XCBC2246A

380-2690 vs 3300-6000 MHz Cross-Band Combiner

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

Features

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

Applications

- Wireless Infrastructure applications
- Usable in systems with 2 bands of up to 3 W/band
- Dual band WiFi systems (2.4GHz and 5 GHz)
- Cellular or Broadband systems with 5GHz LTE-U/LTE-LAA Systems
- Dual TDD Bands such as Band 40/41 with Band 42/43

Description

Surface mount wide band diplexer valued for combining <2.7GHz bands with >3.3GHz bands to share an antenna or common signal path.

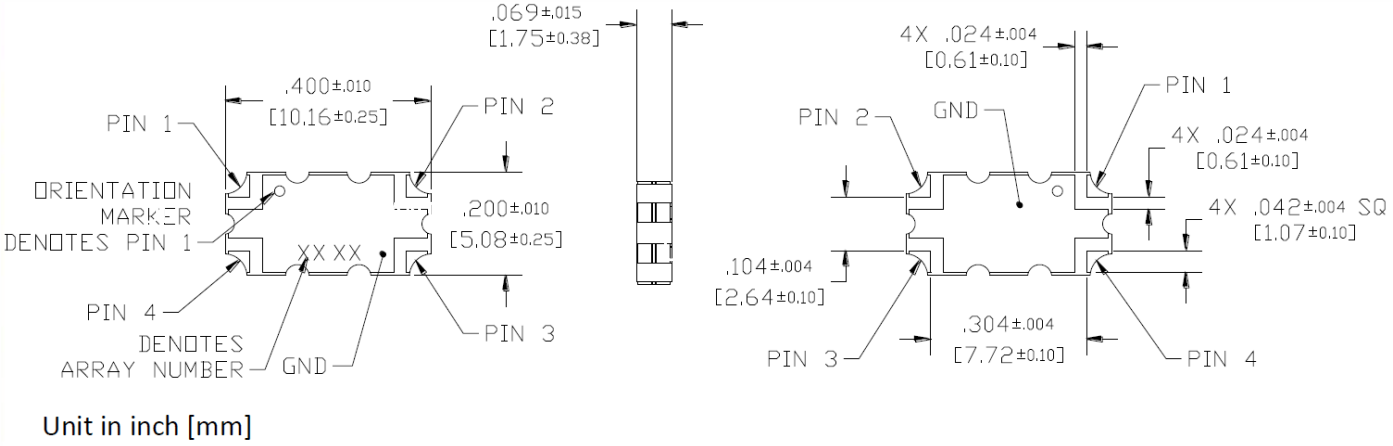
Electrical Specifications

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	-	-	-	3.0 Watt max
Peak Input Power per port	-	-	-	30 Watt max
Average Combined Output Power	-	-	-	6.0 Watt max
Peak Combined Output Power	-	-	-	60 Watt max
Low-band to Antenna Response				
Passband Insertion Loss (5 MHz avg):	380 - 2200	0.3 dB	0.5 dB max	0.5 dB max
	2200-2483	0.3 dB	0.5 dB max	0.5 dB max
	2496-2690	0.55 dB	0.7 dB max	0.7 dB max
Passband Return Loss	380 - 2690	17 dB	15 dB min	15 dB min
Attenuation:	3300 - 5950	21 dB	20 dB min	20 dB min
High-band to Antenna Response				
Passband Insertion Loss (5 MHz avg):	3300 - 3400	0.55 dB	1.0 dB max	1.0 dB max
	3400 - 3550	0.5 dB	0.9 dB max	0.9dB max
	3550 - 3800	0.4 dB	0.7 dB max	0.7dB max
	3800 - 4900	0.4 dB	0.7 dB max	0.7dB max
	4900 - 5835	0.3 dB	0.5 dB max	0.5 dB max
	5835 - 5950	0.3 dB	0.5 dB max	0.5 dB max
Passband Return Loss:	3300 - 5950	17 dB	15 dB min	15 dB min
Attenuation:	380 - 2690	21 dB	20 dB min	20 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.

