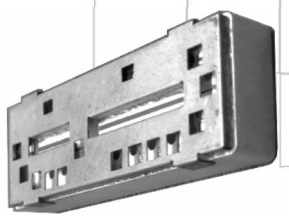
Product Brief

UED025A

Band 25 UED Series Duplexer

Features

- Low Loss with High Rejection
- Superior power handling and reliability
- Universal footprint across all UED Series frequency bands
- Surface-mount using embedded strip-line RF signal traces



Part Dimensions: 59 × 21 × 10.6 mm • 37.1 g
Materials: Ag plated ceramic block with tin plated brass shield

Applications

- Wireless Infrastructure applications
- High-performance carrier-grade small-cells or DAS <=2W at the antenna port requiring multi-channel or carrier aggregation.

Description

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.

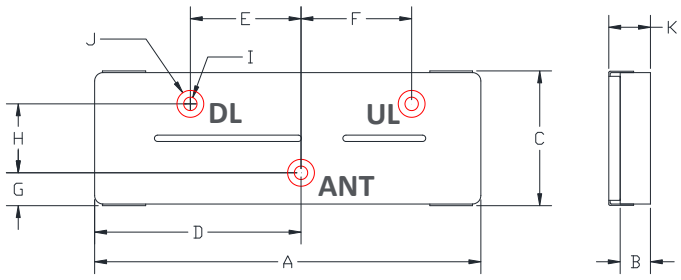
Electrical Specifications

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	-	-	-	8.0 Watt max
Peak Input Power	-	-	-	80 Watt max
Antenna to UL Response				
Passband IL (5Mhz avg)	1850 - 1915	3.3 dB	3.6 dB max	4.0 dB max
Passband Return Loss	1850 - 1915	11 dB	10 dB min	10 dB min
Attenuation:	1930 - 1995	57 dB	55 dB min	55 dB min
DL to Antenna Response				
Passband IL (5Mhz avg)	1930 - 1995	3.9 dB	4.1 dB max	4.3 dB max
Passband Return Loss	1930 - 1995	11 dB	10 dB min	10 dB min
Atten for UL	1850 - 1915	68 dB	66 dB min	66 dB min
DL to UL Response				
Atten for UL	1850 - 1915	71 dB	70 dB min	70 dB min
Attenuation for DL band	1930 - 1995	61 dB	55 dB min	55 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.

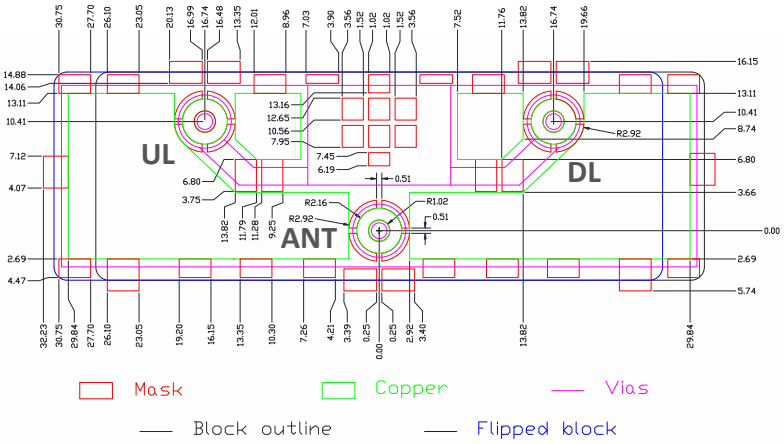
Specification Allowance	
Insertion Loss	0.1 dB
Return Loss	1.0 dB
Attenuation	1.0 dB

Mechanical Drawing (Bottom View)



Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	59.00	Max
B	8.80	Max
C	21.00	Max
D	31.22	0.20
E	16.74	0.13
F	16.74	0.13
G	4.97	0.20
H	10.41	0.13
I (radius)	1.02	0.13
J (radius)	2.03	0.13
K	10.60	Max

PCB Layout (Top-Down View)



Align part to Black outline on the PCB Layout

IMPORTANT: Please assure >=20mils (0.5mm) thickness of dielectric beneath the top-metal.

