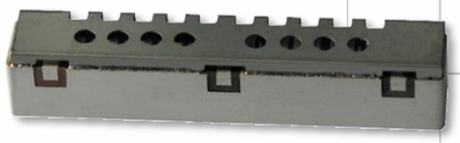
USD7185A - PRELIMINARY

Band 71 (with B85 UL) USD Series Duplexer

Features

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



ESTIMATE
Part Dimensions: 63.0 × 16.4 × 10.5 mm • 40.5 g
Materials: Ag plated ceramic block with tin plated brass shield

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.

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.

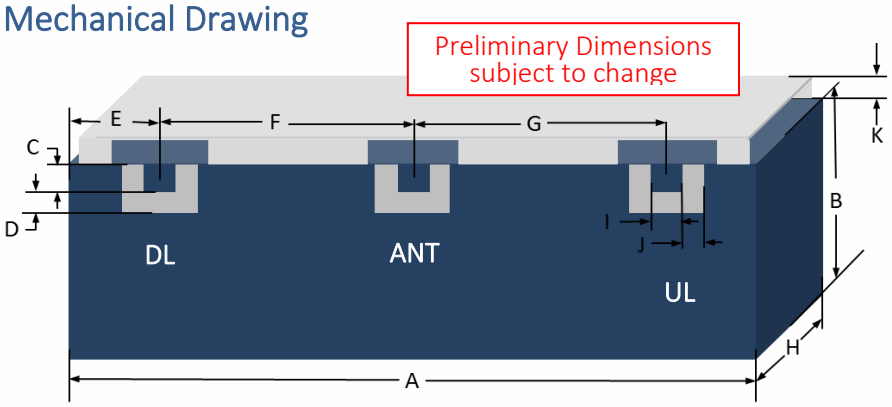
Electrical Specifications

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)	663 - 716		2.7 dB max	2.9 dB max
Passband Insertion Loss (single-point)	663 - 716		3.5 dB max	4.0 dB max
Passband Ripple	663 - 716		2.8 dB max	3.3 dB max
Passband Return Loss	663 - 716	13 dB	11 dB min	11 dB min
Attenuation:	617 - 652	65 dB	64 dB min	64 dB min
	729 - 800	37 dB	35 dB min	35 dB min
DL to Antenna Response				
Passband Insertion Loss (5 MHz avg)	617 - 652		2.7 dB max	2.9 dB max
Passband Insertion Loss (single-point)	617 - 652		3.5 dB max	4.0 dB max
Passband Ripple	617 - 652		2.8 dB max	3.3 dB max
Passband Return Loss	617 - 652	13 dB	11 dB min	11 dB min
Attenuation:	663 - 716	67 dB	66 dB min	66 dB min
DL to UL Response				
Attenuation for UL band	663 - 716	70 dB	69 dB min	69 dB min
Attenuation for transition band	653 - 662	45 dB	40 dB min	40 dB min
Attenuation for DL band	617 - 652	66 dB	65 dB min	65 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.

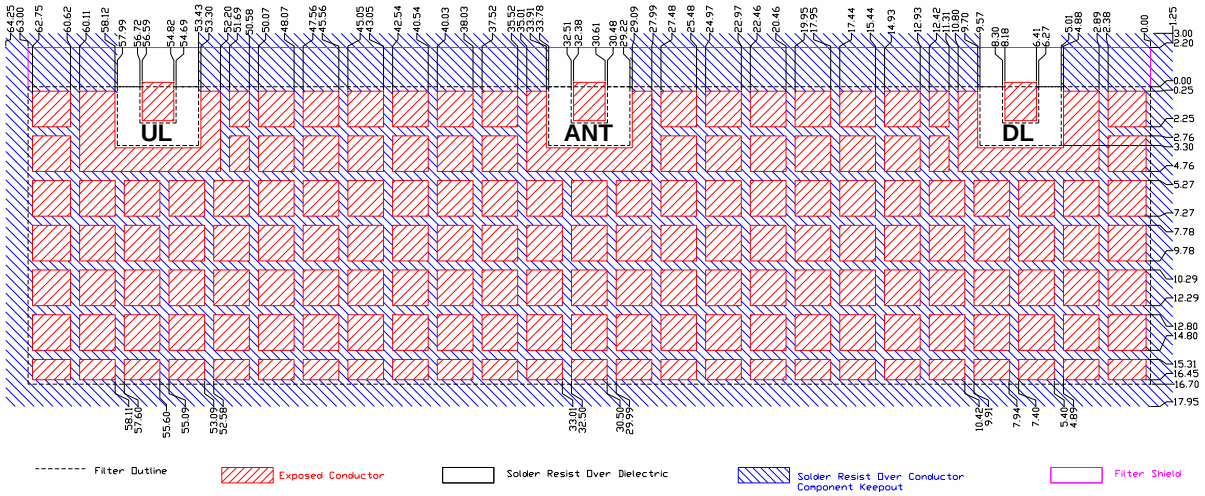
Specification Allowance	
Insertion Loss	0.1 dB
Return Loss	1.0 dB
Attenuation	1.0 dB