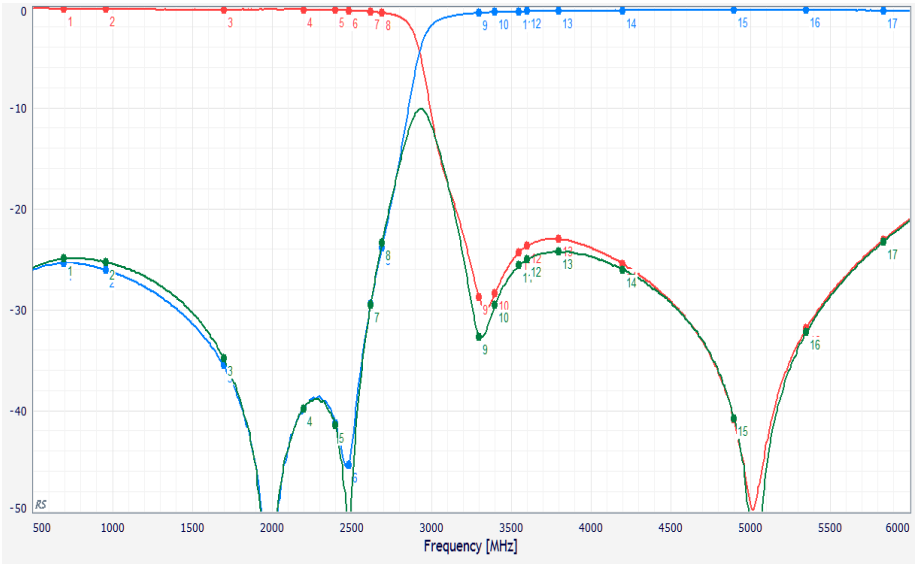
Specification Allowance	
Insertion Loss	0.1 dB
Return Loss	1.0 dB
Attenuation	1.0 dB

Mechanical Drawing



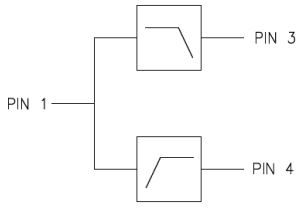
Unit in inch [mm]

Electrical Response



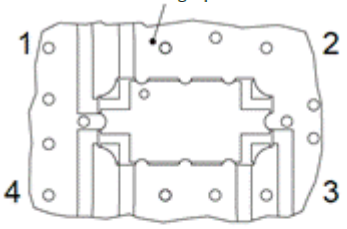
Marker	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Freq[MHz]	698	960	1700	2200	2400	2483	2620	2690	3300	3400	3550	3600	3800	4200	4900	5350	5835
S13[dB](1)	-0.118	-0.157	-0.195	-0.193	-0.248	-0.293	-0.412	-0.517	-28.7	-28.3	-24.3	-23.6	-23	-25.4	-40.8	-31.8	-23
S14[dB](1)	-25.3	-26	-35.5	-39.7	-41.2	-45.3	-29.4	-23.8	-0.522	-0.459	-0.393	-0.384	-0.348	-0.29	-0.245	-0.263	-0.305
S34[dB](1)	-24.9	-25.3	-34.8	-39.7	-41.4	-51.5	-29.5	-23.4	-32.6	-29.5	-25.6	-24.9	-24.2	-26	-40.7	-32.2	-23.2

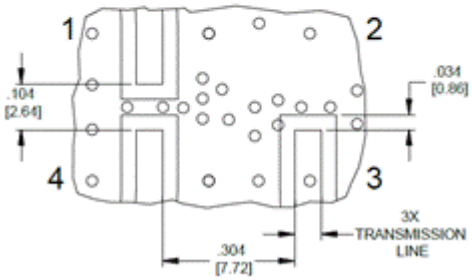
Pin Assignments And PCB Layout



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]