USB485A - PRELIMINARY
4.80-4.90GHz USB Series TDD Bandpass Filter

Features
- Low Loss with High Rejection
- Low ripple
- Universal footprint across family for all TDD bands

Applications
- Wireless Infrastructure applications
- High-performance carrier-grade single-band TDD Pico-cell basestations for up to 5.0W at the antenna port.

Part Dimensions: 25.9 × 3.0 × 6.7 mm • 2.0 g Est.
Materials: Ag plated ceramic block with tin plated brass shield

Description
Surface mount ceramic bandpass filter supports a universal footprint across all TDD frequency bands enabling the use of a common system PCB. Superior rejection, insertion loss, reliability, as well as both peak and average power handling compared to other bandpass filter technologies.

Electrical Specifications

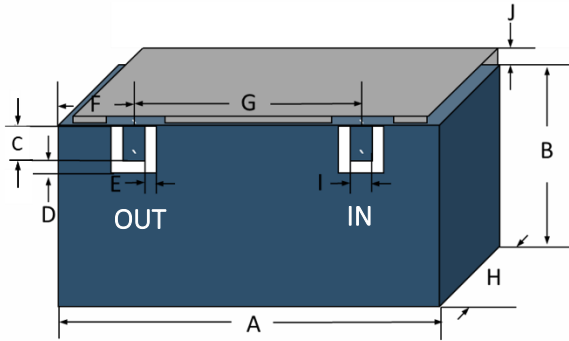| Parameter	Frequency (MHz)	Typical at 25⁰C	Spec. at 25⁰C	Spec. over -40⁰C to +85⁰C
Nominal Impedance	-	50 ohms	-	-
Average Input Power	-	-	-	8.0 Watt max
Peak Input Power	-	-	-	80 Watt max
Input-Output Response				
Passband Insertion Loss (100 MHz avg)	4800 - 4900	1.2 dB	1.4 dB max	1.5dB max
Passband Ripple	4800 - 4900	0.3 dB	0.7 dB max	0.7 dB max
Passband Return Loss	4800 - 4900	15 dB	14 dB min	14 dB min
Attenuation:	1 - 4600	45 dB	40 dB min	40 dB min
	5100 - TBD	45 dB	40 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
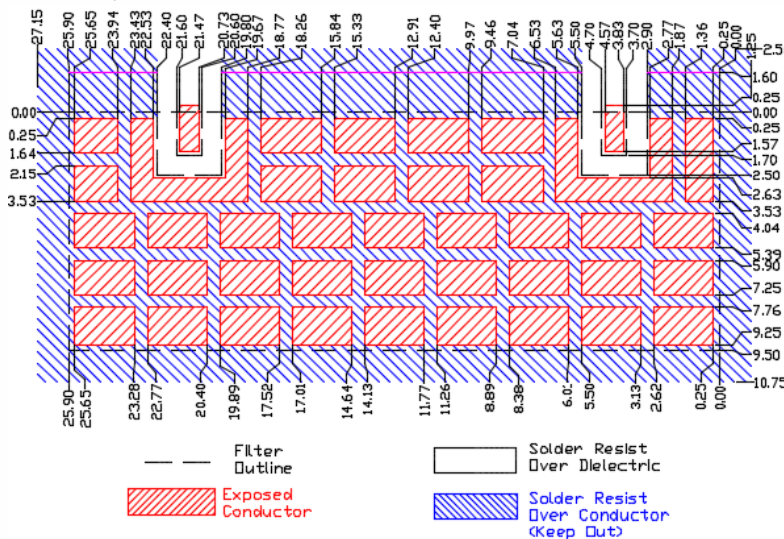Insertion Loss   0.1 dB
Return Loss   1.0 dB
Attenuation   1.0 dB

Mechanical Drawing

Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	25.90	max
B	3.00	max
C	1.70	0.13
D	0.80	0.13
E	0.80	0.13
F	4.20	0.13
G	16.90	0.13
H	6.70	max
I	1.00	0.13
J	1.20	0.20

PCB Layout

Filter Outline
Solder Resist Over Dielectric
Exposed Conductor
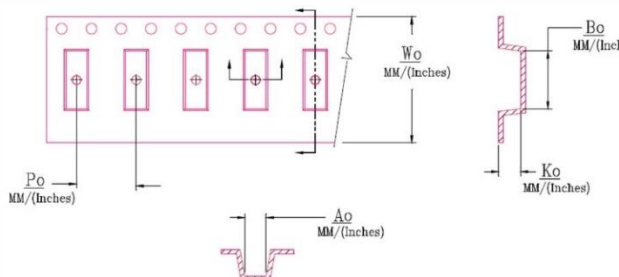Solder Resist Over Conductor (Keep Out)

NOTE: The width of 9.50mm is necessary to support frequencies as low as 1885MHz for Band 39. If only higher frequency TDD bands are supported, then a smaller space can be allocated on the layout.

Packaging and Marking

Dimension	Units	Spec.
Reel Diameter	mm	330
Reel Weight	kg	5.5
Reel Quantity	ea.	500

Product Marking

CTS
485
YWW

Customer Feed Direction → → →

W₀	A₀	B₀	K₀	P₀
1.732 in	0.236 in	1.028 in	0.283 in	0.472 in
44.0 mm	6.00 mm	26.10 mm	7.20 mm	12.0 mm

Electrical Response

Simulation

Marker	1	2	3	4
Freq[MHz]	4600	4800	4900	5100
S11[dB](1)	-0.116	-34.9	-20.4	-0.194
S21[dB](1)	-46.2	-0.95	-0.967	-46.4
S22[dB](1)	-0.227	-31.7	-19.6	-0.281