

**HARWIN**

**ARCHER**

Archer .8 / Archer .5

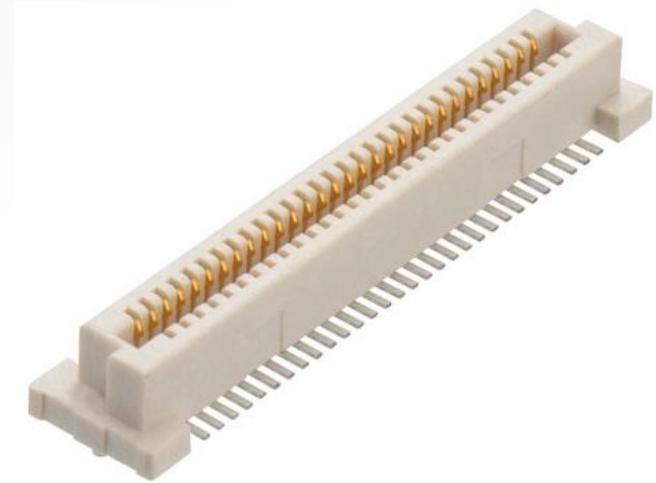
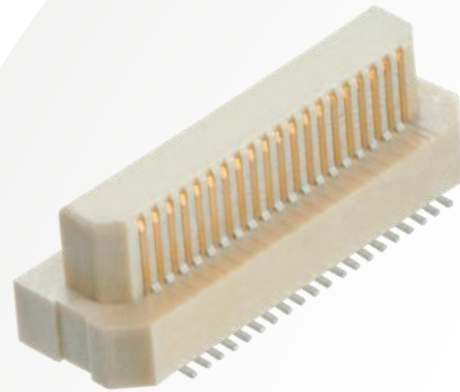
## SMALLER CONNECTIONS FOR THE INDUSTRY



It's not just consumer electronics that are either getting smaller or packing in more functionality. Industrial and automation systems also benefit from less space, less weight and more features.

These applications require smaller packages with high performance – which Archer .8 and Archer .5 deliver.

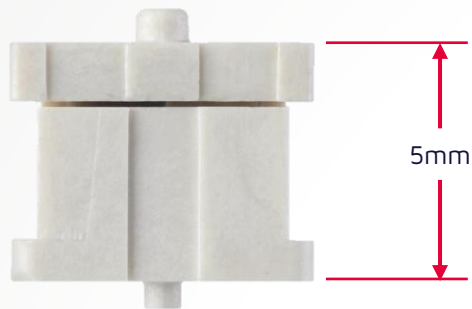
## THE BASICS



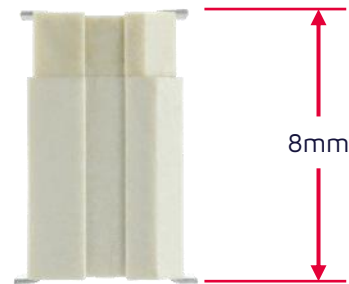
Archer .8 and Archer .5 are board-to-board connection systems. Contacts are in a double row layout enclosed in high temperature UL94V-0 plastic housings. The contact area is gold for durability and conductivity; the terminations are 100% tin for optimal surface mount soldering.

- [Archer .8](#) – the pitch of the contacts is 0.8mm
- [Archer .5](#) – the pitch of the contacts is 0.5mm

