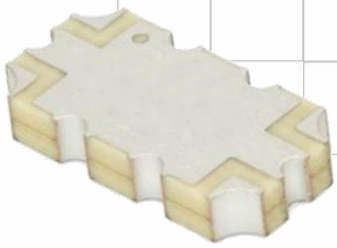
XCBC0822A

380-960 vs 1710-2690 MHz Cross-Band Combiner

Features

- High-power handling in small size
- Low Insertion Loss and Ripple
- Wide passband response. Low Pass and High Pass in one



Part Dimensions: 10.2 × 5.1 × 1.8 mm • 0.2 g

Applications

- Wireless Infrastructure applications
- Usable in systems with 2 bands of up to 6 W/band or 4 bands of up to 3 W/band.

Description

Surface mount wide band diplexer valued for combining <1GHz bands with >1.7GHz bands to share an antenna or common signal path.

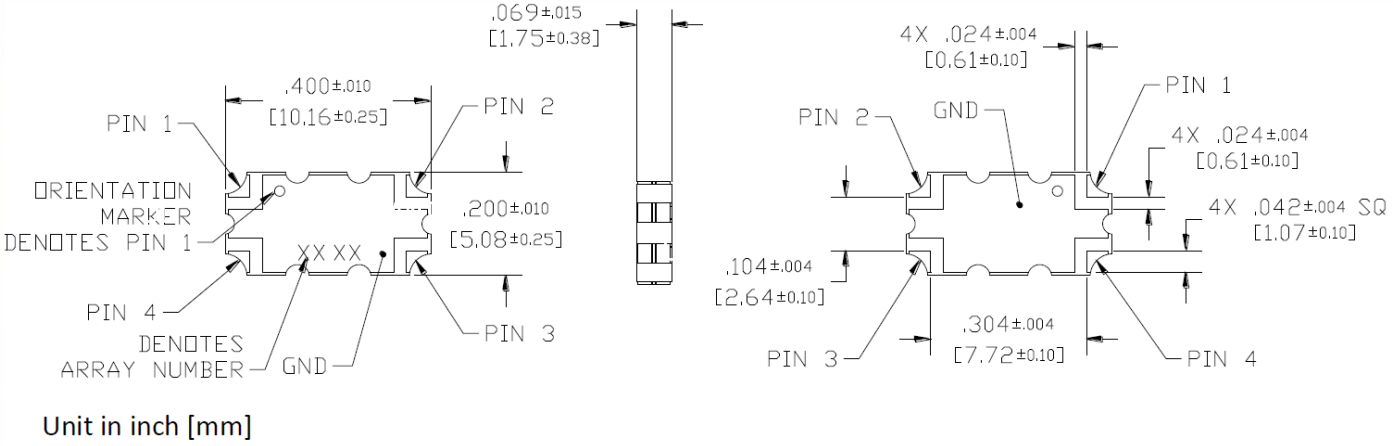
Electrical Specifications

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	-	-	-	6.0 Watt max
Peak Input Power per port	-	-	-	60 Watt max
Average Combined Output Power	-	-	-	12.0 Watt max
Peak Combined Output Power	-	-	-	120 Watt max
Low-band to Antenna Response				
Passband Insertion Loss (5 MHz avg)	380 - 960	0.3 dB	0.5 dB max	0.5 dB max
Passband Return Loss	380 - 960	18 dB	16 dB min	16 dB min
Attenuation:	1710 - 2180	21 dB	20 dB min	20 dB min
	2180 - 2690	20 dB	17 dB min	17 dB min
High-band to Antenna Response				
Passband Insertion Loss (5 MHz avg)	1710 - 2690	0.3 dB	0.5 dB max	0.5 dB max
Passband Return Loss:	1710 - 2180	18 dB	16 dB min	16 dB min
	2180 - 2690	15 dB	13 dB min	13 dB min
Attenuation:	698 - 960	21 dB	20 dB min	20 dB min
	380 - 698	20 dB	17 dB min	17 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.

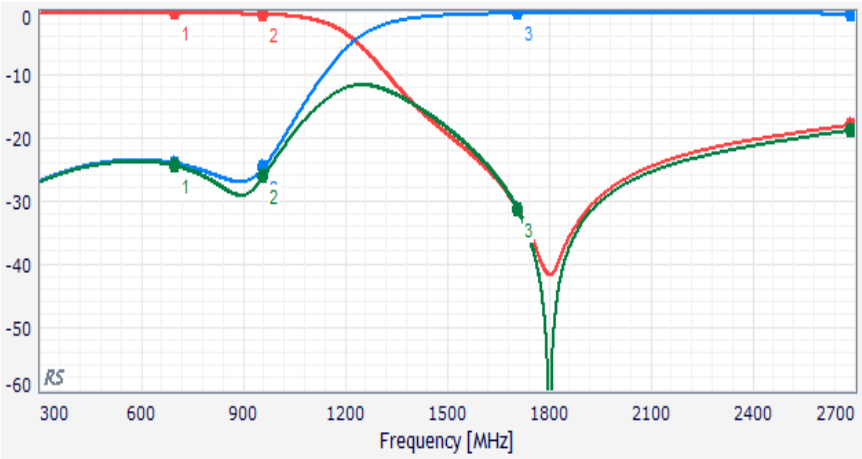
Specification Allowance	
Insertion Loss	0.1 dB
Return Loss	1.0 dB
Attenuation	1.0 dB

Mechanical Drawing



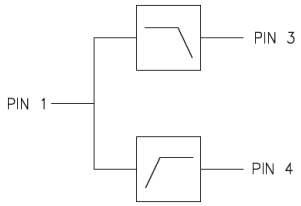
Unit in inch [mm]

Electrical Response



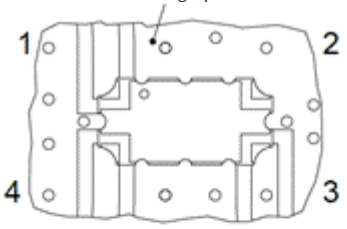
Marker	1	2	3	4
Freq[MHz]	698	960	1710	2690
S21[dB](1)	-0.178	-0.355	-31.2	-17.9
S13[dB](1)	-23.9	-24.6	-0.19	-0.316
S23[dB](1)	-24.3	-26	-31.3	-18.7

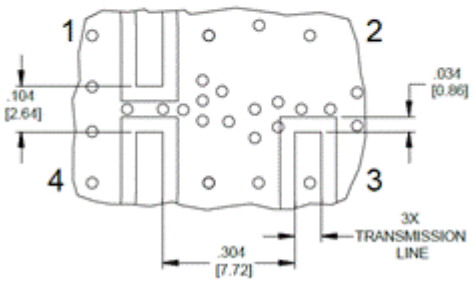
Pin Assignments And PCB Layout



Pin 1	Pin 2	Pin 3	Pin 4
Common Port	GND	Low Pass Port	High Pass Port

To ensure proper electrical and thermal performance there must be a ground plane with 100% solder connection underneath the part orientated as shown with text facing up.





Dimensions are in Inches [Millimeters]