MMB350B - Preliminary

3450-3550MHz MMB Series TDD BPF

Features

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

Part Dimensions: 40.0 × 6.5 × 9.3 mm • 6.7 g
Materials: Ag plated ceramic block with tin plated brass shield

Applications

- Addresses the band adjacent to the CBRS Band (N48) which is called the DoD band or the AMBIT band.
- Wireless Infrastructure applications

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

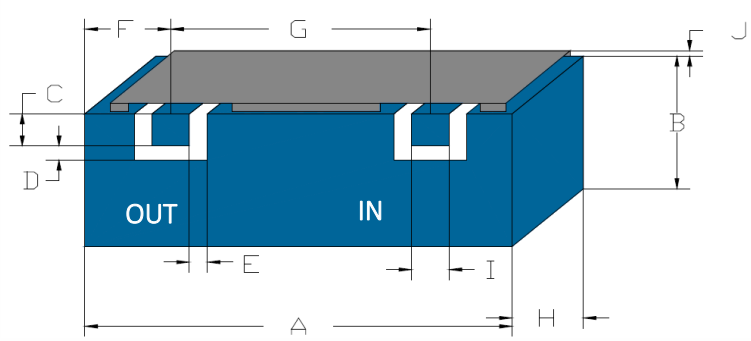
Parameter	Frequency (MHz)	Typical at 25°C	Spec. at 25°C	Spec. over -40°C to +85°C
Nominal Impedance	-	50 ohms	-	-
Average Input Power	-	-	-	5.0 Watt max
Peak Input Power	-	-	-	50 Watt max
Input-Output Response				
Passband Insertion Loss (10 MHz avg)	3450-3550	1.9 dB	2.1 dB max	2.2 dB max
Passband Insertion Loss (single point)	3450-3550	2.2 dB	2.5 dB max	2.7 dB max
Passband Ripple	3450-3550	1.2 dB	1.4 dB max	1.6 dB max
Passband Group Delay	3450-3550	17 ns	20 ns max	21 ns max
Passband Group Delay Variation	3450-3550	10 ns	12 ns max	14 ns max
Passband Return Loss	3450-3550	15 dB	13 dB min	13 dB min
Attenuation:	1-2360	64 dB	60 dB min	60 dB min
	2361-2690	59 dB	57 dB min	57 dB min
	2691-3100	45 dB	40 dB min	40 dB min
	3101-3299	41 dB	37 dB min	37 dB min
	3300-3400	34 dB	25 dB min	25 dB min
	3401-3430	17 dB	16 dB min	12 dB min
	3570-3599	17 dB	16 dB min	12 dB min
	3600-3699	29 dB	25 dB min	25 dB min
	3700-5950	49 dB	40 dB min	40 dB min
	5951-7125	16 dB	10 dB min	10 dB min

IMPORTANT: Product will be rate for operation to +105°C in terms of reliability and operating life, but electrical specification limits are assured for up to +85°C, so there may be minor degradation from +86°C to +105°C.

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.

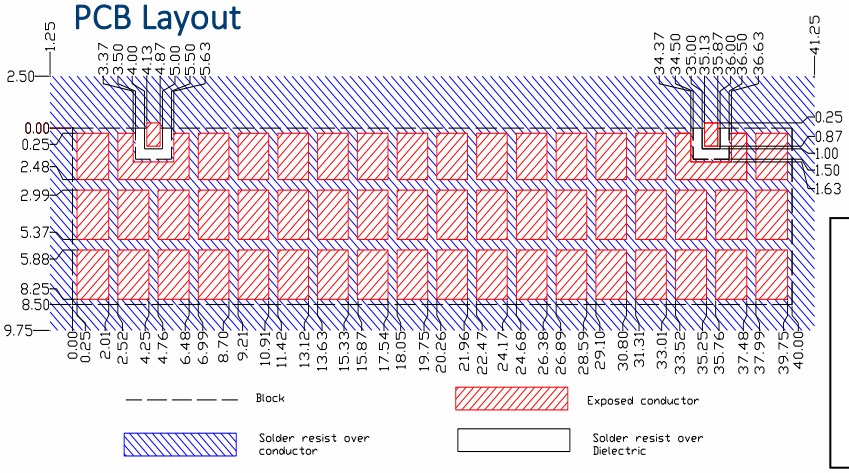
Specification Allowance	
Insertion Loss	0.1 dB
Return Loss	1.0 dB
Attenuation	1.0 dB

