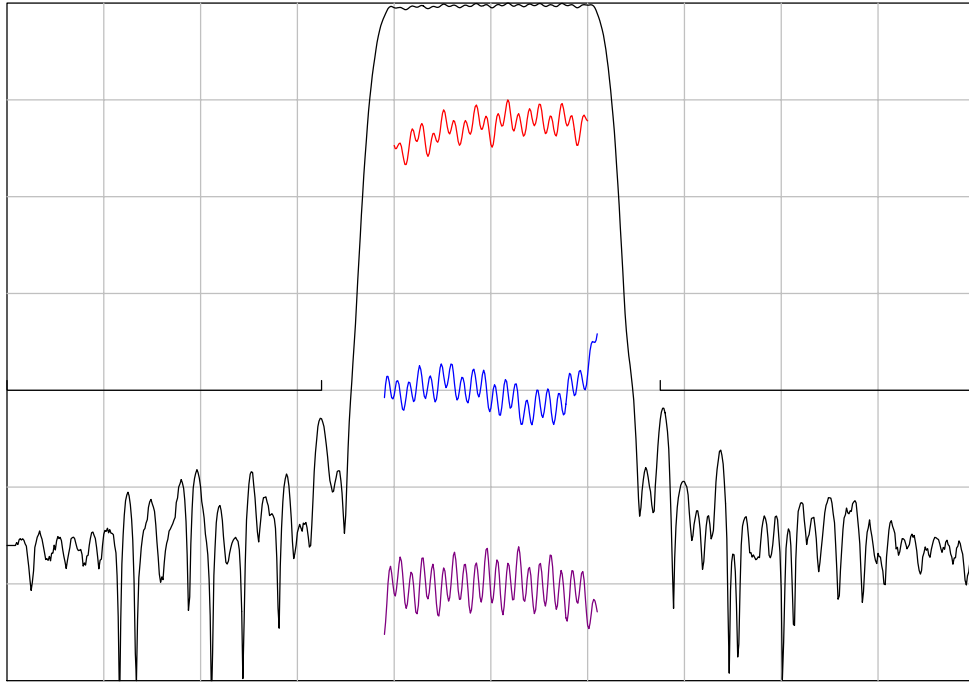




DESCRIPTION

- 140 MHz SAW bandpass filter with 4.4 MHz bandwidth.
- 27.2 x 12.7 mm DIP package.
- RoHS compliant.

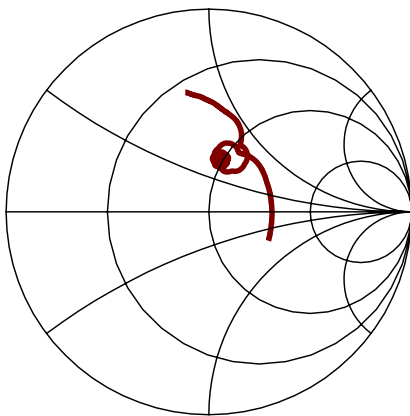
TYPICAL PERFORMANCE



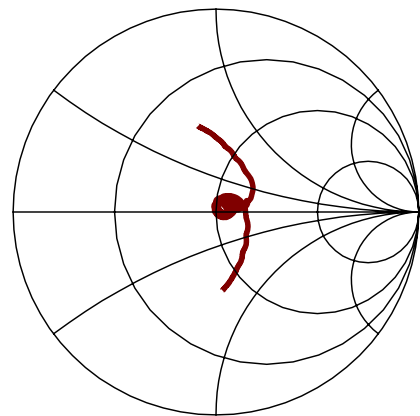
Horizontal:
Vertical from Top:

Frequency : 2 MHz/div
Relative Magnitude : 10 dB/div
Relative magnitude : 1 dB/div
Phase Linearity : 5 deg/div
Group Delay : 100 ns/div

