



DATA SHEET

SFP+ High Speed Copper Assemblies

DESCRIPTION

SFP+ cable assemblies are designed to meet data center, networking and high performance computing application needs for a high density cabling interconnect system capable of 10Gb/s per channel transmission rates. They are designed to be fully compatible in form factor and optical/electrical connections in accordance with the requirements of Small Form Factor industry standards.

APPLICATIONS

- 10G Ethernet
- InfiniBand, Fiber Channel 4G/8G/10G
- Sonet Multiplatform support
- High Performance Computing Clusters
- High End Servers
- Metro Network Switch/Cross Connect

FEATURES AND BENEFITS

SFP+ connectors meet the harshest external operating conditions including temperature, humidity and EMI interference. Final test and quality systems assure high quality cable assemblies conforming to the high-speed electrical performance requirements in industry specifications.

SFP+ cable assemblies are hot swappable. The programmed EEPROM signature enables the host to differentiate between a copper cable assembly and a fiber optic module.

- Economical alternative to fiber optic assemblies.
- Increased EMI suppression.
- Reduced power consumption.
- EEPROM signature can be customized.

Rev. SFPCBL-002-03/13



Wire Gauge	Cable Diameter	Mini Outer Radius	Cable Length
	(mm)	(mm)	(m)
30AWG	4.5	22.5	1 ~ 3
28AWG	4.7	23.5	4 ~ 5
26AWG	5.0	25	5 ~ 6
24AWG	6.0	30	6 ~ 15

STANDARDS COMPLIANCE

- Electrical: SFF-8431, SFF-8083
- Mechanical: SFF-8432
- EEPROM: SFF-8472

Test Type	Test Item	Target	Reference
Electrical Characteristics	Differential Mode RL (SDDII)	0.01 < f < 4.1; < -12 + 2 * SQRT(f) 4.1 < f < 11.1; < -6.3 + 13 * log10(f/5.5) Where f is in GHz Measurements units: db	SFF 8431
	Common mode return loss (SSII)	0.01 < f < 2.5; < -7 + 1.26(f) 2.5 < f < 11.1; < -3 Where f is in GHz Measurements units: db	SFF 8431
	NEXT	< -26db from 1MHz to 11GHz	/
	Cable assembly Impedance	100 +/- 100hm Rise time of 30 ps (20%-80%)	(20% ~ 80%)
	Insertion Loss Deviation	-1dB ≤ ILD ≤ 1dB 300KHz ≤ f ≤ 6GHz	/
Environmental Characteristics	Operating Temperature	-40~85°C	Cable operating temp. range
	Thermal Shock	Electrical performance meet the specification requirement	EIA-364-32D. Method A. TC-1 -55 10 85C, 100 cycles, 15 min, dwells
	Cyclic Temp. & Humidity	Electrical performance meet the specification requirement	EIA-364-31 Method III, Test Cond A
	Salt Spray	48 hours salt spraying after shell corrosive area less than 5%	EIA-364-26
	Temperature Life	Performance meets the specification requirements	EIA-364-17B w/RH, Damp heat 85C at 85% RH for 500 hours
Mechanical Characteristics	Mechanical Vibration	Electrical performance meet the specification requirement	EIA-364-28E. 11 TC-VII, Test Cond. D 15 minutes in X,Y,X axis.
	Cable Plug Retention in Cage	90N Min.	No functional damage to cable plug below 90N. Per SFF-8432 Rev 5.0
	Cable Retention in Plug	90N Min.	EIA-455-6B
	Mechanical Shock	Performance meets the specification requirements	Clamp and Shock per EIA-364-27B, TC-G, 3 times in 6 directions, 100g, 6ms
	Cable Plug Insertion	18N(Max.)	SFF-8432 Rev 5.0
	Cable Plug Extraction	12.5N(Max.)	SFF-8432 Rev 5.0
	Durability	50 Time. No evidence of physical damage	EIA-364-09; perform plug&unplug cycles Plug and Receptacle mate rate: 250 times/hour

© 2012 Custom Cable. All rights Reserved.

Notice: This document is for informational purposes only and does not set forth any warranty, expressed or implied, concerning any equipment, equipment features, or services to be offered by Custom Cable. Custom Cable reserves the right to make changes to this document at any time, without notice, and assumes no responsibility for its use. This informational document describes features that may not be currently available. Contact Custom Cable's Sales team for information on feature and product availability. Export of technical data contained in this document may require an export license from the US government.

Rev. SFFCBL-002-03/13