



G125 Series: 1.25mm Pitch High Reliability Connectors Component Specification

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1. DESCRIPTION OF CONNECTOR

The G125 series of connectors (branded "Gecko") comprises of: barrel crimp contacts and crimp housings available in Male and Female genders; Vertical and Horizontal PC-Tail Connectors and Vertical Surface Mount Connectors; all on a 1.25mm pitch. Connectors are fully shrouded, unsealed connectors for interconnecting cable-to-cable, cable-to-board and board-to-board applications.

The Gecko 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 cable assemblies are supplied back-potted for customer convenience, and individually crimped contacts are also available.

There are two variants of the range, the two ranges are not intermateable:

- Gecko-SL – Screw-Lok version. Female connectors have floating screws for secure, robust interconnection to the male counterpart. Male Screw-Loks can also have board-mount studs for secure PCB connection.
- Gecko with Latches (original design). Male variants 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 range covers 06, 10, 12, 16, 20, 26, 34 and 50 total number of contacts in a dual row configuration. Connector housings are polarised to prevent mis-matching and have contact position one indicated on the outside of the housings. Metal backshells are available for sizes 06, 10, 12 and 16 cable variants in the Gecko-SL range, to provide mechanical, RF and EMC protection.

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
Contact plating finish.....	Hard Gold over Nickel
Housing.....	30% Glass Filled Thermoplastic UL94 V-0
Latches.....	Copper-Nickel-Tin alloy, Tin over Nickel finish
Screw-Lok fixings.....	Stainless Steel
Metal Backshells.....	Aluminium 6061-T6, High Phosphorous Nickel finish
Potting Compound.....	Stycast 2651 with Catalyst 11

2.2. ELECTRICAL CHARACTERISTICS

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

EIA-364-70A: 1998 – Current – per contact through all contacts, 25°C ambient..... 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

2.3. ENVIRONMENTAL CHARACTERISTICS

Environmental Classification.....	65/150/56 days at 93% RH
EIA-364-32C: 2000 – Temperature Range.....	Test Condition IV, Dwell 30mins, 5 cycles at -65°C to +150°C
EIA-364-26B: 1999 – Salt Mist	Test Condition B, 48 hours continuous exposure
EIA-364-28D: 1999 – Vibration Severity ♦.....	Test Condition IV: 10Hz to 2000Hz, 1.5mm, 198m/s ² (20G) Duration = 2 Hours
EIA-364-27B: 1996 – Shock Severity ♦❖	Test Condition E: 981m/s ² (100G) for 6ms in Z axis, 490m/s ² (50G) for 11ms in X & Y axes
Bump Severity ♦.....	390m/s ² (40G), 4,000±10 Bumps
EIA-364-01A: 2000 – Acceleration Severity	490m/s ² (50G)
♦ Latches fully utilized	
❖ X&Y tested at lower levels due to shaker limitations	

2.4. MECHANICAL CHARACTERISTICS

Durability.....	1000 operations
Durability (Latches).....	100 operations
<i>By hand or with Z125-926XX00 tools. Minimum added retention of 20N</i>	
Screw-Lok Torque.....	16 to 18 cmN
Contact Retention in Housing (all contact types).....	6.0N min
Insertion Force (per contact, using mating contact).....	2.8N max
Withdrawal Force (per contact, using mating contact).....	0.2N min
Latch Retention in Housing.....	4.0N min

2.5 WIRE TERMINATION INFORMATION – CRIMP PRODUCTS

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
Recommended Hand Crimp Tooling.....	Hand Crimp Tool Z125-900, Positioner Z125-901, Insertion/Removal Tool Z125-902

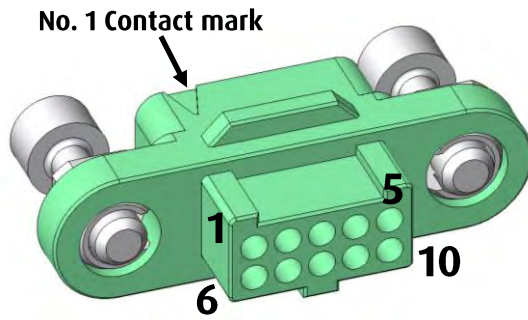
Wire Size (AWG)	Stranding (No. x Ømm)	Diameter (mm)	Area (mm ²)	Circular MIL Area (CMA)	Crimp Tool Setting	Crimp Height (mm)	Min. pull-off force (N)
26	7 x 0.15	Ø0.533	0.128	253	6	0.95-1.10	18
28	7 x 0.13	Ø0.381	0.072	159	5		13
30	7 x 0.10	Ø0.305	0.057	100	5		12
32	7 x 0.08	Ø0.203	0.035	62	5		6

For information on crimping Gecko cable contacts refer to [Tooling Instruction Sheet IS-37](#). For information on insertion/removal of Gecko cable contacts refer to [Tooling Instruction Sheet IS-38](#). There is also a Video on crimping and inserting Gecko contacts: <https://www.harwin.com/technical-resource/videos/#qCQPicxyAEQ>.