S11



S22





SPECIFICATION

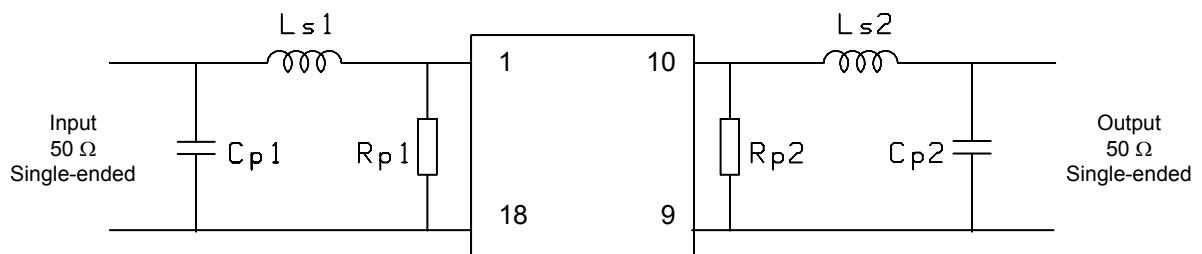
Parameter	Min	Typ	Max	Units
Center Frequency (F_C) ¹	139.92	140.00	140.08	MHz
Minimum Insertion Loss	-	19.9	21.5	dB
1.5 dB Bandwidth ²	4.40	4.42	-	MHz
25 dB Bandwidth ²	-	5.39	5.44	MHz
30 dB Bandwidth ²	-	5.49	5.70	MHz
40 dB Bandwidth ²	-	5.86	6.10	MHz
Passband Variation ($F_C \pm 2.0$ MHz)	-	0.6	1.0	dB p-p
Phase Linearity ($F_C \pm 2.2$ MHz)	-	3	6	deg p-p
Group Delay Variation ($F_C \pm 2.2$ MHz) ³	-	80	100	ns p-p
Absolute Delay	-	2.26	2.30	us
Input VSWR ($F_C \pm 2.2$ MHz)	-	2.0	2.3	:1
Output VSWR ($F_C \pm 2.2$ MHz)	-	2.0	2.3	:1
Ultimate Rejection ($F_C \pm 3.5$ to $F_C \pm 60$ MHz)	40	45	-	dB
Substrate Material	112 LiTaO ₃			
Ambient Temperature (T_{ref})	-	25	-	°C

- Notes:
1. Defined as the average of the lower and upper 3 dB frequencies.
 2. All dB levels are defined relative to the insertion loss.
 3. A smoothing aperture of 0.125 MHz may be used for this measurement.
 4. Typical change of filter response with temperature is: $\Delta f = (T - T_{ref}) \cdot T_c \cdot F_C$ in ppm.

MAXIMUM RATINGS

Parameter	Min	Typ	Max	Units
Storage Temperature Range	-40	25	85	°C
Material Coefficient of Frequency (T_c) ⁴	-	-23	-	ppm/°C
Input Power Level	-	0	10	dBm

MATCHING CIRCUIT



Typical component values:
(Minimum inductor Q = 45)

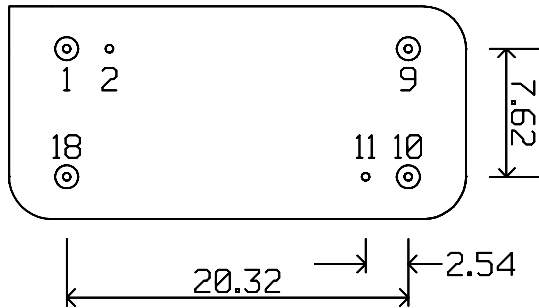
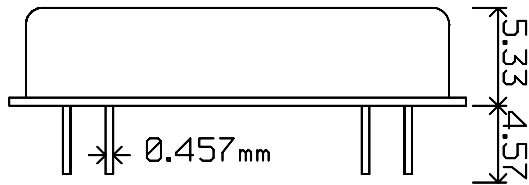
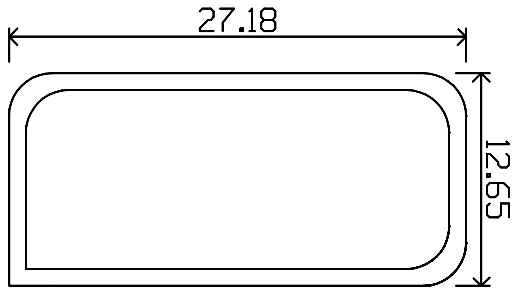
L_{s1}	=	15	nH	L_{s2}	=	18	nH
C_{p1}	=	68	pF	C_{p2}	=	68	pF
R_{p1}	=	22	Ω	R_{p2}	=	22	Ω

Notes:

1. Recommend the use of $\pm 2\%$ tolerance components.
2. Component values shown are for guidance only and may change depending on board layout.



PACKAGE OUTLINE



Units: mm

Dimensions are nominal in mm. All tolerances are ± 0.15 mm except overall length and width and lead thicknesses.

Pin Configuration:

Input:	1
Input Return:	18
Output:	10
Output Return:	9
Ground:	2, 11

ISO 9001
Registered

All specifications are believed to be accurate and reliable. However, MNC reserves the right to make changes without notice.
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