



## Twin Pentaplexer, 700/850/PCS/AWS/WCS, DC Sense

- BTS-to-feeder and feeder-to-antenna application
- Automatic dc switching with dc sense
- Convertible mounting brackets

### Product Classification

**Product Type** Pentaplexer

### General Specifications

**Color** Gray

**Common Port Label** COMMON

**Data Port Interface** USB

**Modularity** 2-Twin

**Mounting** Pole | Wall

**Mounting Pipe Hardware** Band clamps (2)

**RF Connector Interface** 7-16 DIN Female

**RF Connector Interface Body Style** Long neck

### Dimensions

**Height** 251 mm | 9.882 in

**Width** 295 mm | 11.614 in

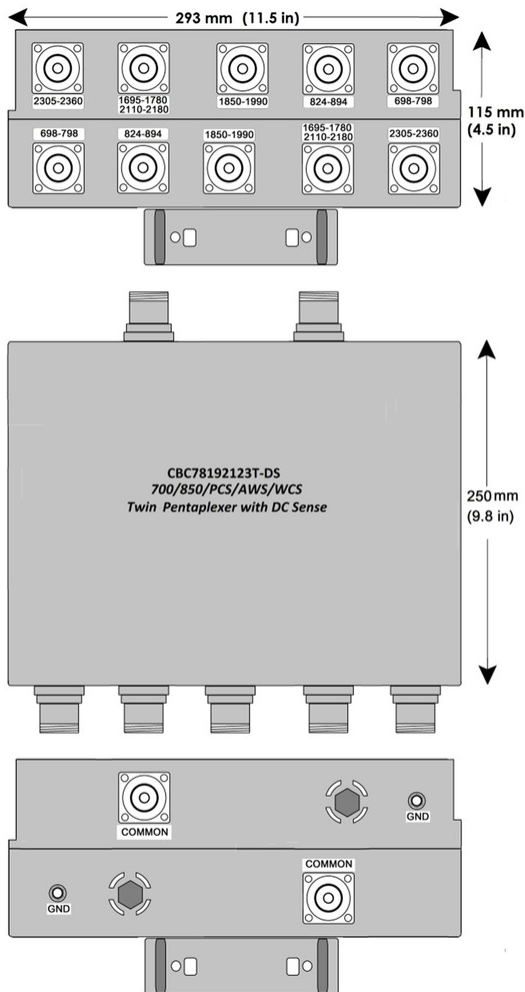
**Depth** 114 mm | 4.488 in

**Ground Screw Diameter** 6 mm | 0.236 in

**Mounting Pipe Diameter Range** 40–160 mm

# CBC78192123T-DS | E11F43P04

## Outline Drawing



## Electrical Specifications

<b>Impedance</b>	50 ohm
<b>License Band, Band Pass</b>	AWS 1700   CEL 850   LMR 750   PCS 1900   USA 700   USA 750   WCS 2300

## Electrical Specifications, dc Power/Alarm

<b>dc/AISG Pass-through Method</b>	Auto sensing
<b>dc/AISG Pass-through Path</b>	See logic table
<b>Lightning Surge Current</b>	5 kA
<b>Lightning Surge Current Waveform</b>	8/20 waveform
<b>Operating Current at Voltage</b>	15 mA @ 12 V   15 mA @ 24 V

# CBC78192123T-DS | E11F43P04

**Voltage** 7–30 Vdc

## Electrical Specifications, AISG

**AISG Carrier** 2176 KHz ± 100 ppm  
**Insertion Loss, maximum** 1 dB  
**Return Loss, minimum** 15 dB

## Electrical Specifications

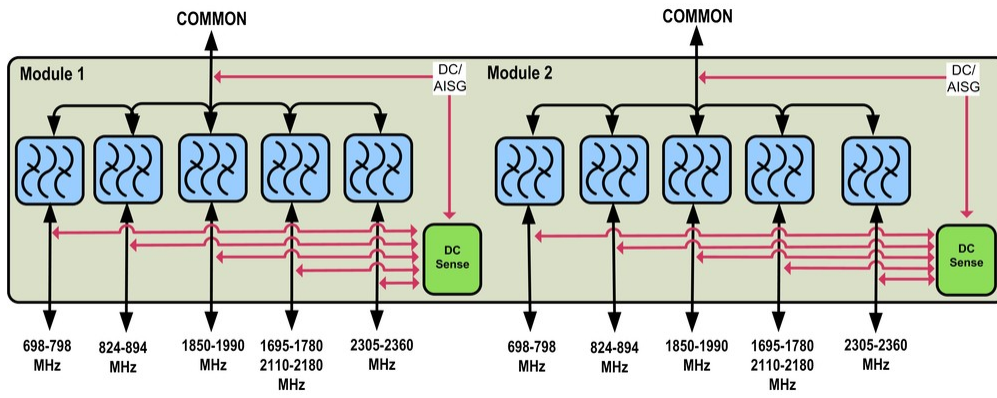
Sub-module	1   2	1   2	1   2	1   2	1   2
<b>Branch</b>	1	2	3	4	5
<b>Port Designation</b>	698–798	824–894	AWS	1850–1990	WCS
<b>License Band</b>	LMR 750, Band Pass USA 700, Band Pass USA 750, Band Pass	CEL 850, Band Pass	AWS 1700, Band Pass	PCS 1900, Band Pass	WCS 2300, Band Pass