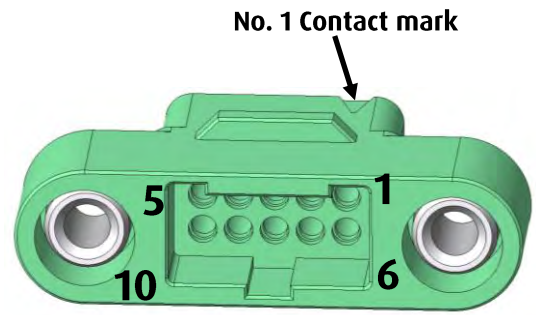
Recommended potting compound is Stycast 2651 with Catalyst 11.

APPENDIX 1

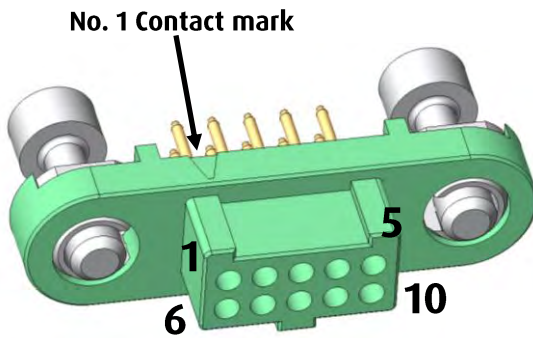
APPENDIX 1.1. – GECKO-SL CONTACT NUMBERING



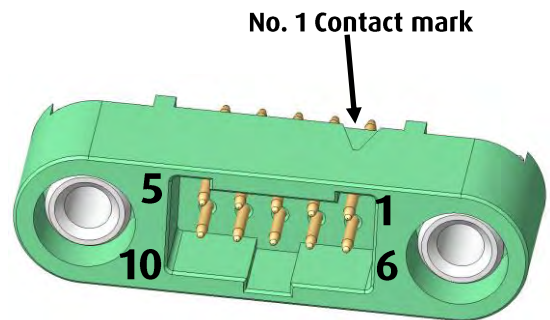
Female Crimp Housing



Male Crimp Housing

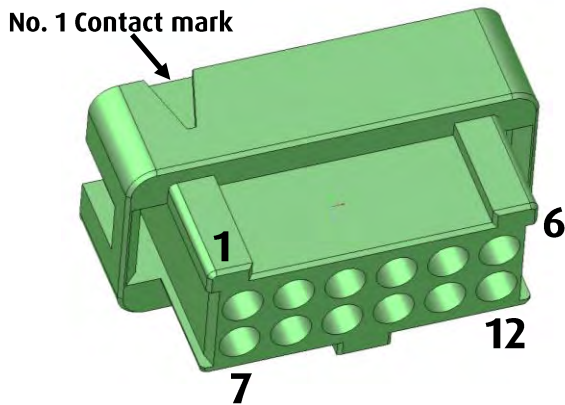


Female PCB mounted

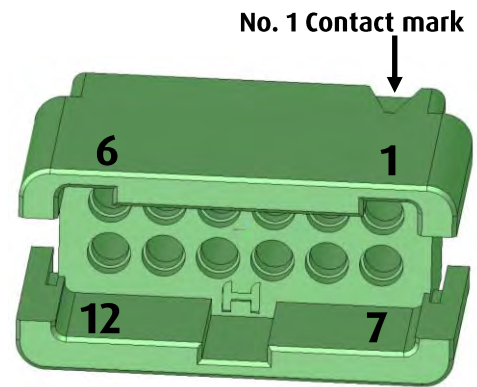


Male PCB mounted

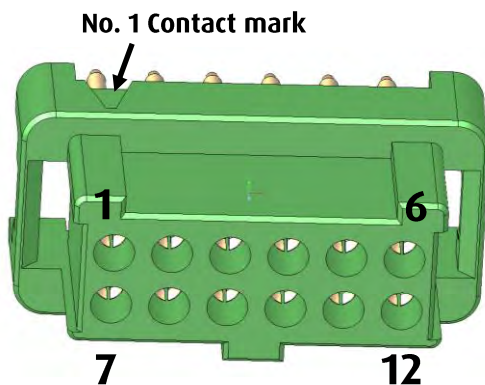
APPENDIX 1.2. – GECKO WITH LATCHES CONTACT NUMBERING



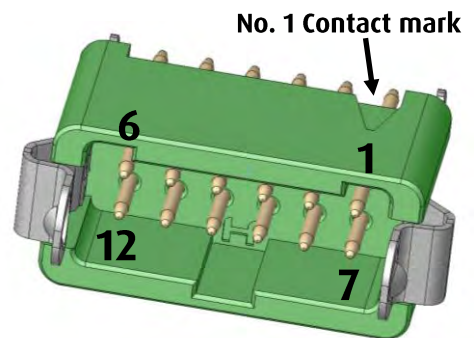
Female Crimp Housing



Male Crimp Housing



Female PCB mounted



Male PCB mounted