Mechanical Drawing

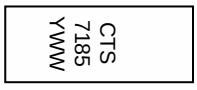


Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	63.00	Max
B	14.40	Max
C	2.03	0.13
D	1.27	0.13
E	6.49	0.13
F	24.21	0.13
G	24.21	0.13
H	10.47	Max
I	2.03	0.13
J	1.27	0.13
K	2.00	Max

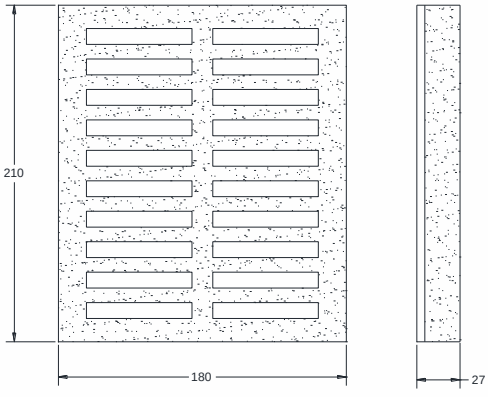
PCB Layout



Packaging and Marking

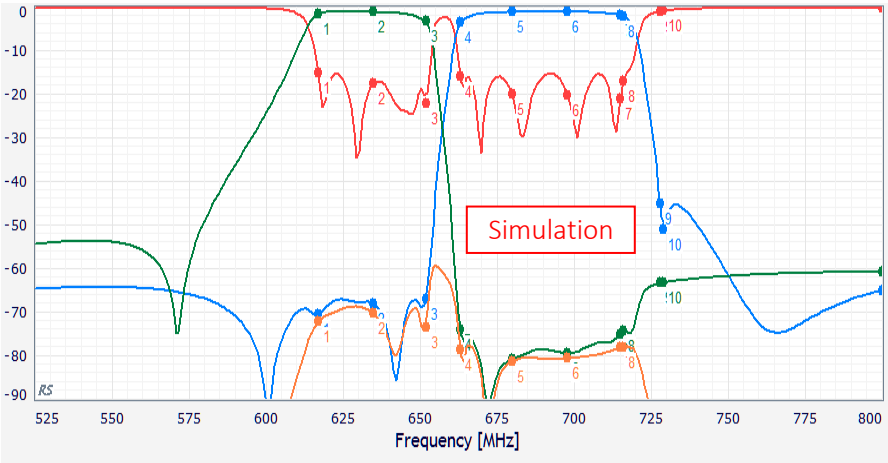


Product is shipped in Pre-formed foam trays



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	8	9	10	11
Freq[MHz]	617	635	652	663	680	698	715	716	728	729	800
S11[dB](1)	-15	-17.5	-22	-15.8	-20	-20.1	-21	-16.9	-0.863	-0.75	-0.0473
S21[dB](1)	-70.5	-68	-67	-3.42	-0.991	-0.918	-1.77	-2.03	-45	-50.8	-64.9
S13[dB](1)	-1.41	-1.03	-3.17	-74	-80.7	-79.3	-74.9	-74.2	-63.2	-63.1	-60.7
S23[dB](1)	-72.1	-70.2	-73.4	-78.4	-81.1	-80.5	-78.1	-77.9	-99.1	-101	-130

Electrical Specifications – Supplemental Spectrum Specifications

Parameter	Frequency (MHz)	Typical at 25°C	Spec. at 25°C	Spec. over -40°C to +85°C
Antenna to UL Response				
Attenuation:				
DL to Antenna Response				
Attenuation:				

Preliminary specifications, subject to change