## COMPACT BOARD-TO-BOARD



Archer .8

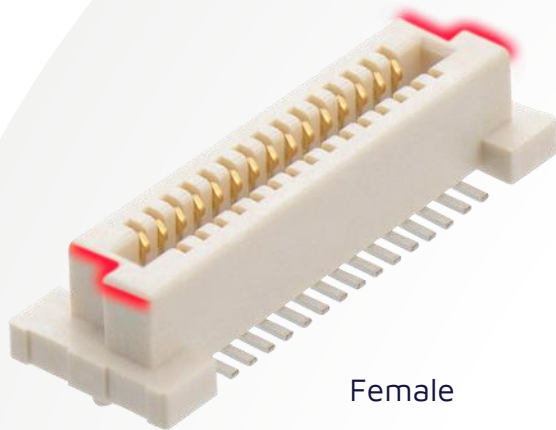


Archer .5

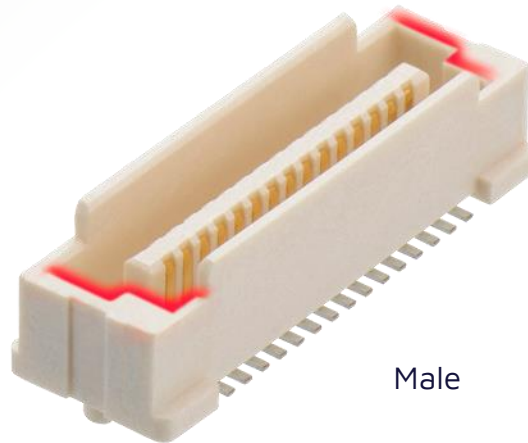
These compact designs are great for mezzanine daughterboards mated to motherboards.

Or you can also use it as a [low-profile alternative to cabling](#), by mounting one connector half to a custom Flexible Printed Circuit.

## FEATURES - ELIMINATE MIS-MATING



Female

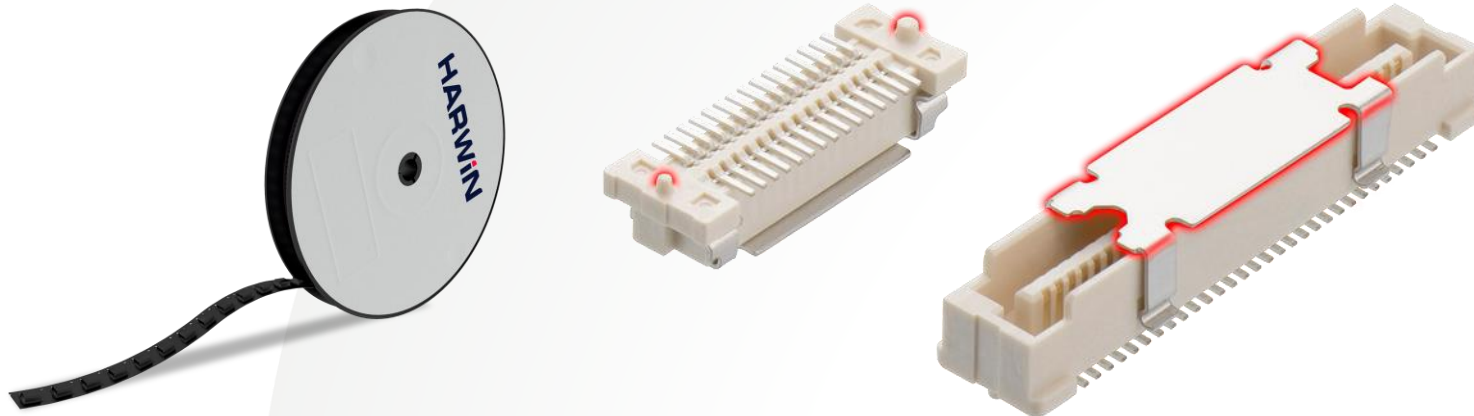


Male

The precision plastic housings have built-in polarizing features, to ensure correct mating every time.

The contacts are recessed and shrouded on both female connector styles and also on the Archer .8 male connectors, to prevent accidental damage from partial mis-mating or external knocks.

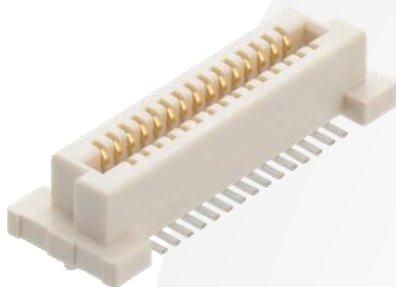
## FEATURES - READY FOR AUTOMATED PRODUCTION



