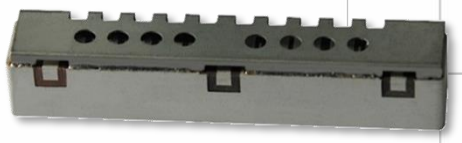
DPX6640A - PRELIMINARY

1710-2200/2300-2690MHz Diplexer

Features

- Narrowband diplexing combines neighboring frequency bands.
- Superior power handling and reliability
- Universal footprint across various band combinations



Part Dimensions: 28.5 x 5.3 x 5.0 • 2.7 g
Materials: Ag plated ceramic block with tin plated brass shield

Applications

- Wireless Infrastructure applications
- High-performance carrier-grade Repeaters, DAS, and multi-band Small Cells up to 2W/band at the antenna port.

Description

Surface mount ceramic diplexer supports a universal footprint across all neighboring band combinations enabling the use of a common system PCB. Provides superior rejection, insertion loss, reliability, as well as both peak and average power handling compared to other diplexer technologies.

Electrical Specifications

Parameter	Frequency (MHz)	Typical at 25°C	Spec. at 25°C	Spec. over -40°C to +85°C
Nominal Impedance	-	50 ohms	-	-
Average Input Power per port	-	-	-	3.0 Watt max
Peak Input Power per port	-	-	-	20 Watt max
Average Combined Output Power	-	-	-	5.0 Watt max
Peak Combined Output Power	-	-	-	32 Watt max
Low-band to Antenna Response				
Passband Insertion Loss (5 MHz avg)	1710-2180	0.9 dB		1.0 dB max
	2180-2200	1.1 dB		1.2 dB max
Passband Return Loss	1710-2200			10 dB min
Attenuation:	2300-2305			18 dB min
	2300-2690			20 dB min
High-band to Antenna Response				
Passband Insertion Loss (5 MHz avg)	2300-2690	0.8 dB		0.9 dB max
	2350-2620	0.6 dB		0.7 dB max
Passband Return Loss	2300-2690			10 dB min
Attenuation:	1710-2180			20 dB min
	2180-2200			18 dB min

Note: CTS tests each unit to the critical specifications above. Subsequent audits may deviate due to repeatability among different test systems which shall not exceed these allowances.

Specification Allowance	
Insertion Loss	0.1 dB
Return Loss	1.0 dB
Attenuation	1.0 dB

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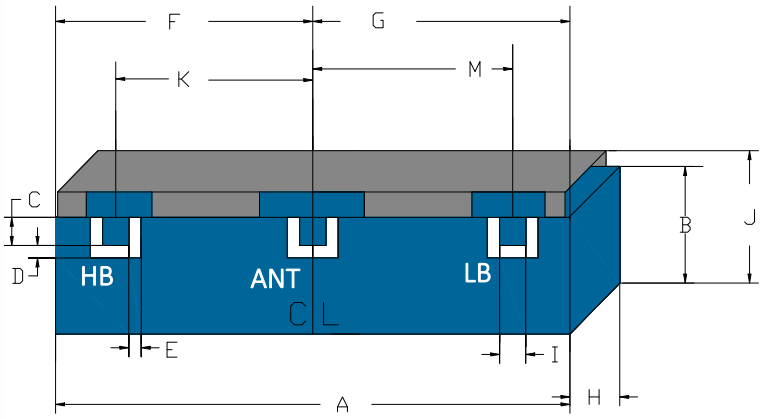
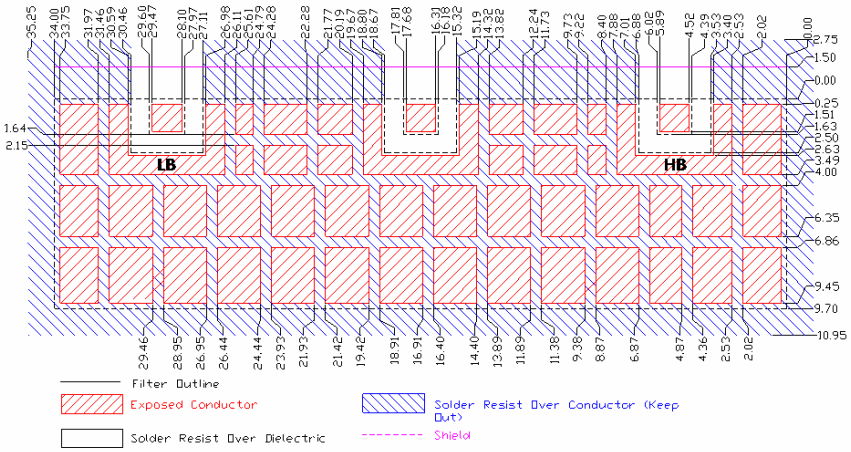
Mechanical Drawing



Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	28.5	Max
B	4.20	Max
C	1.63	0.13
D	0.86	0.13
E	0.86	0.13
F	14.12	0.13
G	14.12	0.13
H	5.00	Max
I	1.63	0.13
J	5.30	Max
K	11.79	0.13
M	11.79	0.13

PCB Layout



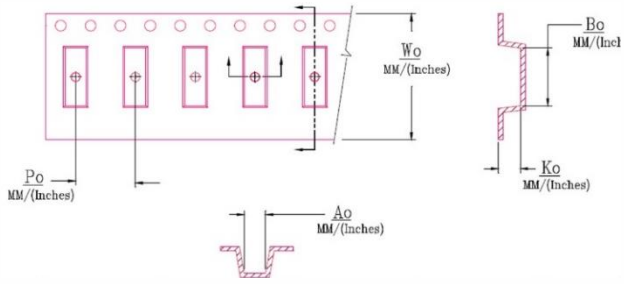
Packaging and Marking

Dimension	Units	Spec.
Reel Diameter	mm	330
Reel Weight	kg	3.8
Reel Quantity	ea.	250

Product Marking

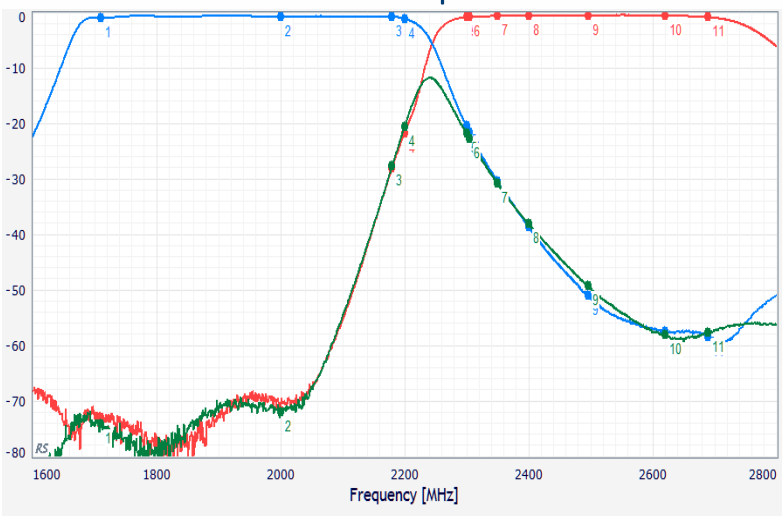
CTS
640
YWW

Customer Feed Direction → → →



W_o	A_o	B_o	K_o	P_o
1.732 in 44.0 mm	0.209 in 5.3 mm	1.140 in 28.95 mm	0.205 in 5.2 mm	0.472 in 12.0 mm

Electrical Response



Marker	1	2	3	4	5	6	7	8	9	10	11
Freq[MHz]	1710	2000	2180	2200	2300	2305	2350	2400	2496	2620	2690
S21[dB](1)	-72.9	-71.6	-27.9	-21.6	-0.769	-0.72	-0.557	-0.545	-0.436	-0.487	-0.766
S21[dB](2)	-0.835	-0.652	-0.67	-1.02	-20.4	-21.5	-30.3	-38.5	-50.9	-57.4	-58.3
S21[dB](3)	-74	-71.9	-27.6	-20.5	-21.7	-22.7	-30.7	-38	-49.2	-57.9	-57.6