USD003A - PRELIMINARY

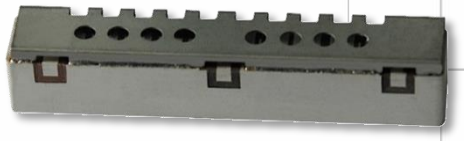
Band 3 USD Series Duplexer

Features

- Low Loss with High Rejection
- Superior power handling and reliability
- Universal footprint across all FDD frequency bands

Applications

- Wireless Infrastructure applications
- High-performance carrier-grade small-cells using linearized PA for 1.0-2.0W at the antenna port.
- Wide-band pico-cells or small-cells requiring multi-channel or carrier aggregation.



Part Dimensions: 61.4 × 11.8 × 10.9 mm • 20.8 g
Materials: Ag plated ceramic block with tin plated brass shield

Description

Surface mount ceramic duplexer supports a universal footprint across all FDD frequency bands 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 duplexer technologies.

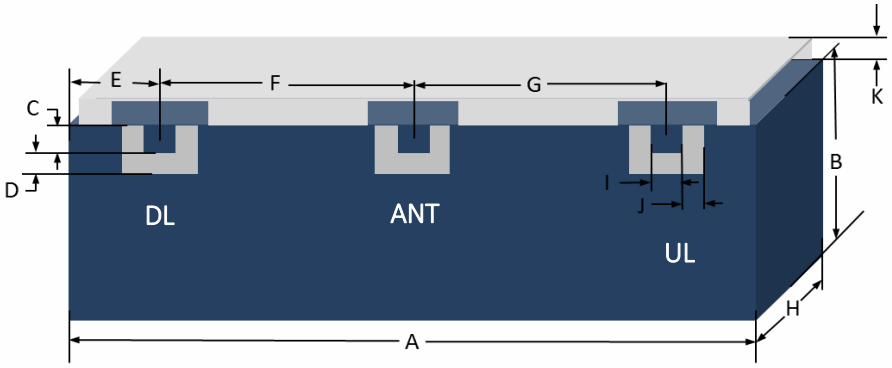
Electrical Specifications

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	-	-	-	6.0 Watt max
Peak Input Power	-	-	-	60 Watt max
Antenna to UL Response				
Passband Insertion Loss (5 MHz avg)	1710 - 1785	2.3 dB	2.4 dB max	2.6 dB max
Passband Insertion Loss (single point)	1710 - 1785	2.8 dB	3.0 dB max	3.2 dB max
Passband Return Loss	1710 - 1785	15 dB	12 dB min	12 dB min
Attenuation:	1805 - 1880	69 dB	66 dB min	66 dB min
DL to Antenna Response				
Passband Insertion Loss (5 MHz avg)	1805 - 1880	2.3 dB	2.4 dB max	2.6 dB max
Passband Insertion Loss (single point)	1805 - 1880	2.8 dB	3.0 dB max	3.2 dB max
Passband Return Loss	1805 - 1880	15 dB	12 dB min	12 dB min
Attenuation:	1710 - 1785	72 dB	70 dB min	70 dB min
	1920 -1980	22 dB	20 dB min	20 dB min
DL to UL Response				
Attenuation for UL band	1710 - 1785	72 dB	70 dB min	70 dB min
Attenuation for DL band	1805 - 1880	69 dB	66 dB min	66 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.

