

# QFC Connectors

Qualified 10 years ago

## Overview

The Qualified FC connector is designed to meet the harsh environments of aerospace applications however it is affordable enough to be used wherever a rugged FC connector is needed. The OFC can mate to a standard FC connector and be used with almost any fiber type or cable construction.

The assembly process is the most important factor in guaranteeing performance on this connector. The assembly process used at Impact ES—Ventura comes from a 2 year, multimillion dollar effort to qualify and build another single-mode connector for thermal cycling in space.

## Connector Features

- Suitable for single-mode, polarization maintaining, and multimode fibers up to 880um
- Ceramic ferules for better performance over time and in high vibration
- Integrated connector key for reliability
- Hytrel 8068 boots are vacuum baked for 24 hour to pass NASA outgassing requirements
- Wrench flats on coupling nut so that the connector can be torque to 7 in-lbs
- Built in the USA with Quality Components

## Tests

		Parameters	Samples	Results
<b>Vibration</b>	FOTP-11D, Random Vibration VI, Condition Letter K, Table II	46.3 Overall RMS Gs 3 Axis, 20 minute per axis	Seven, 900um loose tube cables with SMF-28e+ fiber	0.1 dB increase in power through 7 connections @1550nm
	FOTP-11D, Random Vibration VI, Condition Letter K, Table II	46.3 Overall RMS Gs 3 Axis, 20 minute per axis	Thirty Four, 250um buffered cables with Nufern 1300nm PM fiber	0.02db Average increase in loss 0.18dB Maximum increase in loss
<b>Shock</b>	M TIA-455-14 A	500Gs 3 shock per +/- Axis for a total of 18 shocks	Thirty Four, 250um buffered cables with Nufern 1300nm PM fiber	0.003db Average increase in Loss 0.13dB Maximum increase in loss
<b>Thermal Age</b>	GR-326-CORE	Temperature: 85° C Time: 168 hour	Thirty Four, 250um buffered cables with Nufern 1300nm PM fiber	0.00db Average increase in Loss 0.03dB Maximum increase in loss
<b>Thermal Cycle</b>	TIA-455-3B	Temperature: -40 to 60° C Cycles: 10 Hold Time: 30 Minute *Also tested to <-200° c	Seven, 900um loose tube cables with SMF-28e+ fiber	0.1dB increase in loss at -40°C through 7 connectors @1550nm
	GR-326-CORE Increased upper temperature from 75 to 85°C	Temperature: -40 to 85° C Cycles: 21 Hold Time: 1 hour Total Time: 168+ hours	Thirty Four, 250um buffered cables with Nufern 1300nm PM fiber	0.06db Average increase in Loss 0.01dB Maximum increase in loss
<b>Outgassing</b>	Customer internal requirement	Unknown	Three, 900um Jacketed cables with SMF-28e+ Fiber	No measurable optical contamination

\*Insertion loss prior to testing 34 PM fibers: Minimum 0.02dB, Maximum 0.22dB, Average 0.11 dB



## Industries We Serve

At Impact Electronic Solutions, we offer cutting-edge prototype and full-turnkey production services, providing unparalleled innovation and seamless solutions to meet your needs.

Our expertise spans highly regulated and mission-critical environments. We deliver complex electronic, fiber optic, and electromechanical products with exceptional quality and reliability. From product development to full-scale manufacturing, we prioritize customer-centric solutions and support groundbreaking innovations.

With extensive experience, we ensure success across diverse industries by consistently meeting rigorous standards and exceeding expectations.

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## About Us

We are a dynamic team dedicated to delivering innovative electronic design and manufacturing services that consistently outperform industry standards.

Our headquarters are in the Pacific Northwest, and the Impact ES network spans five key locations across the U.S.:

- Clearwater, Florida
- Cranston, Rhode Island
- Grants Pass, Oregon
- Vancouver, Washington
- Ventura, California

Our facilities have been recognized for excellence by numerous corporations, organizations, and publications, showcasing our commitment to quality, precision, and customer satisfaction nationwide.

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## Fiber Optic Cables and Assemblies Certifications



NASA 8739.5

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