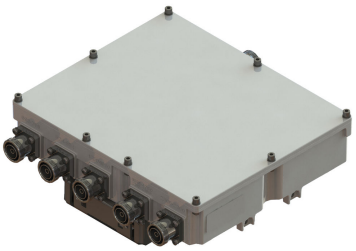
CBC78192123-DS | E11F43P03



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

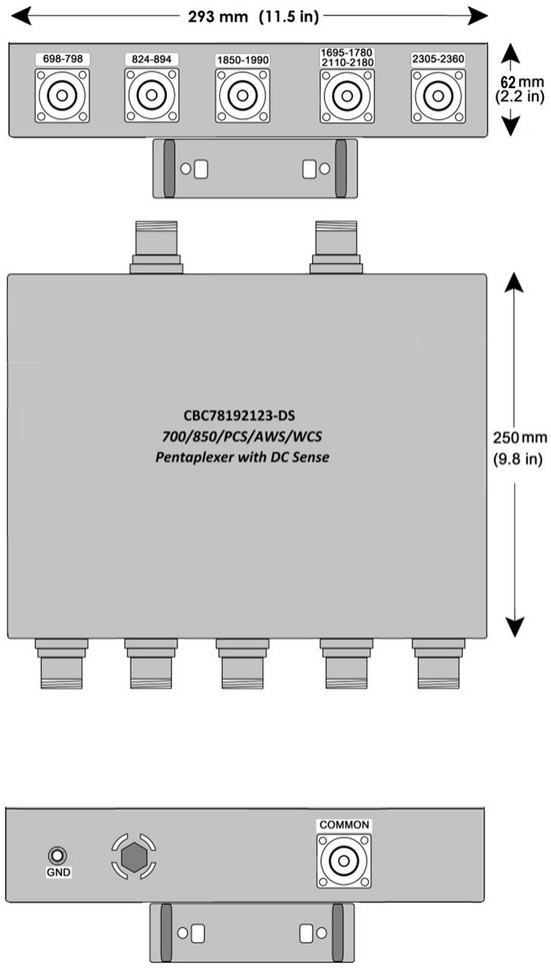
General Specifications

Color	Gray
Common Port Label	Common
Data Port Interface	USB
Modularity	1-Single
Mounting	Pole | Wall
Mounting Pipe Hardware	Band clamps (2)
RF Connector Interface	7-16 DIN Female
RF Connector Interface Body Style	Medium neck

Dimensions

Height	251 mm | 9.882 in
Width	295 mm | 11.614 in
Depth	62 mm | 2.441 in
Ground Screw Diameter	6 mm | 0.236 in
Mounting Pipe Diameter Range	40–160 mm

Outline Drawing



Electrical Specifications

Impedance	50 ohm
License Band, Band Pass	AWS 1700 | CEL 850 | LMR 750 | PCS 1900 | USA 700 | USA 750 | WCS 2300

Electrical Specifications, dc Power/Alarm

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

Voltage	7–30 Vdc

Electrical Specifications, AISG

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

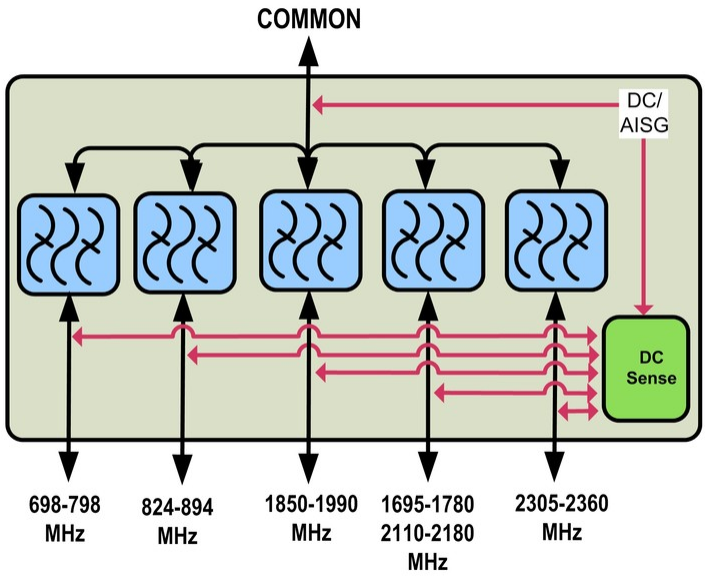
Electrical Specifications

Sub-module	**1**	**1**	**1**	**1**	**1**
Branch	1	2	3	4	5
Port Designation	698–798	824–894	AWS	1850–1990	WCS
License Band	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**
Insertion Loss, maximum, dB	0.5	0.5	0.5	0.5	0.4
Insertion Loss, typical, dB	0.3	0.3	0.3	0.3	0.2
Total Group Delay, maximum, ns	40	55	25	55	25
Return Loss, minimum, dB	20	20	20	20	20
Return Loss, typical, dB	22	22	22	22	22
Isolation, minimum, dB	50	50	50	50	50
Isolation, typical, dB	65	55	55	55	55
Input Power, RMS, maximum, W	200	200	200	200	200
Input Power, PEP, maximum, W	2000	2000	2000	2000	2000
3rd Order PIM, minimum, dBc	-150	-150	-153	-153	-153
3rd Order PIM Test Method	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



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"
<7	**7 ≤ V ≤ 30**	<7	<7	<7	<7	698-798 MHz "OFF" **824-894 MHz to COMMON "ON"** 1850-1990 MHz "OFF" 1695-1780/2110-2180 MHz "OFF" 2305-2360 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" 1850-1990MHz "OFF" 1695-1780/2110-2180 MHz "OFF" **2305-2360 MHz to COMMON "ON"**
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	ALL ports OFF
Any 2 or more ports 7 ≤ V ≤ 30						ALL ports OFF

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	7 kg | 15.432 lb