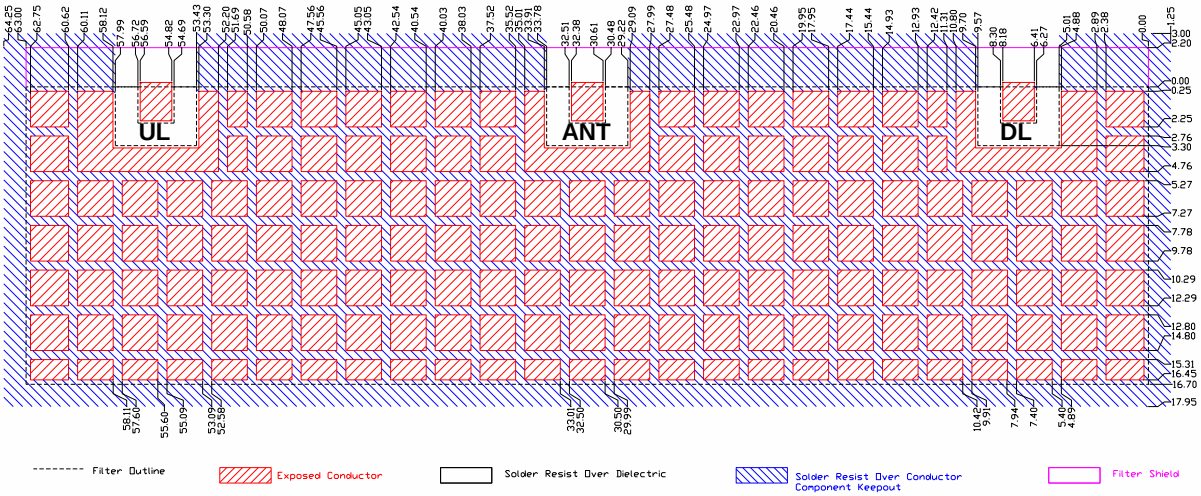
Specification Allowance	
Insertion Loss	0.1 dB
Return Loss	1.0 dB
Attenuation	1.0 dB

Mechanical Drawing



Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	61.40	Max
B	10.00	Max
C	2.03	0.13
D	1.27	0.13
E	6.49	0.13
F	24.21	0.13
G	24.21	0.13
H	10.90	Max
I	2.03	0.13
J	1.27	0.13
K	1.80	0.13

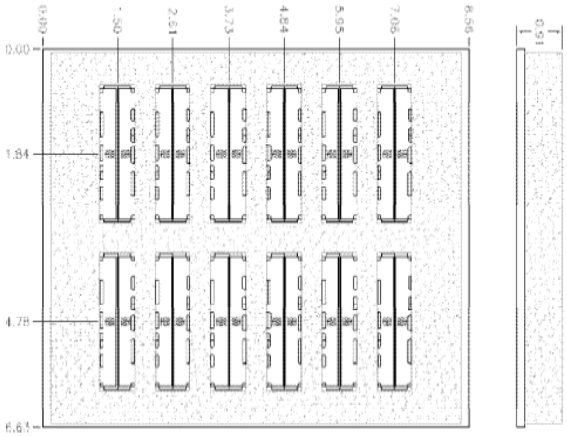
PCB Layout



Packaging and Marking

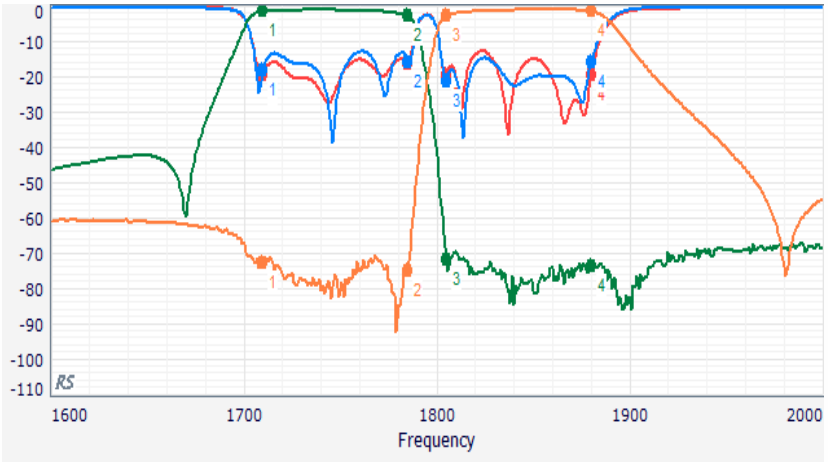
CTS
03A
YWW

Product is shipped in
Pre-formed foam trays



The trays have 12 slots each with 2 filters per slot. Boxes are packed with 5 Trays per box for a total of 120 filters per box.

Electrical Response



Marker	1	2	3	4
Freq[MHz]	1710	1785	1805	1880
S11[dB](1)	-19.3	-16.1	-19.4	-19.5
S11[dB](2)	-17.8	-15.8	-21.2	-15.7
S21[dB](1)	-1.21	-2.53	-71.6	-73.6
S21[dB](2)	-72.7	-75	-2.57	-1.21