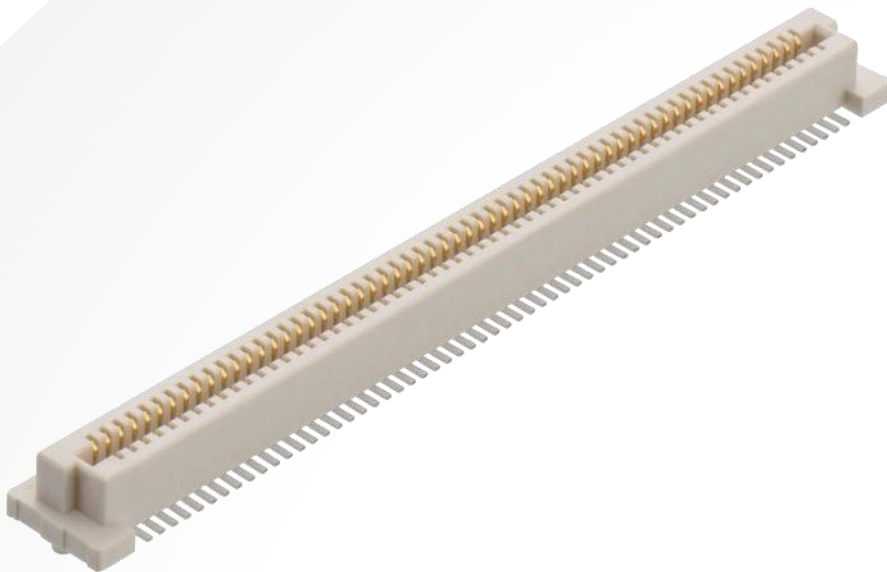
All connectors are supplied in Tape and Reel packaging. Archer .8 connectors are fitted with a removable pick and place cap for automated vacuum pick-up and SMT assembly. To minimize movement on the PCB and during the reflow process, Archer .8 housings have built-in location pegs. The pegs on each end are different diameters, to ensure that connectors are assembled in the right orientation on the PCB for both hand and robotic assembly.



## ARCHER .8 - FEMALE CONNECTORS



30 contacts



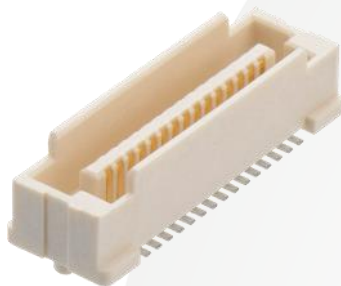
120 contacts

High contact counts are standard for these ranges. The female Archer .8 connectors come in the following contact counts:

- [M58-2800342R](#) = 30 (15 + 15)
- [M58-2800642R](#) = 60 (30 + 30)
- [M58-2801042R](#) = 100 (50 + 50)
- [M58-2800442R](#) = 40 (20 + 20)
- [M58-2800842R](#) = 80 (40 + 40)
- [M58-2801242R](#) = 120 (60 + 60)

Female connectors have contacts facing inwards, with a slight bump for single contact connection to the mating male contact.

## ARCHER .8 - MALE CONNECTORS



30 contacts



120 contacts

The male Archer .8 connectors are available in the same contact counts:

- [M58-3800342R](#) = 30 (15 + 15)
- [M58-3800642R](#) = 60 (30 + 30)
- [M58-3801042R](#) = 100 (50 + 50)
- [M58-3800442R](#) = 40 (20 + 20)
- [M58-3800842R](#) = 80 (40 + 40)
- [M58-3801242R](#) = 120 (60 + 60)

Male connectors have contacts facing outwards, with an outer shroud to ensure contacts are protected when the connectors are not mated.



## ARCHER .8 - ELECTRICAL SPECIFICATIONS

Current Rating	<b>0.5A</b>	EIA-364-70
Contact Resistance	50m $\Omega$ max (initial) / 100m $\Omega$ max (final)	EIA-364-23
Insulation Resistance	1,000M $\Omega$ min	EIA-364-21
Maximum Voltage	500V AC	EIA-364-20

At 0.5A per contact, the performance of this range is equal to larger pitch connectors (such as 1.00mm and 1.25mm).