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

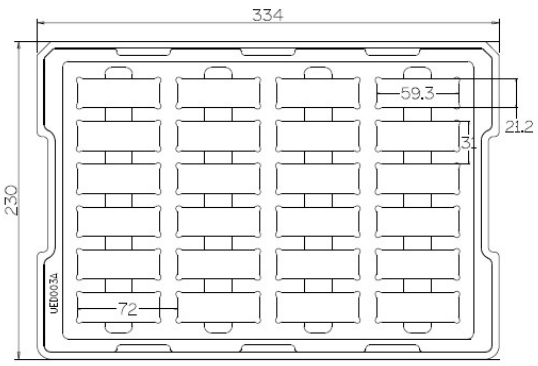
Recommended solder: 6 mils of SAC305 with reflow including 120s of soak at 217°C, and up to 30 sec peak at 241°C.

NOTE: While each unit is only 59mm length, the Universal footprint allocates 62.5mm for support of freq bands with low-band as DL. Signal vias directly under the I/Os should be blind-vias to embedded strip-lines.

Packaging and Marking

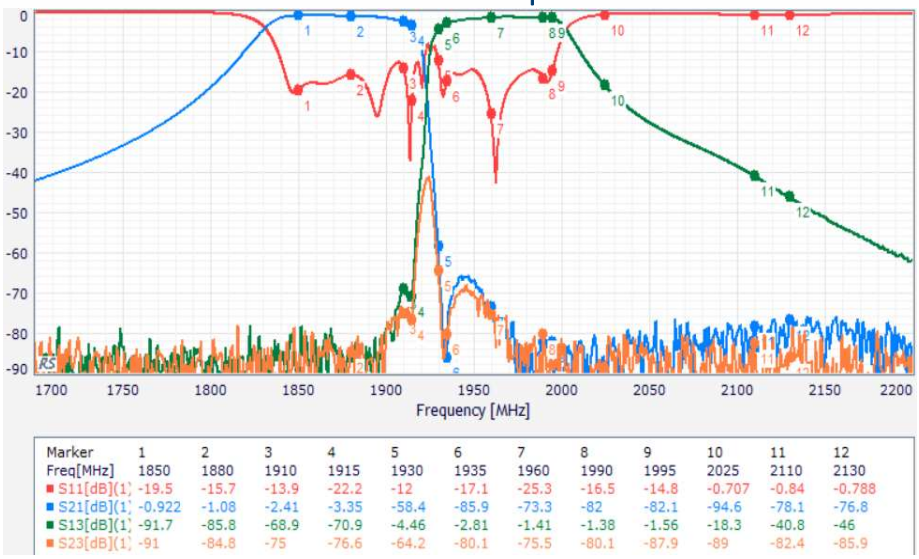
CTS
025
YWW

Product is shipped in thermo formed plastic trays



The trays have 24 slots each with one filter 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	5	6	7	8	9	10	11	12
Freq[MHz]	1850	1880	1910	1915	1930	1935	1960	1990	1995	2025	2110	2130
S11[dB](1	-19.5	-15.7	-13.9	-22.2	-12	-17.1	-25.3	-16.5	-14.8	-0.707	-0.84	-0.788
S21[dB](1	-0.922	-1.08	-2.41	-3.35	-58.4	-85.9	-73.3	-82	-82.1	-94.6	-78.1	-76.8
S13[dB](1	-91.7	-85.8	-68.9	-70.9	-4.46	-2.81	-1.41	-1.38	-1.56	-18.3	-40.8	-46
S23[dB](1	-91	-84.8	-75	-76.6	-64.2	-80.1	-75.5	-80.1	-87.9	-89	-82.4	-85.9

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:	1 - 1400	63 dB	60 dB min	60 dB min
	1401 - 1600	52 dB	50 dB min	50 dB min
	1601 - 1675	44 dB	40 dB min	40 dB min
	1996 - 2690	65 dB	50 dB min	50 dB min
	3300 - 3800		40 dB min	40 dB min
	3801 - 3830		40 dB min	40 dB min
	3831 - 3990		30 dB min	30 dB min
DL to Antenna Response				
Attenuation:	1 - 1849	75 dB	60 dB min	60 dB min
	2025	17 dB	10 dB min	10 dB min
	2110 - 2129	40 dB	37 dB min	37 dB min
	2130 - 2200	43 dB	40 dB min	40 dB min
	2305 - 2690	72 dB	50 dB min	50 dB min
	3300 - 3800		40 dB min	40 dB min
	3801 - 3990		40 dB min	40 dB min