



AEROSPACE STANDARD

AS5590™

REV. B

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Superseding AS5590A

Connectors, Fiber Optic, Advanced, Circular or Rectangular, Plug and Receptacle,
Environment Resistant, Removable Termini/Contacts, General Specification For

RATIONALE

This document has been determined to contain basic and stable technology which is not dynamic in nature.

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1. SCOPE

1.1 Scope

This specification covers the performance requirements for a plug and receptacle. The connector inserts may contain multiple termini or multiple termini and electrical contacts. The connectors use removable termini, or removable termini and electrical contacts, and are capable of operating within a temperature range of -65 to +200 °C (see 1.2.1.1). These connectors are supplied under AS9100 reliability assurance program.

1.2 Description

All series include removable termini or removable termini and removable electrical contacts. All series are designed to ensure proper orientation of the mating halves prior to mating. All connectors include EMI shielding capability, with conductive finishes, which provide electrical continuity between mated shells prior to terminus/contact engagement and have the termini/contacts so located as to be protected from handling damage. Connectors specified are designed for use with termini as specified in MIL-PRF-29504 or as listed in the individual slash sheet, and shall meet the clip-to-clip dimensions specified in the individual slash sheet. The test procedures and performance requirements of this specification are oriented toward circular connector designs. Appropriate test procedures and performance requirements for other shell configurations shall be addressed in the individual detail sheet requirements.

1.2.1 Design Considerations

Connectors are capable of satisfactory performance during and after, as applicable, when subjected to the following environmental conditions:

1.2.1.1 Temperature

Connectors are class dependent: -65 to +150 °C, +175 °C, or +200 °C (see 1.3.1c).

1.2.1.2 Vibration

See 3.18

- a. Random of 41.7 g rms: At rated high temperature with simulated accessory load.
- b. Random of 49.5 g rms: At ambient temperature.
- c. Sine: 60 g rms: With temperature cycling and simulated accessory load.

1.2.1.3 Altitude

Altitudes from sea level to 100 000 feet (8 torr) (see 3.11).

1.2.1.4 Shock

In accordance with EIA-364-27 (see 3.19).

1.2.1.5 Humidity

Humid conditions up to 98% relative humidity including condensation (see 3.26).

1.2.1.6 Corrosion

Exposure to salt-laden atmosphere (see 3.15).

1.2.1.7 Thermal Shock

Temperature cycling (see 3.7).

1.2.1.8 Immersion

Immersion in jet fuel, lubrication oil, liquid coolant, hydraulic fluid, gasoline, cleaning compound, defrosting fluid, and solvents (see 3.30).

1.2.1.9 EMI Shielding

EMI shielding effectiveness: 100 MHz to 10 GHz (see 3.28).

1.3 Classification

1.3.1 Connectors

Connectors specified are designed for use with termini as specified in MIL-PRF-29504 or in the individual slash sheet and shall meet the clip-to-clip dimensions specified on the individual slash sheet.