

## UMD012A - PRELIMINARY

### Band 12 UMD Series Duplexer

#### Features

- Low Loss with High Rejection
- Superior power handling and reliability
- Universal footprint across all UMD Series frequency bands
- Available for either PCB mounting or with various connectors including SMA, SMP-Max, and other options.

#### Applications

- Wireless Infrastructure applications
- High-performance carrier-grade active antennas and small-cells for 4-10W at the antenna port.
- Wide-band DAS, Repeaters, or small-cells requiring multi-channel or carrier aggregation

#### Description

Ceramic duplexer supports a universal footprint across all FDD frequency bands < 1 GHz 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	-	-	-	20.0 Watt max
Peak Input Power	-	-	-	200 Watt max
Passive Intermodulation (2x 5W)	-	-	-	-106 dBm (TBC)

#### Antenna to UL Response

Passband Insertion Loss (5 MHz avg)	698 - 715	1.9 dB max
Passband Return Loss	698 - 715	16 dB min
Attenuation:	729 - 746	77 dB min

#### DL to Antenna Response

Passband Insertion Loss (5 MHz avg)	729 - 746	1.9 dB max
Passband Return Loss	729 - 746	16 dB min
Attenuation:	698 - 715	80 dB min

#### DL to UL Response

Attenuation for UL band	698 - 715	80 dB min
Attenuation for Transition band	716 - 728	55 dB min
Attenuation for DL band	729 - 746	77 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



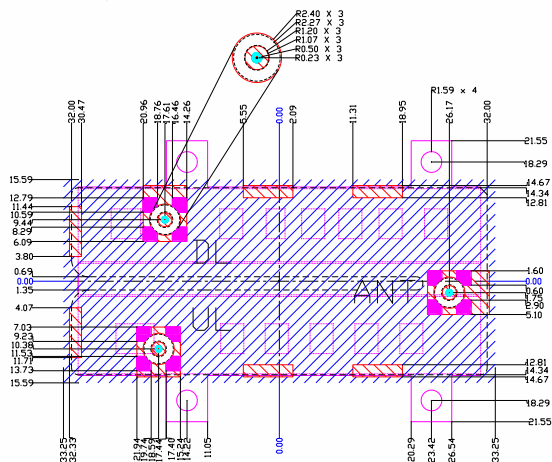
ESTIMATE Part Dimensions: 64 × 29 × 17 mm • <105 g  
Materials: Ag plated ceramic block with tin plated brass shield









## Band 12 UMD Series Duplexer

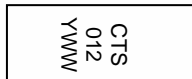
Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	64.00	Max
B	29.00	Max
C		
D		
E		
F		
G		
H		
I		
J		
K		

### PCB Layout (Top-Down View)



- |   |   |  |  |
|---|---|--|--|
| -----   | Filter Outline                          |  | Solder Resist Over Conductor (Keep Out Area) |
|  | Exposed Conductor for Surface Mount     |  | Solder Resist over Dielectric                |
|  | Exposed Conductor for SMP-MAX Connector |  | Via for Pin Mount                            |
|  | Pin for Pinmount                        |  |  |

## Packaging and Marking



Product is shipped in  
Pre-formed foam trays

## Electrical Response

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

**Electrical Specifications – Supplemental Spectrum Specifications**

Parameter	Frequency (MHz)	Typical at 25°C	Spec. at 25°C	Spec. over -40°C to +85°C
<b>Antenna to UL Response</b>				
Attenuation:	1 - 617			>60 dB min
	617 - 652			47 dB min
	678			15-20 dB min
	717 - 722			16 dB (5MHz avg)
	722 - 727			32 dB min
	746 - 894			47 dB min
<b>DL to Antenna Response</b>				
Attenuation:	1 - 663			>60 dB min
	663-698			>50 dB min
	777-849			>50 dB min

**Ordering Options**

Part Number	Code	Connector Option Description
UMD012A	[blank]	No pins or connectors
	-C3	3 SMP-Com Male with limited detent
	-CF2	SMP-Com Male with limited detent antenna port + 2 SMP female cables
	-M3	3 SMP-Max Slide-type Male
	-NS2	N-type antenna port + 2 SMA Male (CMD only)
	-P3	3 thru-hole pins for soldering to PCB (UMD only)
	-S3	3 SMA Female