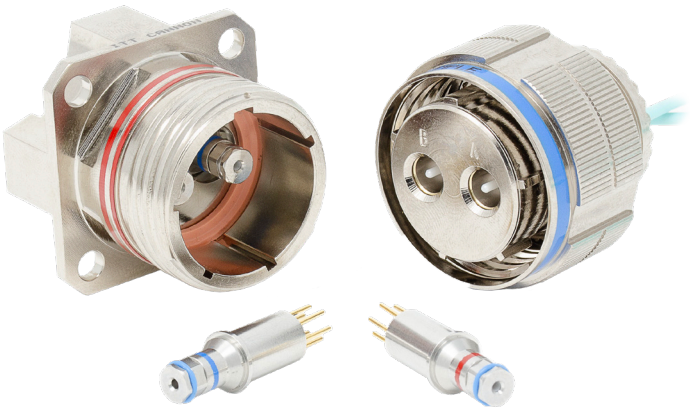
Cannon's Cu Light Series Copper-to-Fiber Conversion

Size #8 TOSA-ROSA for 10 Gbps Copper-to-Fiber conversion in military circular connectors

KJCTF Shell
38999 Series III



Transmitter TOSA
VCSEL Laser
(Blue Band)

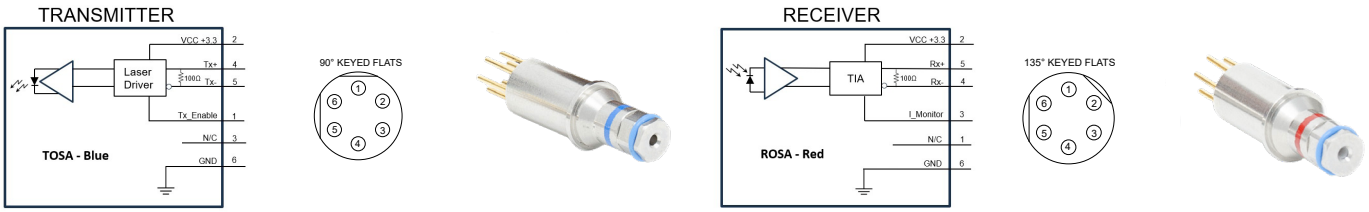
Receiver ROSA
Photodiode
(Red Band)

Features & Benefits

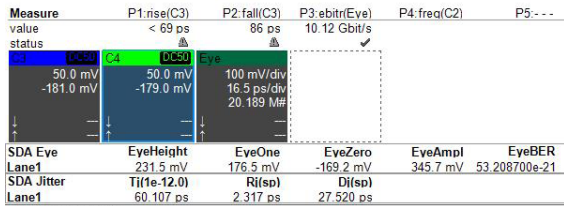
- Ruggedized Copper to Fiber Transmitters and Receivers
- Interfaces to KJCTF Plug with ARINC 801 (1.25mm Ceramic Ferrule) Termini
- Terminates to PCB or Flex Circuit with HS Interface Board Connector
- Sealed Design Eliminates Moisture Ingress
- Ruggedized for Shock and Vibration Environments
- Replacement for High-Speed Copper Quadrax Contacts
- Field Replaceable (FR-FR) Contact Retention System allows for maximum "Mission Readiness"

Designed per MIL-PRF-38534 requirements, Cu Light offers a robust, TOSA-ROSA Copper-to-Fiber conversion in a Size #8 contact system that can be deployed in any Cannon harsh-environment connector. With operating speeds +10 Gbps, this revolutionary solution allows the copper-to-fiber conversion within the connector contact system instead of requiring a secondary media converter box. This provides an ideal solution when EMI resistant optical fibers are needed for longer transmission distances. The solution also provides the designer and end-user with field-replaceable pluggable (FR-FR) contact retention system to ensure field-readiness for your mission-critical design.

Performance	100 Mbps to 10.125 Gbps
Tested to MIL-Spec Standard	MIL-PRF-38534 (MCM)
	MIL-DTL-38999 Series III
Termini Size	Size #8 Active Optical Contact System
Shell Size	9, 17, 21, 23, 25



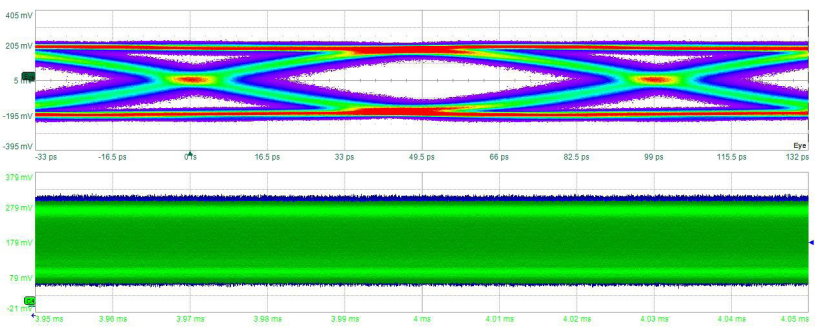
Test Performance



Measure	P1:rise(C3)	P2:fall(C3)	P3:ebitr(Eye)	P4:freq(C2)	P5:- - -
value	< 69 ps	86 ps	10.12 Gbit/s		
status					

