

UPD159A

1518-1558 / 1616-1675MHz UPD Series Duplexer

Features

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

Applications

- Developed for use in InMarSat Infrastructure applications.

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.

Part Dimensions: 40.2 × 8.4 × 6.1 mm • 7.5 g
Materials: Ag plated ceramic block with tin plated brass shield



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	-	-	-	30 Watt max

Antenna to UL Response

Passband Insertion Loss	1518 - 1559	1.5 dB	2.0 dB max	2.2 dB max
Passband Ripple	1518 - 1559	0.5 dB	0.9 dB max	1.0 dB max
Passband Return Loss	1518 - 1559	14 dB	12 dB min	12 dB min
Attenuation:	1616 - 1675	60 dB	55 dB min	55 dB min

DL to Antenna Response

Passband Insertion Loss	1616 - 1675	2.0 dB	2.3 dB max	2.5 dB max
Passband Ripple	1616 - 1675	1.2 dB	1.4 dB max	1.5 dB max
Passband Return Loss	1616 - 1675	14 dB	12 dB min	12 dB min
Attenuation:	1518 - 1559	65 dB	60 dB min	60 dB min
	1575	65 dB	60 dB min	60 dB min

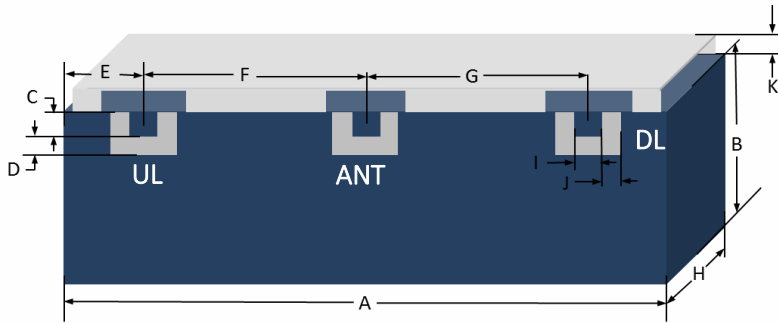
DL to UL Response

Attenuation for UL band	1518 - 1559	65 dB	60 dB min	60 dB min
Attenuation for Transition band	1575	65 dB	60 dB min	60 dB min
Attenuation for DL band	1616 - 1675	60 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.

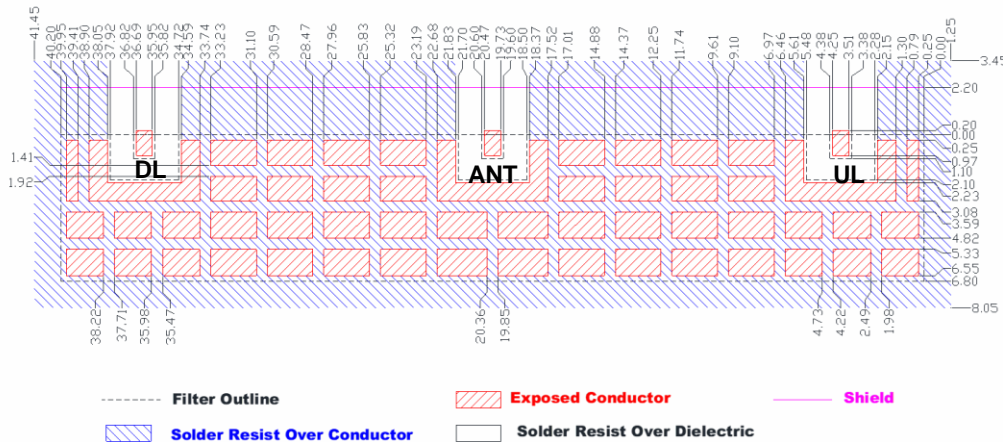
Specification Allowance	
Insertion Loss	0.1 dB
Return Loss	1.0 dB
Attenuation	1.0 dB

Mechanical Drawing



Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	39.90	0.30
B	6.80	max
C	1.10	0.13
D	1.00	0.13
E	3.73	0.20
F	16.22	0.13
G	16.22	0.13
H	5.90	0.20
I	1.00	0.13
J	1.10	0.13
K	1.40	0.20

PCB Layout

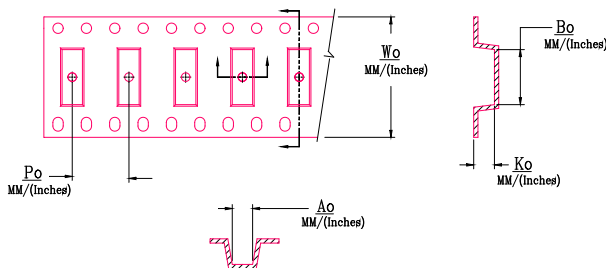


Packaging and Marking

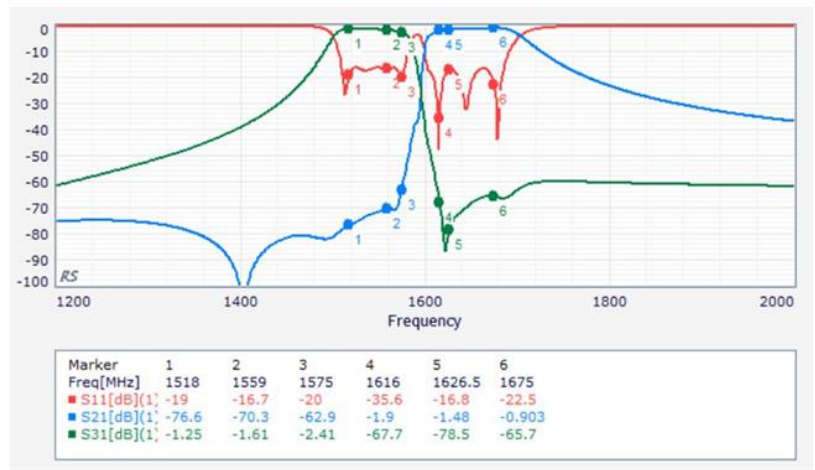
DIMENSION	UNITS	SPECIFICATION
REEL DIAMETER	mm	330
REEL WEIGHT	kg	2.7
REEL QUANTITY	ea.	500

CTS
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YWW

Customer Feed Direction → → →



Electrical Response



W ₀	A ₀	B ₀	K ₀	P ₀
2.205 in	0.346 in	1.606 in	0.244 in	0.787 in
56.0 mm	8.80 mm	40.8 mm	6.2 mm	20.0 mm