

USD012A

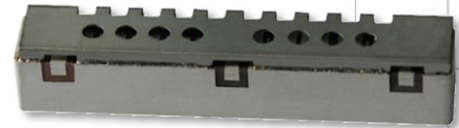
Band 12 USD Series Duplexer

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 × 18.7 × 10.9 mm • 35.4 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)	699 - 715	2.4 dB	2.6 dB max	2.6dB max
Passband Return Loss	699 - 715	14 dB	12 dB min	12 dB min
Attenuation:	729 - 745	66 dB	64 dB min	64 dB min

DL to Antenna Response

Passband Insertion Loss (5 MHz avg)	729 - 745	2.4 dB	2.6 dB max	2.6dB max
Passband Return Loss	729 - 745	14 dB	12 dB min	12 dB min
Attenuation:	699 - 715	72 dB	70 dB min	70 dB min
	777 - 787	38 dB	35 dB min	35 dB min
	787 - 849	47 dB	44 dB min	44 dB min

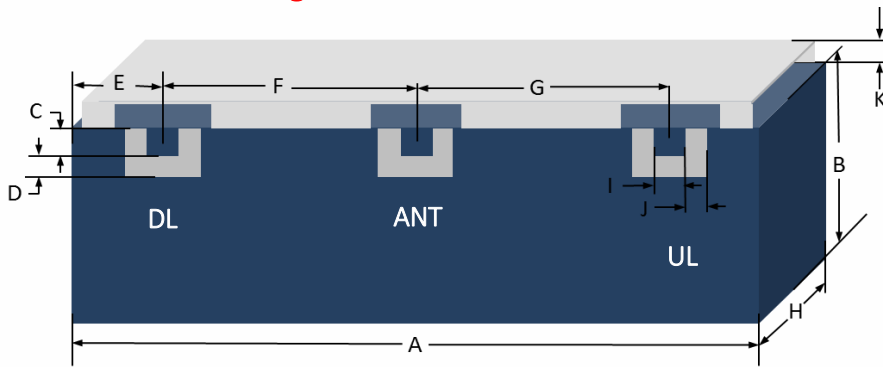
DL to UL Response

Attenuation for UL band	699 - 715	75 dB	72 dB min	72 dB min
Attenuation for DL band	729 - 745	68 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.

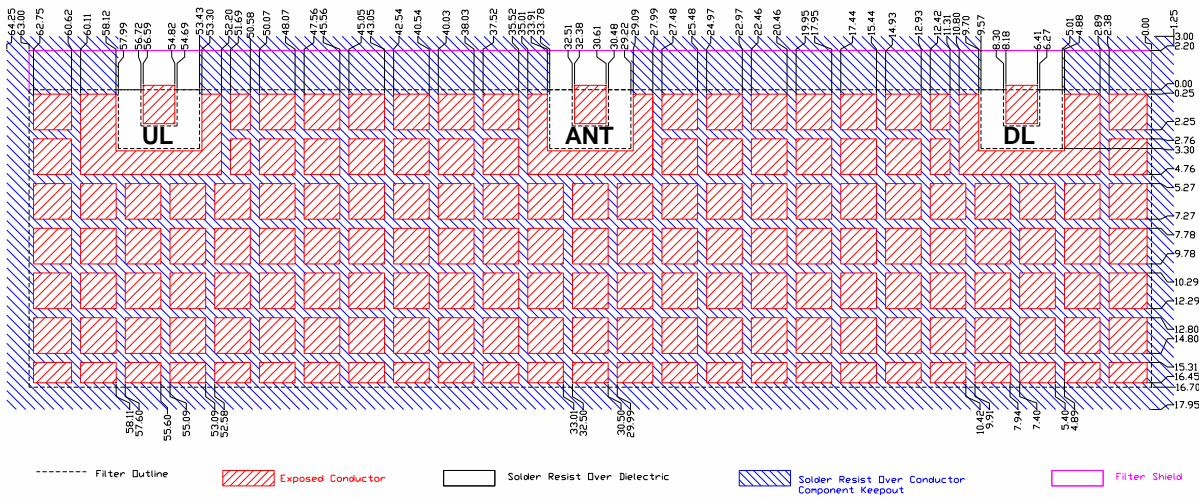
Specification Allowance	
Insertion Loss	0.1 dB
Return Loss	1.0 dB
Attenuation	1.0 dB