Consult the complete [Component Specification C053XX \(latest issue\)](#) for more information and other specifications.

## ARCHER .8 - SIGNAL INTEGRITY SPECIFICATIONS

High Speed Connectivity	<b>12GHz, 24Gb/s</b>
Impedance Range	84 to 100 $\Omega$ @ 50ps edge (10-90%) 77 to 92 $\Omega$ @ 35ps edge (10-90%)
Return Loss	-10dB up to 15GHz
Insertion Loss	-1.5dB up to 16GHz
Crosstalk	NEXT: -20dB up to 20GHz FEXT: -25dB up to 20GHz

Archer .8 delivers high speed connectivity suitable for Signal and Data transfer at 12GHz, which equates to 24Gbit/s. Consult the [Test Report Summary HT080XX \(latest issue\)](#) for more detailed information on the signal integrity testing.

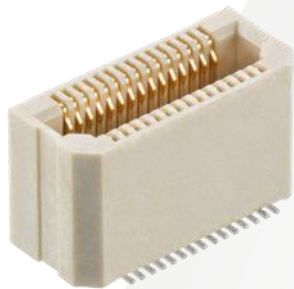
## ARCHER .8 - ENVIRONMENTAL & MECHANICAL SPECIFICATIONS

Operating Temperature	<b>-40°C to +125°C</b>	EIA-364-32 Cond. I
Durability	30 mating cycles	EIA-364-09
Vibration	<b>10-55-10Hz, 1.5mm P-P</b> 6 hours total (2 hours per axis)	EIA-364-28 Cond. I
Shock	<b>50G (490m/s<sup>2</sup>)</b> 18 total shocks (6 per axis)	EIA-364-27 Cond. A

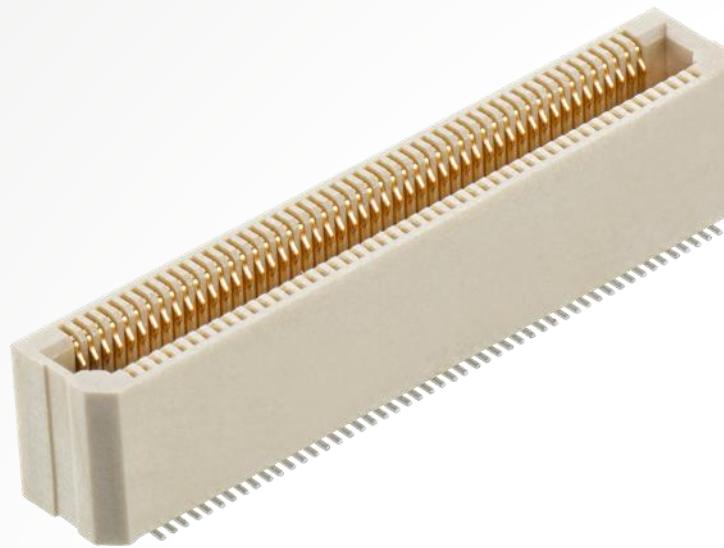
With a high shock resistance and a wide operating temperature range, these connectors perform better than comparable industrial or commercial connectors at larger pitches.

Consult the complete [Component Specification C053XX \(latest issue\)](#) for more information and other specifications.

## ARCHER .5 - FEMALE CONNECTORS



30 contacts



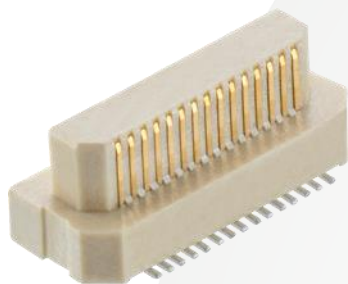
100 contacts

The female Archer .5 connectors come in the following contact counts:

