MMB460A - Preliminary

4.5-4.7Hz MMB Series TDD BPF

Features

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

Part Dimensions: 40.0 × 5.0 × 9.3 mm • 4.8 g
Materials: Ag plated ceramic block with tin plated brass shield

Applications

- Wireless Infrastructure applications
- High-performance carrier-grade TDD Pico-cells.

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.

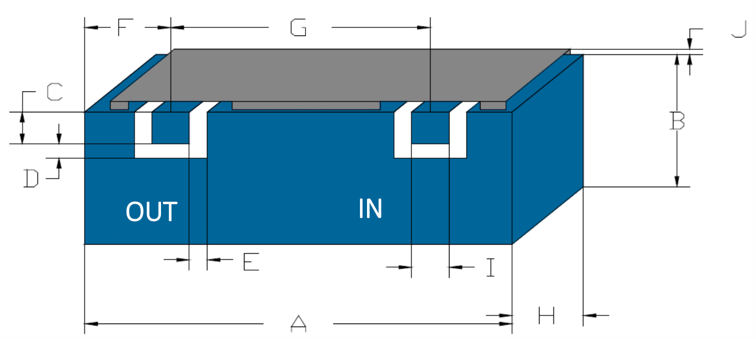
Electrical Specifications

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	-	-	-	10.0 Watt max
Peak Input Power	-	-	-	100 Watt max
Input-Output Response				
Passband Insertion Loss (20 MHz avg)	4500-4700	1.7 dB	1.9 dB max	2.0 dB max
Passband Ripple	4500-4700	1.0 dB	1.4 dB max	1.5 dB max
Passband Return Loss	4500-4700	14 dB	13 dB min	12 dB min
Attenuation:	1-4100	55 dB	50 dB min	50 dB min
	4101-4400	32 dB	30 dB min	30 dB min
	4400-4460	22 dB	20 dB min	20 dB min
	4740-4800	22 dB	20 dB min	20 dB min
	4800-5170	32 dB	30 dB min	30 dB min
	5170-5950	55 dB	50 dB min	50 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.

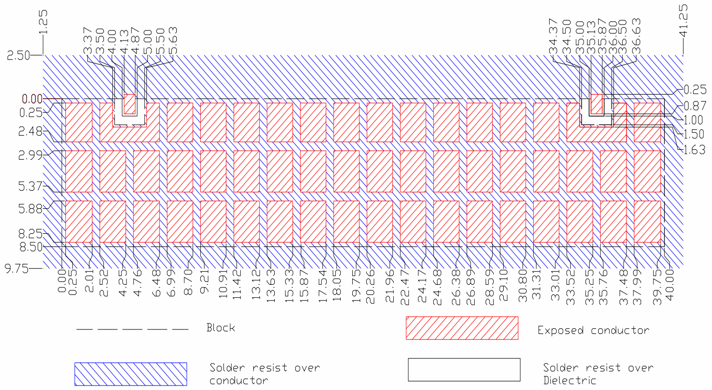
Specification Allowance	
Insertion Loss	0.1 dB
Return Loss	1.0 dB
Attenuation	1.0 dB

Mechanical Drawing



Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	39.7	0.30
B	3.1	0.30
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



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.

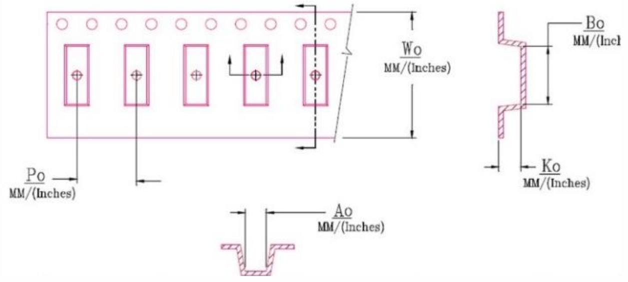
Recommended solder: 6 mils of SAC305 with reflow including 120s of soak at 217°C, and up to 30 sec peak at 241°C.

Packaging and Marking

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

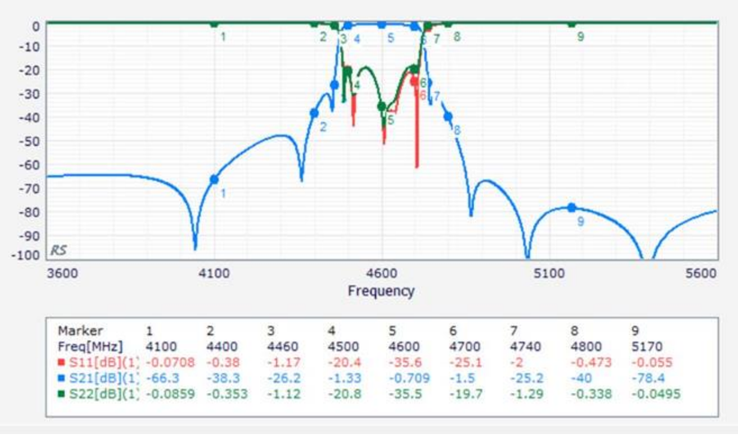
Product Marking

CTS
460
YWW



W_o	A_o	B_o	K_o	P_o
2.205 in 56.0 mm	0.213 in 5.4 mm	1.587 in 40.3 mm	0.378 in 9.6 mm	0.630 in 16.0 mm

Electrical Response



Marker	1	2	3	4	5	6	7	8	9
Freq[MHz]	4100	4400	4460	4500	4600	4700	4740	4800	5170
■ S11[dB](1	-0.0708	-0.38	-1.17	-20.4	-35.6	-25.1	-2	-0.473	-0.055
■ S21[dB](1	-66.3	-38.3	-26.2	-1.33	-0.709	-1.5	-25.2	-40	-78.4
■ S22[dB](1	-0.0859	-0.353	-1.12	-20.8	-35.5	-19.7	-1.29	-0.338	-0.0495