CER1056A - PRELIMINARY

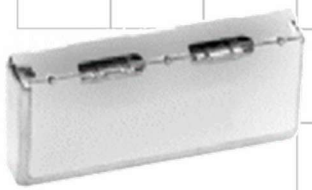
Band 14 Femto-Cell Duplexer

Features

- Low Loss with High Rejection
- Superior power handling and reliability

Applications

- Wireless Infrastructure applications including high-performance carrier-grade femto-cells.



Part Dimensions: 21.6 × 11.3 x 4.0 mm • 3.9 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.

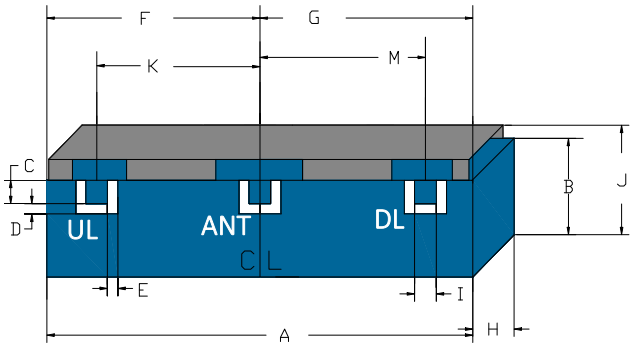
Electrical Specifications (These specs are NOT guaranteed. Will be revised following prototype run.)

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	-	-	-	3.0 Watt max
Peak Input Power	-	-	-	20 Watt max
Antenna to UL Response				
Passband Insertion Loss (5 MHz avg)	788-798	2.4 dB	2.6 dB max	2.8 dB max
Passband Return Loss	788-798	14 dB	11 dB min	11 dB min
Attenuation:	758-768	45 dB	42 dB min	42 dB min
	859	>35 dB	25 dB min	25 dB min
DL to Antenna Response				
Passband Insertion Loss (5 MHz avg)	758-768	2.7 dB	2.9 dB max	3.0 dB max
Passband Return Loss	758-768	15 dB	12 dB min	12 dB min
Attenuation:	788-798	50 dB	45 dB min	45 dB min
	716	25 dB	18 dB min	18 dB min
DL to UL Response				
Attenuation for UL band	788-798	53 dB	48 dB min	48 dB min
Attenuation for DL band	758-768	46 dB	43 dB min	43 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.

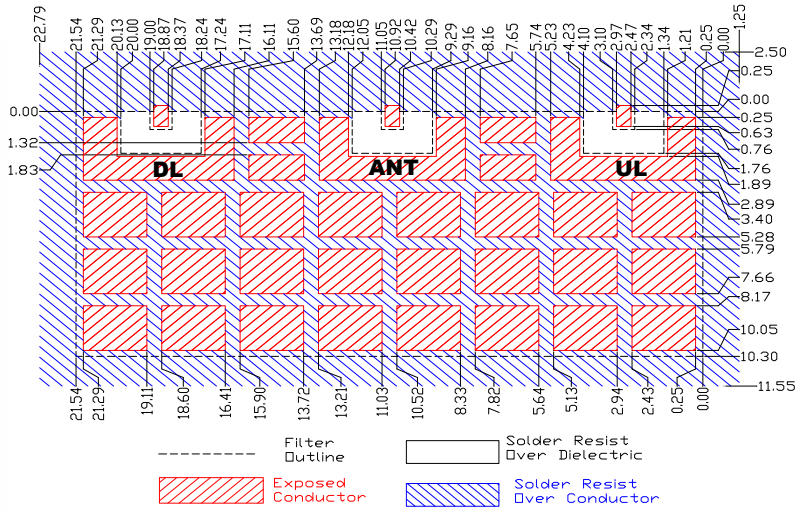
Specification Allowance	
Insertion Loss	0.1 dB
Return Loss	1.0 dB
Attenuation	1.0 dB

Mechanical Drawing



Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	21.54	Max
B	10.30	Max
C	0.76	0.13
D	1.00	0.13
E	1.00	0.13
F	10.67	0.13
G	10.67	0.13
H	4.00	Max
I	0.76	0.13
J	11.30	Max
K	7.95	0.13
M	7.95	0.13

PCB Layout



IMPORTANT: Please assure >=20mils (0.5mm) thickness of dielectric beneath the I/O Pads and the surrounding clearance zone down to the required ground plane.

Please assure sufficient ground vias between the top metal ground plane and the primary ground plane.

Recommended solder: 6 mils of SAC305 with reflow including 120s of soak at 217°C, and up to 30 sec peak at 241°C.

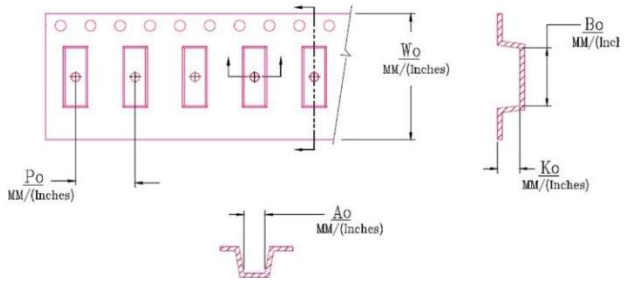
Packaging and Marking

Dimension	Units	Spec.
Reel Diameter	mm	330
Reel Weight	kg	5.9
Reel Quantity	ea.	500

Product Marking

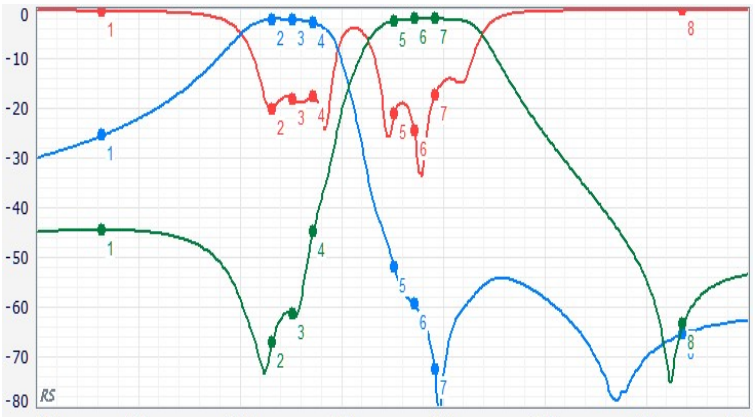
CTS
056
YWW

Customer Feed Direction → → →



Wo	Ao	Bo	Ko	Po
2.260 in	0.457 in	0.860 in	0.169 in	0.629 in
32.0 mm	11.6 mm	21.85 mm	4.3 mm	16.0 mm

Electrical Response



Marker	1	2	3	4	5	6	7	8
Freq[MHz]	716	758	763	768	788	793	798	859
S11[dB](1)	-0.326	-20.1	-18	-17.6	-21	-24.5	-17.2	-0.171
S21[dB](1)	-25.4	-2.01	-2.09	-2.73	-51.7	-59.4	-72.4	-65.3
S13[dB](1)	-44.4	-66.9	-61.4	-44.7	-2.33	-1.91	-1.91	-63.4