Mechanical Drawing



Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	40.0	max
B	4.90	max
C	1.0	0.13
D	0.5	0.13
E	0.5	0.13
F	4.5	0.25
G	31.0	0.13
H	9.3	max
I	1.0	0.13
J	1.4	0.2

PCB Layout



Combined 40mm & 50mm universal footprint PCB layout is also available.

IMPORTANT: Please assure >=30mils (0.75mm) thickness of dielectric beneath the I/O Pads and the surrounding clearance zone down to the ground plane.

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

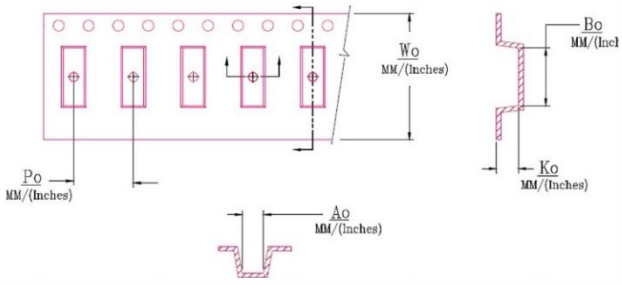
Recommended solder: 6 mils of SAC305 with reflow including 120s of soak at 217°C, and up to 30 sec peak at 241°C.

Packaging and Marking

Dimension	Units	Spec.
Reel Diameter	mm	330
Reel Weight	kg	
Reel Quantity	ea.	250

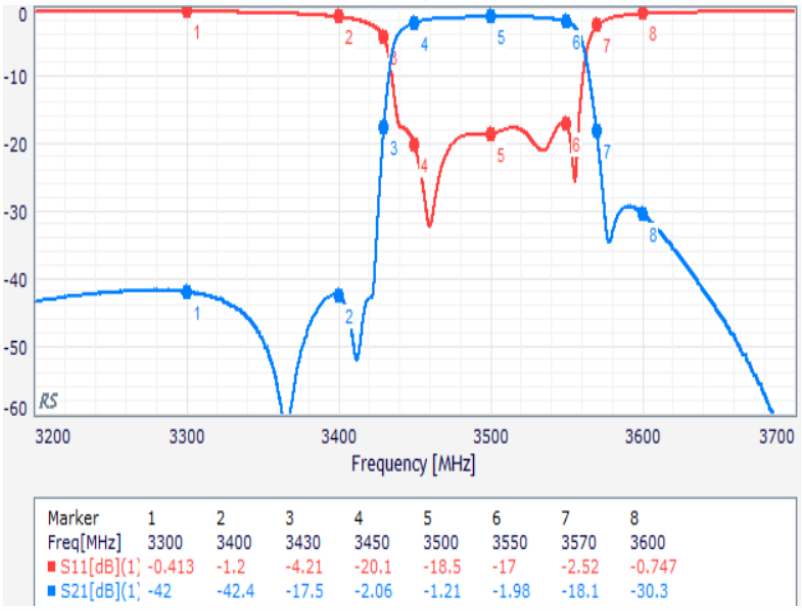
Product Marking

CTS
50B
YWW



W_o	A_o	B_o	K_o	P_o
2.205 in	0.272 in	1.587 in	0.378 in	0.630 in
56.0 mm	6.9 mm	40.3 mm	9.6 mm	16.0 mm

Electrical Response



Marker	1	2	3	4	5	6	7	8
Freq[MHz]	3300	3400	3430	3450	3500	3550	3570	3600
S11[dB](1)	-0.413	-1.2	-4.21	-20.1	-18.5	-17	-2.52	-0.747
S21[dB](1)	-42	-42.4	-17.5	-2.06	-1.21	-1.98	-18.1	-30.3