

MCB2007A - Preliminary

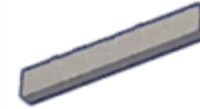
19.20-20.950GHz mmWave ClearPlex Bandpass Filter

Features

- High-Q Low-Loss with High Rejection

Applications

- mmWave carrier-grade Infrastructure applications



Part Dimensions: EST 13.5 × 2.7 × 1.3 mm • <1.0 g

Description

Surface mount bandpass filter with I/Os that can interface to micro-strip transmission lines on the top-layer of customer PCBs. Superior rejection, insertion loss, reliability, temperature stability as well as both peak and average power handling compared to other mmWave 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	-	-	-	5.0 Watt max
Peak Input Power	-	-	-	50 Watt max

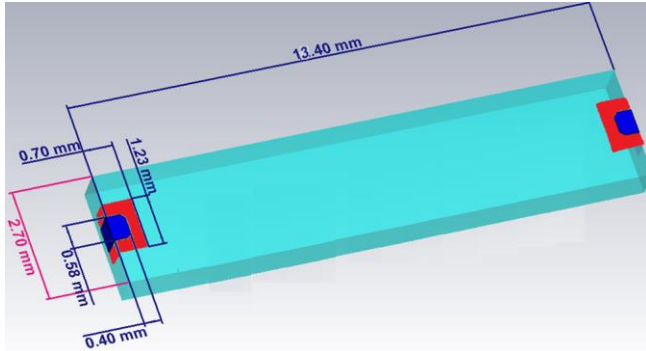
Input-Output Response

Passband Insertion Loss (500 MHz avg)	19.20 - 20.95			3.0 dB Max
Passband Ripple (over 250MHz)	19.20 - 20.95			0.6 dB Max
Passband Ripple (over passband)	19.20 - 20.95			1.2 dB Max
Passband Return Loss	19.20 - 20.95			14 dB Goal 12 dB Min
Attenuation:	< 17.30			40 dB Min
	23.50 - 25.25			35-40 dB Goal

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.

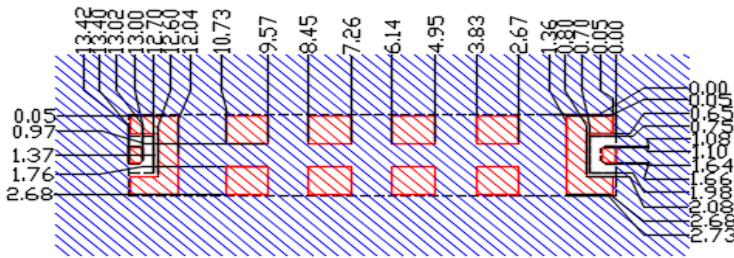
Specification Allowance	
Insertion Loss	0.1 dB
Return Loss	1.0 dB
Attenuation	1.0 dB

Mechanical Drawing



Dim.	Nominal (mm)	Tolerance (±mm or Max)
A	13.40	0.20
B	2.35	0.30
C		
D		
E		
F		
G		
H	1.10	0.20
I		
J		

PCB Layout



Layout and length is different from the MCB for 28-30.5GHz.

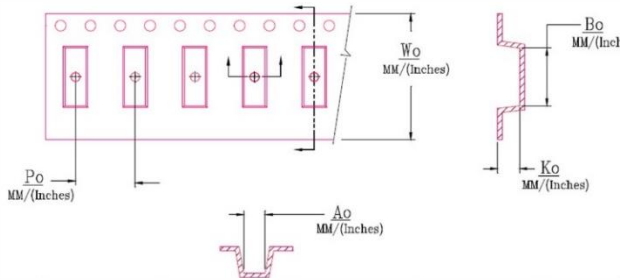
Legend for PCB layout:

- Filter Outline
- Solder Resist Over Dielectric
- ▨ Exposed Conductor
- ▨ Solder Resist Over Conductor

Packaging and Marking

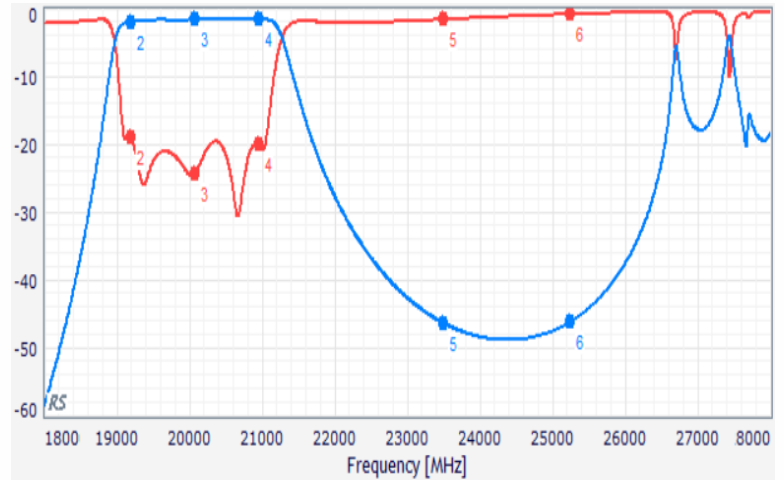
Dimension	Units	Spec.	Product Marking (TBD on the filters)
Reel Diameter	mm	330	
Reel Weight	kg	x.x	
Reel Quantity	ea.	Xxx	

Customer Feed Direction → → →



W_0	A_0	B_0	K_0	P_0
1.732 in	x.xxx in	x.xxx in	x.xxx in	x.xxx in
44.0 mm	x.xx mm	x.xx mm	x.xx mm	x.xx mm

Electrical Response



Marker	2	3	4	5	6
Freq[MHz]	19200	20075	20950	23500	25250
S11[dB][1]	-18.9	-24.2	-20	-1.46	-0.681
S21[dB][1]	-1.8	-1.46	-1.45	-46.2	-46