Mechanical Drawing

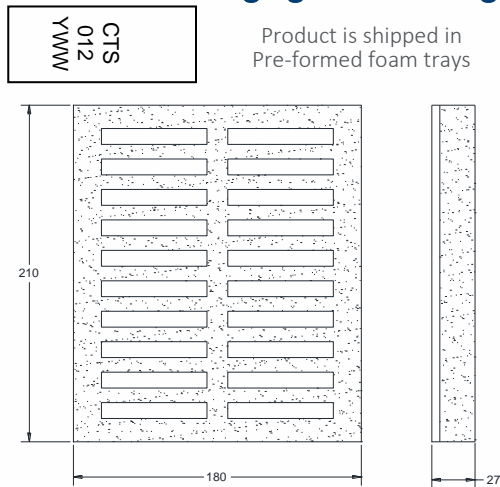


Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	61.40	Max
B	16.70	Max
C	2.03	0.13
D	1.27	0.13
E	6.49	0.13
F	24.21	0.13
G	24.21	0.13
H	10.90	Max
I	2.03	0.13
J	1.27	0.13
K	2.00	0.13

PCB Layout

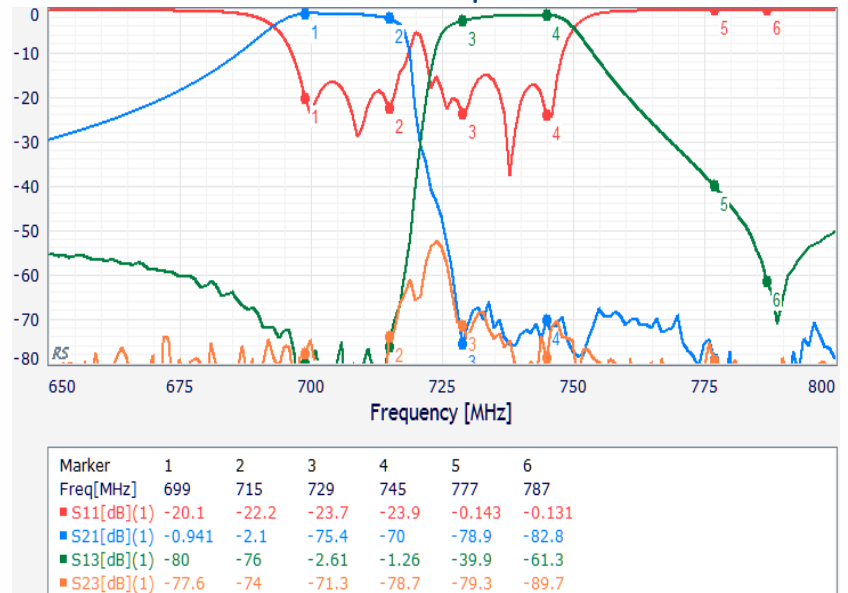


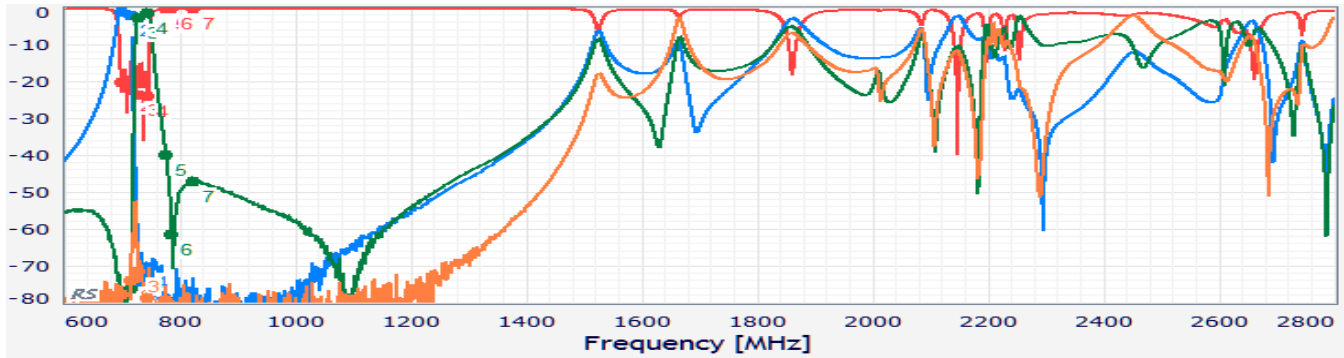
Packaging and Marking



The trays have 20 slots each with 1 filter per slot. Boxes are packed with 12 Trays per box for a total of 240 filters per box.

Electrical Response





Marker	1	2	3	4	5	6	7
Freq[MHz]	699	715	729	745	777	787	824
S11[dB](1)	-20.1	-22.2	-23.7	-23.9	-0.143	-0.131	-0.142
S21[dB](1)	-0.941	-2.1	-75.4	-70	-78.9	-82.8	-86.6
S13[dB](1)	-80	-76	-2.61	-1.26	-39.9	-61.3	-47
S23[dB](1)	-77.6	-74	-71.3	-78.7	-79.3	-89.7	-104