C3	C4	Eye
50.0 mV	50.0 mV	100 mV/div
-181.0 mV	-179.0 mV	16.5 ps/div
		20.189 M#

SDA Eye	EyeHeight	EyeOne	EyeZero	EyeAmpl	EyeBER
Lane1	231.5 mV	176.5 mV	-169.2 mV	345.7 mV	53.208700e-21
SDA Jitter	Ti(1e-12.0)	Ri(sp)	Di(sp)		
Lane1	60.107 ps	2.317 ps	27.520 ps		



Ordering Guide

1 - Series	2 - Shell Stye	3 - Shell Size	4 - Hardware Finish	5 - Contact Arrangement	6 - CTF Function	7 - Contact Type	8 - Clocking Position
KJCTF	0	25	F	8	T	2	N

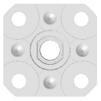
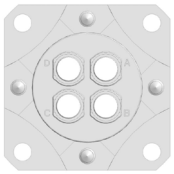
1 - Series	
KJCTF	Cu Light - Series III 38999-style / KJA
2 - Shell Style	
0	Wall Mount Receptacle with Clinch Nuts
6	Straight Plug **(Note 1)**
7	Jam Nut Receptacle
3- Shell Size	
9, 17, 21, 23, 25	

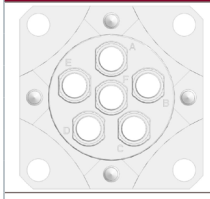
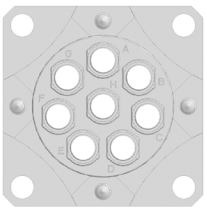
Note 1: ARINC 801 termini and cable assemblies sold separately for straight plug.

4 - Hardware Finish	
F	Aluminum Alloy with Electroless Nickel Finish
W	Aluminum Alloy with O.D. Chromate over Cadmium over Electroless Nickel Finish
Z	Aluminum Alloy with Black Zinc Nickel Finish
T	Aluminum Alloy with Teflon Nickel Finish
K	Stainless Steel with Passivation Finish
S	Stainless Steel with Electroless Nickel Finish
J	Composite with O.D. Chromate over Cadmium over Electroless Nickel Finish
M	Composite with Electroless Nickel Finish

5 - Contact Arrangement	
9*5, 17*75, 21*75, 23*6, 25*8	
6 - CTF Function (See below table)	
T	Transmit
R	Receive
X	Transceiver
P	ARINC 801 Pin Termini (Shell Style 6 Only)
7- Contact Type	
1	100 Mbps to 3.25 Gbps
2	3.25 to 10.0 Gbps
8 - Clocking Position	
N (normal), A, B, C, D, E	

Contact Arrangement Table

Layout (Shell Size * Contact Arrangement)		Contact Position	CTF Function*		
			X	T	R
	9*5	A	N/A	Transmitter	Receiver
	17*75	A	Transmitter	Transmitter	Receiver
		B	Receiver		
	21*75	A	Transmitter	Transmitter	Receiver
		B	Receiver		
		C	Transmitter		
		D	Receiver		

Layout (Shell Size * Contact Arrangement)		Contact Position	CTF Function*		
			X	T	R
	23*6	A	Transmitter	Transmitter	Receiver
		B	Receiver		
		C	Transmitter		
		D	Receiver		
		E	Transmitter		
		F	Receiver		
	25*8	A	Transmitter	Transmitter	Receiver
		B	Receiver		
		C	Transmitter		
		D	Receiver		
		E	Transmitter		
		F	Receiver		
		G	Transmitter		
		H	Receiver		

*CTF Function - X: Transceiver, T: Transmitter, R: Receiver

Specifications

Parameter	Min	Typ	Max
Absolute Maximum Ratings			
Storage Temperature (°C)	-40		+125
Operating Conditions			
Supply Voltage (V)	3.135	3.3	3.465
Supply Current (mA)		28	40
Power Supply Noise (Peak-Peak) (mV)			100
Electro-Optical Characteristics - Receiver			
Optical Wavelength (nm)	840		860
Receiver Differential Output Impedance (Ohms)		100	
Differential Output Voltage Swing (mV_{p-p})	180		330

Parameter	Min	Typ	Max
Electro-Optical Characteristics – Transmitter			
Optical Output Power (dBM)	Consult factory		
Optical Wavelength (nm)	840	850	860
Spectral Width, rms (nm)			0.05
Relative Intensity Noise (dB/Hz)			-128
Transmitter Differential Input Impedance (Ohms)		100	
Differential Input Voltage (mV_{p-p})	200		1200

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