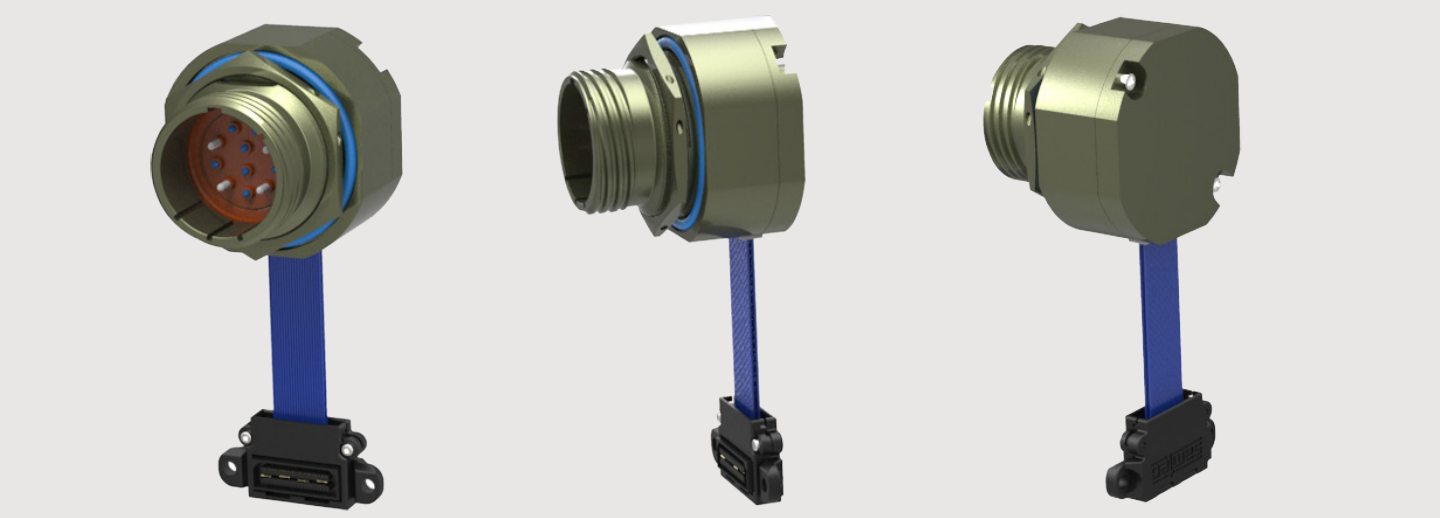
Amphenol Aerospace

HYBRID CONNECTOR AND MEDIA CONVERTER

CTF-1G-SM

PDS - 247-1



Amphenol Aerospace adds CTF-1G-SM to the CTF (Copper to Fiber) Media Converter Product Family. This product line is rugged, flexible, and affordable with many options available.

FEATURES:

- Eliminates Need for Additional Accessory
- Gigabit Ethernet
- Optical Fiber Link Distances to 10km
- Maximum Optical Channel Bit Error Rate Less Than $10x10^{-9}$

FIBER INTERFACE:

- Uses Industry Standard M29504 Fiber Termini Interface

COPPER INTERFACE:

- Low Profile, High Speed Connector
- Flexible Ribbon Cable

RUGGEDIZATION:

- Natural convection cooled (no fan)
- Operational temperature -40°C to +85°C
- Refer to page 3 for additional details

SPECIFICATIONS:

Electrical Specifications

Parameter	Symbol	Typ	Max	Unit
Supply Voltage	Vcc	3.3	-	V
Supply Current (Tx+Rx)	Icc	280	400	mA
Power Consumption (Tx+Rx)	P	940	1320	mV
Rx Output Current	$I_{CC}Rx$	50	-	mA

Optical Specifications

Parameter	Symbol	Min	Typ	Max	Unit
Optical Output Power	P_{OUT}	-	-	-4.0	dBm
Optical Output Wavelength	λc	190	1310	1330	nm
Spectral Width	Δλ	-	-	3.0	nm
Extinction Ratio	E_R	9.0	-	-	dB
Rise/Fall Time	τR, τF	-	-	150	ps
Receiver Sensitivity	P_{IN}	-25	-	-	dBm
Receiver Wavelength	λRx	1100	-	1650	nm

Available Test Equipment

Part Number	Descriptions
CF-901201-006	LC Fiber Optic Test Cable for D38999 Connector
CF-020005-099	SMA Test Board for Samtec Connector

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AMPHENOL INTEGRATED ELECTRONIC PRODUCTS RUGGEDIZATION DESIGN

OVERVIEW

Amphenol integrated electronic products are designed and manufactured to our Ruggedization guidelines listed below. These guidelines ensure years of reliable operation in harsh environment applications where extreme operating temperatures, shock, vibration and corrosive atmospheres are regularly experienced.

TEMPERATURE:

- Operating Temperature- Thermal Cycles between -40ºC and 85ºC while device is operating
- Temperature is measured at chassis housing or card edge
- Storage Tempterature- Thermal Cycles between -55ºC and 125ºC

HUMIDITY:

- Operating Humidity- Humidity cycle between 0-100% non-condensing humidity while device operating
- Storage Humidity- Humidity cycle between 0-100% condensing humidity

SEALING:

- Sealing can be optionally provided at the MIL-DTL-38999 interface with up to 10-5 cc/sec performance

FLUIDS SUSEPTIBILITY:

- MIL-DTL-38999 receptacle interface per EIA-364-10E

VIBRATION & SHOCK:

- Sine Vibration - 10g Peak, 5-2,000Hz

  Based on a sine sweep duration of 10 minutes per axis in each of three mutually perpendicular axes. May be displacement limited from 5 to 44 Hz, depending on specific test.
- Random Vibration - 0.0005 @ 5Hz, 0.1 @ 15 Hz, 0.1 @ 2,000 Hz

  60 minutes per axis, in each of three mutually perendicular axes.
- 40 G Peak Shock Cycle

  Three hits in each axis, both directions, ½ sine and terminal-peak saw tooth, Total 36 hits.

ALTITUDE:

- -1,500 to 60,000 ft Altitude Testing w/ Rapid Depressurization

ELECTROMAGNETIC COMPATIBILITY:

- Designed to comply with MIL-STD-461E

PRINTED CIRCUIT BOARD ASSEMBLIES:

- Conformal Coat

  Amphenol performs Conformal Coting to both sides of printed circuit board assemblies using HUSMISEAL IB31 in accordance with IPC-610, Class 3.
- Printed Circuit Board Rigidity

  Amphenol printed circuit boards are fabricated in accordance with IPC-6012, Class 3.
- Printed Circuit Board Fabrication

  Amphenol printed circuit boards acceptance criteria is in accordance with IPC-610, Class 3.

RELIABILITY PREDICTIONS (MTBF):

Amphenol can perform Mean Time Between Failure (MTBF) reliability analysis in full compliance with MIL-HDBK-217F-1 Parts Count Prediction and MIL-HDBK-217F-1 Parts Stress Analysis Prediction. We can also perform reliability analyses in full compliance of ANSI/VITA 51.1 if it is required or preferred over the later method.

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