MTB0990A

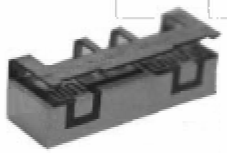
9.7-10.1 GHz Bandpass Filter

Features

- Low Loss with High Rejection
- Low ripple

Applications

- Wireless Infrastructure applications



Part Dimensions: 9.0 x 2.5 x× 3.1 mm • 0.15 g
Materials: Ag plated ceramic block with tin plated brass shield

Description

Surface mount ceramic bandpass filter. Superior rejection, insertion loss, reliability, as well as both peak and average power handling compared other bandpass filter technologies.

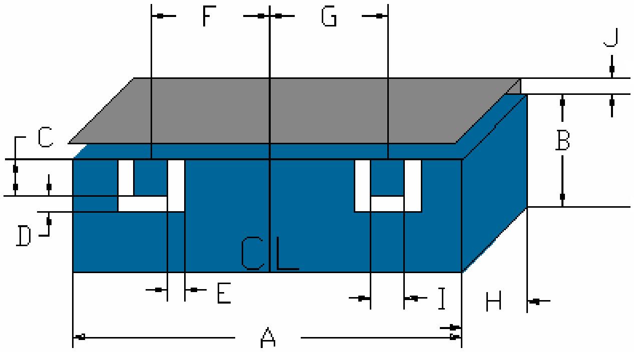
Electrical Specifications

Parameter	Frequency (GHz)	Typical at 25°C	Spec. at 25°C	Spec. over -40°C to +85°C
Nominal Impedance	-	50 ohms	-	-
Average Input Power	-	-	-	2.0 Watt max
Peak Input Power	-	-	-	20 Watt max
Input-Output Response				
Passband Insertion Loss (single point)	9.70 – 10.10	2.5 dB	3.0 dB min	3.0 dB min
Passband Return Loss	9.70 – 10.10	14 dB	12 dB min	12 dB min
Group Delay Variation (Max-Min)	9.70 – 10.10	3.0 ns	10 ns max	10 ns max
Attenuation:	1 – 9.22	34 dB	30 dB min	30 dB min
	9.50	33 dB	20 dB min	20 dB min
	9.60	11 dB	10 dB min	10 dB min
	10.20	10.5 dB	10 dB min	10 dB min
	10.30	28 dB	20 dB min	20 dB min
	10.58	34 dB	30 dB min	30 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.

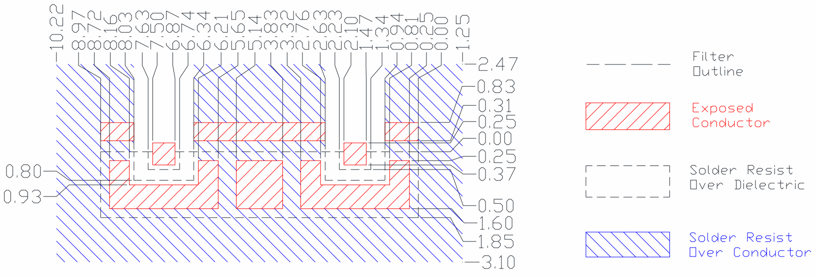
Specification Allowance	
Insertion Loss	0.1 dB
Return Loss	1.0 dB
Attenuation	1.0 dB

Mechanical Drawing



Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	8.97	max
B	1.67	max
C	0.50	0.13
D	0.30	0.13
E	0.40	0.13
F	2.70	0.13
G	2.70	0.13
H	3.10	max
I	0.89	0.13
J	0.63	0.20

PCB Layout

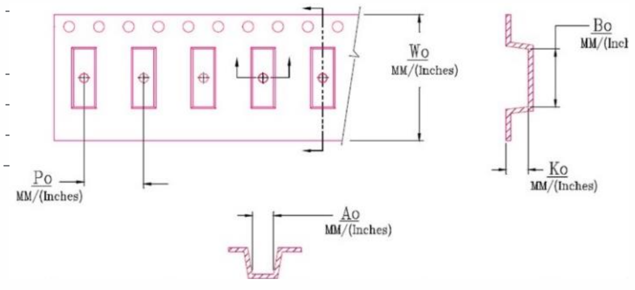


IMPORTANT: Please assure >=30mils (0.75mm) thickness of dielectric beneath the I/O Pads and the surrounding clearance zone down to the ground plane.

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

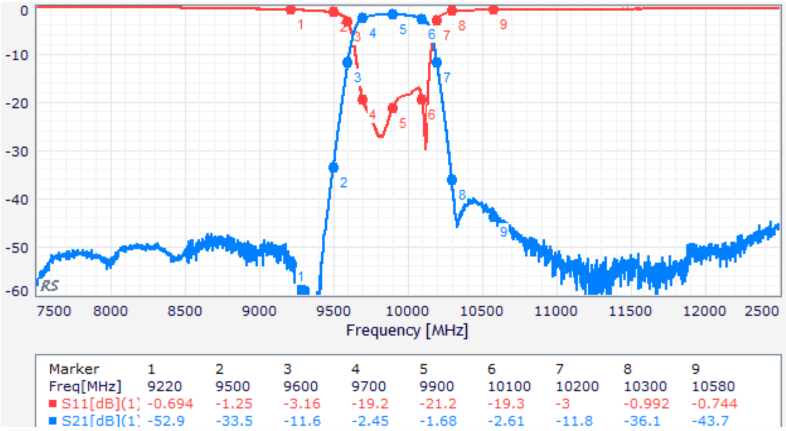
Recommended solder: 4-6 mils of SAC305 with reflow incl. 120s of soak at 217°C, and up to 30 sec peak at 241°C.

Packaging and Marking



W_o	A_o	B_o	K_o	P_o
0.945 in 24.0 mm	0.098 in 2.50 mm	0.366 in 9.30 mm	0.132 in 3.35 mm	0.315 in 8.0 mm

Electrical Response



Marker	1	2	3	4	5	6	7	8	9
Freq[MHz]	9220	9500	9600	9700	9900	10100	10200	10300	10580
🟥 S11[dB](1	-0.694	-1.25	-3.16	-19.2	-21.2	-19.3	-3	-0.992	-0.744
🟦 S21[dB](1	-52.9	-33.5	-11.6	-2.45	-1.68	-2.61	-11.8	-36.1	-43.7