

# 100804C

FB178.1-12 10 MHz Bandwidth 178.1 MHz Bandpass Filter

## Specifications

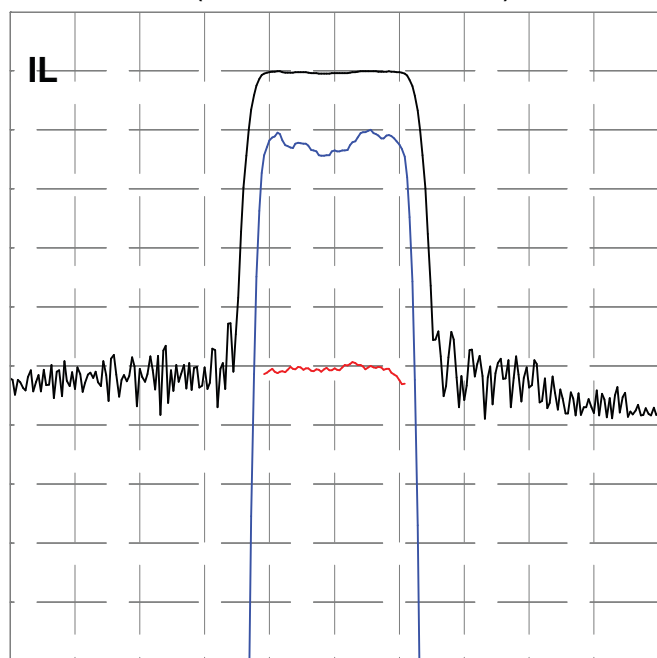
Parameter	Symbol	Min	Typical	Max	Unit
Center Frequency	$F_0$		178.1		MHz
Bandwidth	B		10		MHz
-3dB Bandwidth	$B_3$	12.1	12.1		MHz
-40dB Bandwidth	$B_{40}$		14.9	15.1	MHz
Delay	$T_0$	1.45	1.458	1.47	$\mu\text{sec}$
Insertion Loss	IL		32.2	34	dB
Amplitude Ripple			0.4	1	dB <sub>P-P</sub>
Phase Ripple			1.7	2.5	deg <sub>P-P</sub>
Rejection		44	47		dB
Spurious for $ t - T_0  > .9T_0$			-53	-50	dB
Substrate Material		38YX Q			

### Notes

- Center Frequency ( $F_0$ ) and Bandwidth (B) are defined, not measured.
- Insertion Loss is the minimum loss for  $|f - F_0| < .5B$
- Ripple spec applies to the  $|f - F_0| < .4B$ , and is doubled for  $.4B < |f - F_0| < .5B$
- Rejection spec applies to  $(B_{40} \text{ Spec} - B/2) < |f - F_0| < F_0/2$
- Specifications are at 22 °C only. Unit will operate undamaged from -54 °C to 125 °C with shifts  $dF_0 = -x * F_0$ ,  $dT_0 = x * T_0$ , where  $x = 3E-8 * (\text{temperature} - 22 \text{ °C})^2$

## Typical Performance

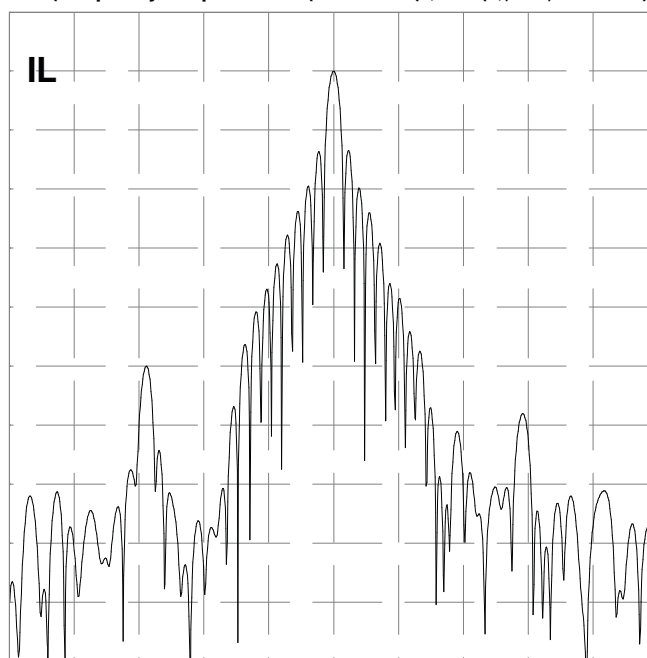
**Frequency Response**  
(Best Fit Linear Phase Removed)



10 dB/div, 1 dB/div, 10 deg/div, 5.000 MHz/div

**Impulse Response**

FFT(Frequency Response \* Cos(0.5 \* PI \* MIN(1, MAX(0, |f - F0| \* 2.0 / B - 1.0))))^2

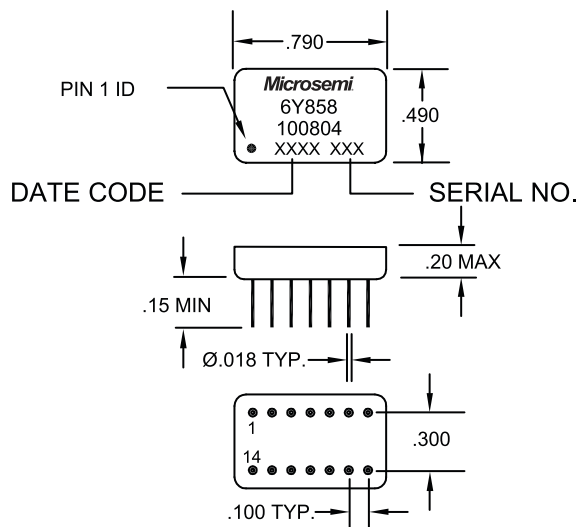


10 dB/div, 0.500 us/div

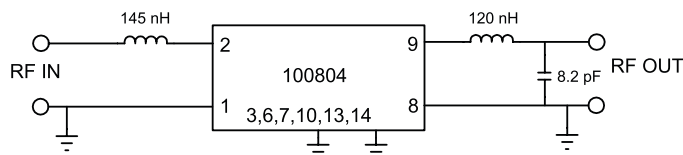
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## Package Outline



## Matching



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