## Electrical Specifications, Band Pass

Frequency Range, MHz	698–798	824–894	1695–1780 2110–2180	1850–1990	2305–2360
<b>Insertion Loss, maximum, dB</b>	0.5	0.5	0.5	0.5	0.4
<b>Insertion Loss, typical, dB</b>	0.3	0.3	0.3	0.3	0.2
<b>Total Group Delay, maximum, ns</b>	40	55	25	55	25
<b>Return Loss, minimum, dB</b>	20	20	20	20	20
<b>Return Loss, typical, dB</b>	22	22	22	22	22
<b>Isolation, minimum, dB</b>	50	50	50	50	50
<b>Isolation, typical, dB</b>	65	55	55	55	55
<b>Input Power, RMS, maximum, W</b>	200	200	200	200	200
<b>Input Power, PEP, maximum, W</b>	2000	2000	2000	2000	2000
<b>3rd Order PIM, minimum, dBc</b>	-150	-150	-153	-153	-153
<b>3rd Order PIM Test Method</b>	2 x 20 W CW tones	2 x 20 W CW tones	1 x 20 W AWS CW tone 1 x 20 W PCS CW tone	2 x 20 W CW tones	2 x 20 W CW tones

## Block Diagram

# CBC78192123T-DS | E11F43P04



## Logic Table

Combining Mode Operation (Bottom)						
RF Ports Input Voltage						
698-798 MHz	824-894 MHz	1850-1990 MHz	1695-1780 MHz 2110-2180 MHz	2305-2360 MHz	COMMON	DC/AISG Path Selection
7 ≤ V ≤ 30	<7	<7	<7	<7	<7	698-798 MHz to COMMON "ON" 824-894 MHz "OFF" 1850-1990 MHz "OFF" 1695-1780/2110-2180 MHz "OFF" 2305-2360 MHz "OFF" 698-798 MHz "OFF"
<7	7 ≤ V ≤ 30	<7	<7	<7	<7	824-894 MHz to COMMON "ON" 1850-1990 MHz "OFF" 1695-1780/2110-2180 MHz "OFF" 2305-2360 MHz "OFF" 698-798 MHz "OFF"
<7	<7	7 ≤ V ≤ 30	<7	<7	<7	698-798 MHz "OFF" 824-894 MHz "OFF" 1850-1990 MHz to COMMON "ON" 1695-1780/2110-2180 MHz "OFF" 2305-2360 MHz "OFF"
<7	<7	<7	7 ≤ V ≤ 30	<7	<7	698-798 MHz "OFF" 824-894 MHz "OFF" 1850-1990 MHz "OFF" 1695-1780/2110-2180 MHz to COMMON "ON" 2305-2360 MHz "OFF"
<7	<7	<7	<7	7 ≤ V ≤ 30	<7	698-798 MHz "OFF" 824-894 MHz "OFF" 1850-1990 MHz "OFF" 1695-1780/2110-2180 MHz to COMMON "ON" 2305-2360 MHz "OFF"
<7	<7	<7	<7	<7	7 ≤ V ≤ 30	698-798 MHz "OFF" 824-894 MHz "OFF" 1850-1990 MHz "OFF" 1695-1780/2110-2180 MHz to COMMON "ON" 2305-2360 MHz "OFF"
V<7 or V>30	V<7 or V>30	V<7 or V>30	V<7 or V>30	V<7 or V>30	V<7 or V>30	2305-2360 MHz to COMMON "ON" ALL ports OFF
Any 2 or more ports 7 ≤ V ≤ 30						

Splitting Mode Operation (Tower Top)						
RF Ports Input Voltage						
698-798 MHz	824-894 MHz	1850-1990 MHz	1695-1780 MHz 2110-2180 MHz	2305-2360 MHz	COMMON	DC/AISG Path Selection
<7	<7	<7	<7	<7	7 ≤ V ≤ 30	ALL PORTS ON*
7 ≤ V ≤ 30	<7	<7	<7	<7	7 ≤ V ≤ 30	ALL ports OFF (Verified at Start Up)
<7	7 ≤ V ≤ 30	<7	<7	<7	7 ≤ V ≤ 30	ALL ports OFF (Verified at Start Up)
<7	<7	7 ≤ V ≤ 30	<7	<7	7 ≤ V ≤ 30	ALL ports OFF (Verified at Start Up)
<7	<7	<7	7 ≤ V ≤ 30	<7	7 ≤ V ≤ 30	ALL ports OFF (Verified at Start Up)
<7	<7	<7	<7	7 ≤ V ≤ 30	7 ≤ V ≤ 30	ALL ports OFF (Verified at Start Up)

\* DC/AISG will pass to all 5 Band RF Ports, External DC blocks required for proper installation

## Environmental Specifications

**Operating Temperature** -40 °C to +65 °C (-40 °F to +149 °F)

**Corrosion Test Method** IEC 60068-2-11, 30 days

**Ingress Protection Test Method** IEC 60529:2001, IP67

## Packaging and Weights

**Included** Mounting hardware

**Weight, net** 11.5 kg | 25.353 lb