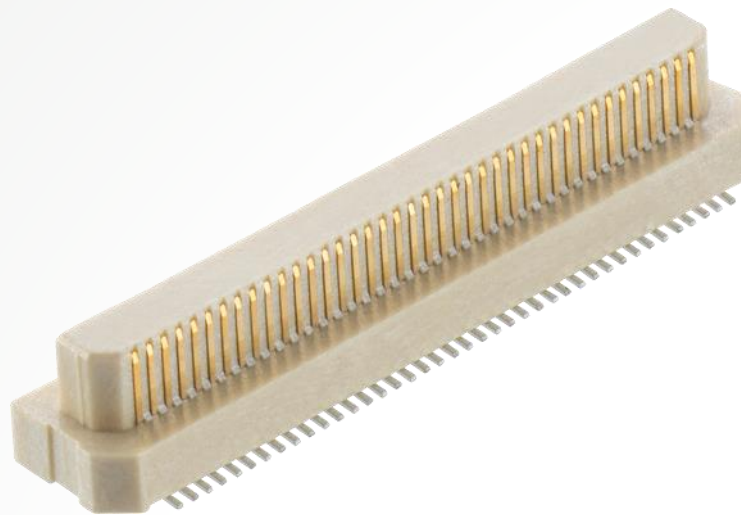
- [M58-2500342R](#) = 30 (15 + 15)
- [M58-2500442R](#) = 40 (20 + 20)
- [M58-2500842R](#) = 80 (40 + 40)
- [M58-2501042R](#) = 100 (50 + 50)

Female connectors have contacts facing inwards, with a slight bump for single contact connection to the mating male contact.

## ARCHER .5 - MALE CONNECTORS



30 contacts



100 contacts

The male Archer .5 connectors are available in the same contact counts:

- [M58-3500342R](#) = 30 (15 + 15)
- [M58-3500442R](#) = 40 (20 + 20)
- [M58-3500842R](#) = 80 (40 + 40)
- [M58-3501042R](#) = 100 (50 + 50)

Male connectors have contacts facing outwards.

## ARCHER .5 - ELECTRICAL SPECIFICATIONS

Current Rating	<b>0.5A</b>	EIA-364-70
Contact Resistance	60m $\Omega$ max (initial) / 80m $\Omega$ max (final)	EIA-364-23
Insulation Resistance	1,000M $\Omega$ min	EIA-364-21
Maximum Voltage	150V AC	EIA-364-20

At 0.5A per contact, the performance of this range is equal to the Archer .8 range and larger pitch connectors (such as 1.00mm and 1.25mm).

Consult the complete [Component Specification C054XX \(latest issue\)](#) for more information and other specifications.

## ARCHER .5 - SIGNAL INTEGRITY SPECIFICATIONS

High Speed Connectivity	<b>8GHz, 16Gb/s</b>
Impedance Range	73.55 to 99.3 $\Omega$ @ 35ps edge (10-90%)
Return Loss	-15dB at 8GHz
Insertion Loss	-1.2dB at 8GHz
Crosstalk	NEXT: -35dB up to 12GHz

Archer .5 delivers data connectivity suitable for Signal and Data transfer at 8GHz, which equates to 16Gbit/s.

Consult the [Test Report Summary HT084XX \(latest issue\)](#) for more detailed information on the signal integrity testing.



## ARCHER .5 - ENVIRONMENTAL & MECHANICAL SPECIFICATIONS

Operating Temperature	<b>-55°C to +85°C</b>	EIA-364-32 Cond. I
Durability	30 mating cycles	EIA-364-09
Vibration	<b>10-55-10Hz, 1.5mm P-P</b> 6 hours total (2 hours per axis)	EIA-364-28 Cond. I
Shock	<b>50G (490m/s<sup>2</sup>)</b> 18 total shocks (6 per axis)	EIA-364-27 Cond. A

With a high shock resistance and good operating temperature range, these connectors perform better than many comparable industrial or commercial connectors at larger pitches.

Consult the complete [Component Specification C054XX \(latest issue\)](#) for more information and other specifications.

## ENVIRONMENTALLY FRIENDLY MATERIALS



The materials used in the connectors do not contain any Lead, Halogens, Brominated Flame Retardants, Red Phosphor (PFOS/PFOA) or Antimony. They are fully RoHS Compatible and contain no REACH SVHCs.

This will help future-proof your design against material legislation requirements.

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