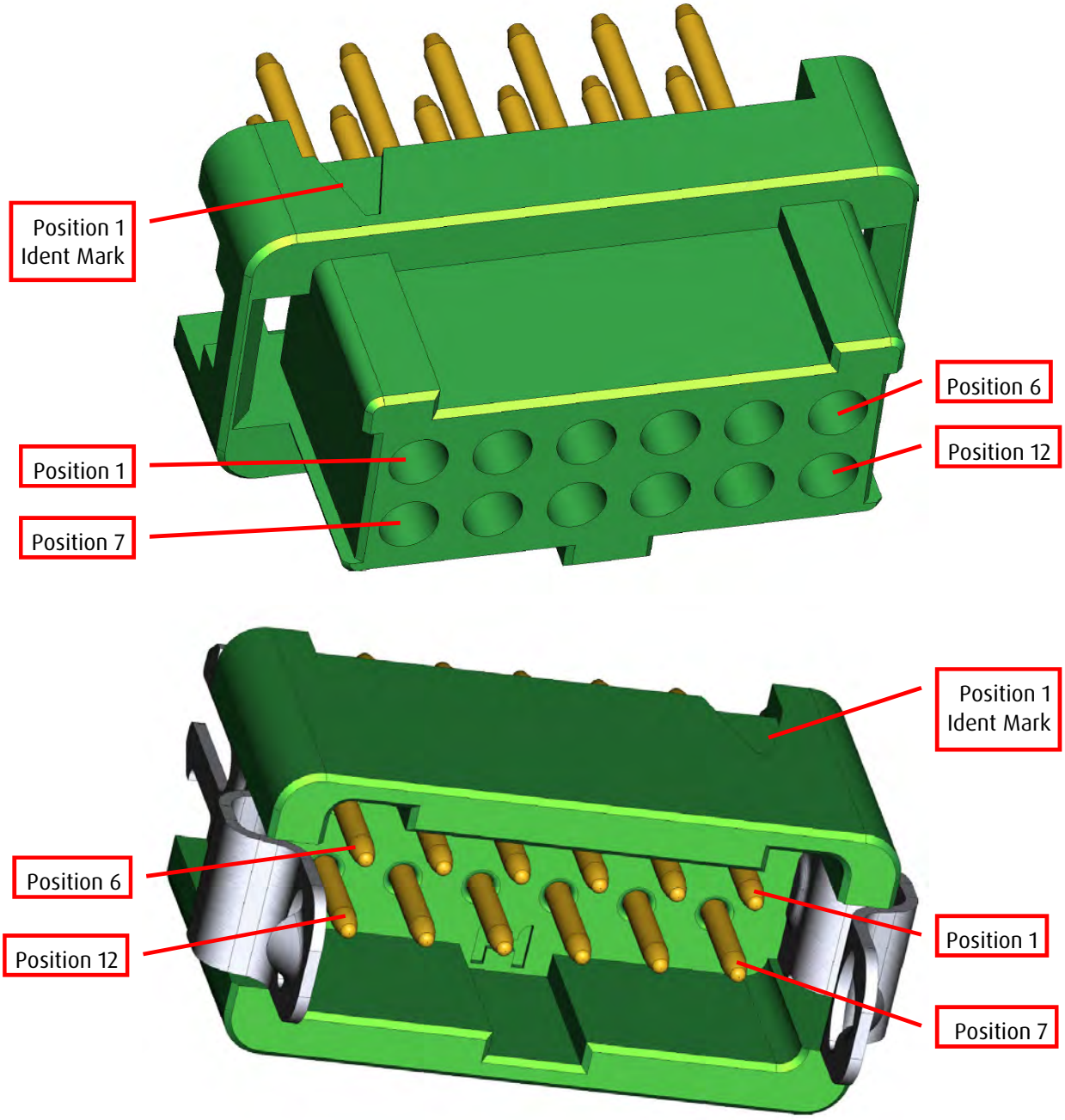
See Harwin video: *http://youtu.be/ErgGEZBwoa4* for a full instruction video.

Recommended Potting compound is Stycast 2651 MM with catalyst 9.

3. APPENDIX 1.

Contact Numbering of Positions

Position 1 identification mark is present on all connectors.



12-position connectors shown as an example.