

# CER1055A - PRELIMINARY

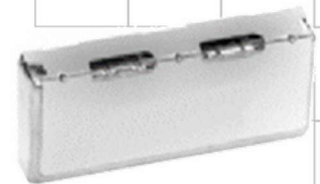
## Band 12 Femto-Cell Duplexer

### 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 × 12.1 × 4.0 mm • 4.2 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	-	-	-	3.0 Watt max
Peak Input Power	-	-	-	20 Watt max

#### Antenna to UL Response

Passband Insertion Loss (5 MHz avg)	699-715	2.3 dB	2.6 dB max	2.8 dB max
Passband Return Loss	699-715	14 dB	11 dB min	11 dB min
Attenuation:	729-745	43 dB	40 dB min	38 dB min
	652	25 dB	16 dB min	16 dB min

#### DL to Antenna Response

Passband Insertion Loss (5 MHz avg)	729-745	2.3 dB	2.6 dB max	2.8 dB max
Passband Return Loss	729-745	14 dB	11 dB min	11 dB min
Attenuation:	699-715	47 dB	44 dB min	42 dB min
	777	18 dB	16 dB min	16 dB min

#### DL to UL Response

Attenuation for UL band	699-715	49 dB	45 dB min	43 dB min
Attenuation for DL band	729-745	45 dB	42 dB min	40 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.

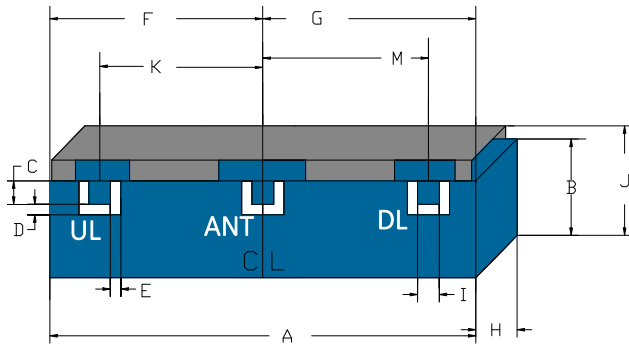
Specification Allowance	
Insertion Loss	0.1 dB
Return Loss	1.0 dB
Attenuation	1.0 dB



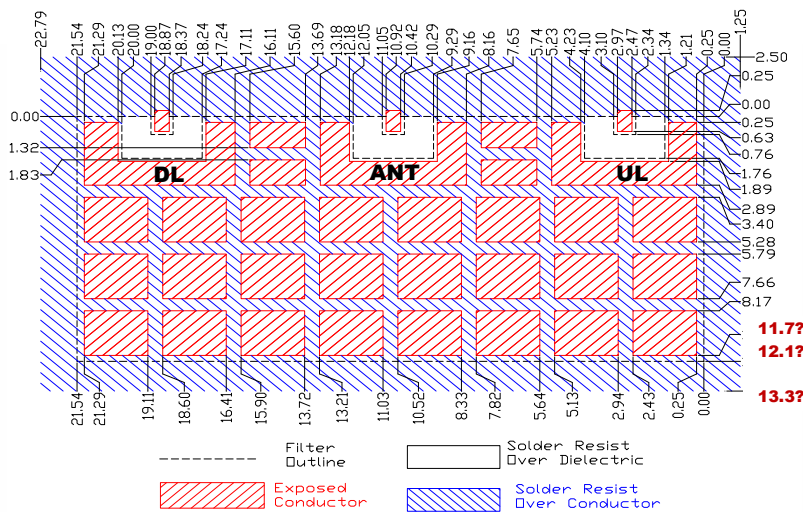
## PRELIMINARY - CER1055A

Band 12 Femto-Cell Duplexer

### Mechanical Drawing



### PCB Layout



IMPORTANT: Please assure  $\geq 20$  mils (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.

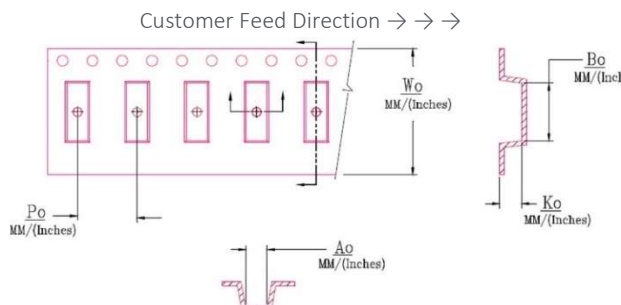
Recommended solder: 6 mils of SAC305 with reflow including 120s of soak at 217°C, and up to 30 sec peak at 241°C.

### Packaging and Marking

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

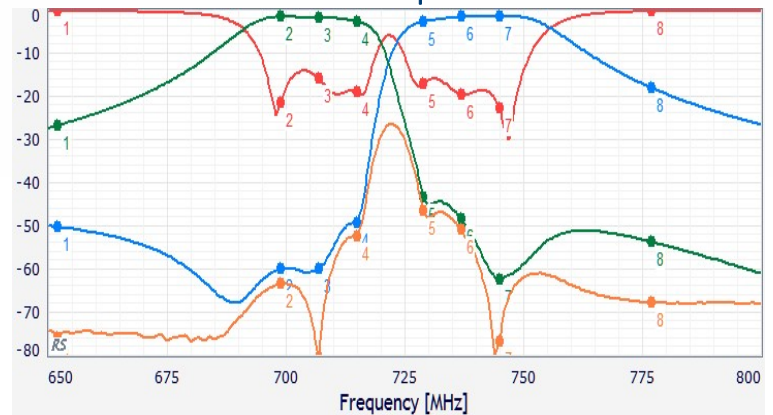
#### Product Marking

CTS  
055  
YWW



$W_0$	$A_0$	$B_0$	$K_0$	$P_0$
2.260 in 32.0 mm	0.457 in 11.6 mm	0.860 in 21.85 mm	0.169 in 4.3 mm	0.629 in 16.0 mm

### Electrical Response



Marker	1	2	3	4	5	6	7	8
Freq[MHz]	652	699	707	715	729	737	745	777
S11[dB](1)	-0.168	-21.5	-15.7	-19	-16.9	-19.5	-22.6	-0.22
S21[dB](1)	-50.2	-59.9	-59.9	-49.2	-2.55	-1.56	-1.34	-17.9
S13[dB](1)	-26.6	-1.48	-1.65	-2.54	-43.2	-48.4	-62.2	-53.6
S23[dB](1)	-75.7	-63.2	-80.7	-52.3	-46.3	-50.9	-76.6	-67.5