

Reliably Connected in the Heat of Battle

RAOCF-4.20

FOCUS[®]

Revolutionary Data Communications for Mil/Aero Applications

AirBorn is excited to introduce the latest disruptive technology to hit the Mil/Aero market in a generation. Our FOCUS[®] active optical cable technology now embodies the Rugged, Active Optical Cable (RAOC[®]). Built on our proven, high-speed verSI connector platform, RAOC[®] exemplifies all the benefits of fiber with the ease & reliability of copper.

The verSI-based RAOC[®] is designed to operate at 4 channels at 12 Gbps per channel (48 Gbps aggregate). Features such as multiple points-of-contact, optimal material tensile strength, and metal backshells ensure that RAOC[®] is designed and tested for complete reliability in the heat of battle, when lives are on the line.



verSI RAOC

AirBorn

Materials & Finishes

Pin Contacts (Male)	Material	BeCu per ASTM B194
	Finish	50uIN min localized Au per ASTM B488 type II, code C over 50uIN min Ni PER ASTM B689 type 1
Molded Insulator	Material	Glass-Filled Liquid Crystal Polymer (LCP) per ASTM D5138
Shell	Material	Aluminum alloy 6061-T6 per SAE AMS-4027 or 6061-T6511 per SAE AMS-QQ-A-200/8
	Finish	500uIN min electroless Ni per SAE AMS-2404, class 3
Hardware	Material	Stainless steel per ASTM A484/A484M, ASTM A582/A582M, or ASTM A320
	Finish	Passivated per SAE AMS-2700

Cable Performance

Parameter	Unit	Min	Typical	Max
Storage Temp. Range	C	-55		125
Case Operating Temp. Range	C	-40		90
TID Radiation Hardening	krad			>100
SEE MeVcm ² /mg			>40	
Fiber Tension	N			30
Fiber Bend Radius	in.	2.5		
Operating Voltage	Vdd	3.15	3.3	3.45
Data Rate Per Channel	Gbps	1.25		12.5
Power Consumption	mW		670	1100
Bit Error Rate	BER			10 ⁻¹²
Return Loss	dB		-8	
Rx Differential Output Voltage	mVp-p	250		900
Outgassing	Max. TML OF 1% and max. CVCM OF .1% per MIL-DTL-83513			

Pin-Out Details*

A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
ModselL	GND	GND	RX2-N	RX2-P	GND	GND	TX3-P	TX3-N	GND
B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
GND	RX4-N	RX4-P	GND	GND	TX1-P	TX1-N	GND	GND	GND
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
GND	GND	GND	RX1-N	RX1-P	GND	GND	TX4-P	TX4-N	GND
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
GND	RX3-N	RX3-P	GND	GND	TX2-P	TX2-N	GND	GND	ModrdyL
E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
ResetL	GND	GND	SCL	SDA	GND	GND	FlagL	3.3V	3.3V

* All above pinout details are specific to verSI SAOC interconnect only.

ModselL	Module select, active low
ModrdyL	Module ready, active low
ResetL	Reset, active low
GND	Ground
SCL	Serial clock
SDA	Serial data

TXx-P	Transmit channel positive
TXx-N	Transmit channel negative
RXx-P	Receive channel positive
RXx-N	Receive channel negative
3.3V	+3.3 V primary supply voltage
FlagL	Flag, active low