

101063C

CP120-10-12.7 120 MHz Correlator 10 MHz Chip Rate

Specifications

Parameter	Symbol	Min	Typical	Max	Unit
Center Frequency	F_0		120		MHz
Chip Rate	B		10		MHz
Number of Chips	N		127		
Delay	T_0	14.5	14.524	14.55	μsec
Insertion Loss	IL		13.5	15	dB
Correlation Gain		19.5	21.4		dB
Pulse Width at -3 dB			0.0813	0.0846	μsec
Sidelobes for $ t - T_0 < T$			-22	-21	dB
Time Spurious for $ t - T_0 > T$			-55	-46	dB
Substrate Material		40YX-Q			

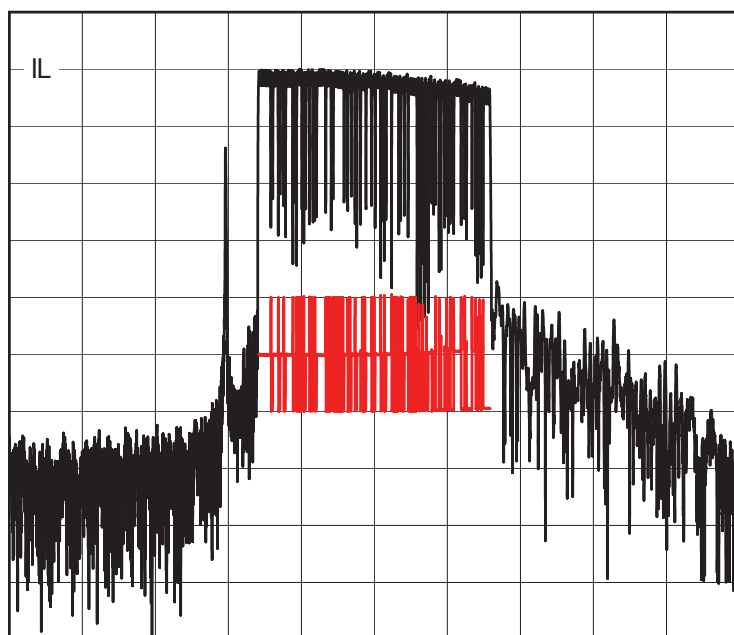
Notes

- Center Frequency (F_0) and Chip Rate (B) are defined, not measured.
- Insertion Loss (IL) is measured from peak modulated input to peak correlated output.
- Delay (T_0) is from the center of modulated input to peak correlated output.
- Correlation Center Frequency (FC) is determined by best linear fit to impulse response phase.
- 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 $x = 3E-8 * (\text{temperature} - 22 \text{ }^\circ\text{C})^2$

Typical Performance

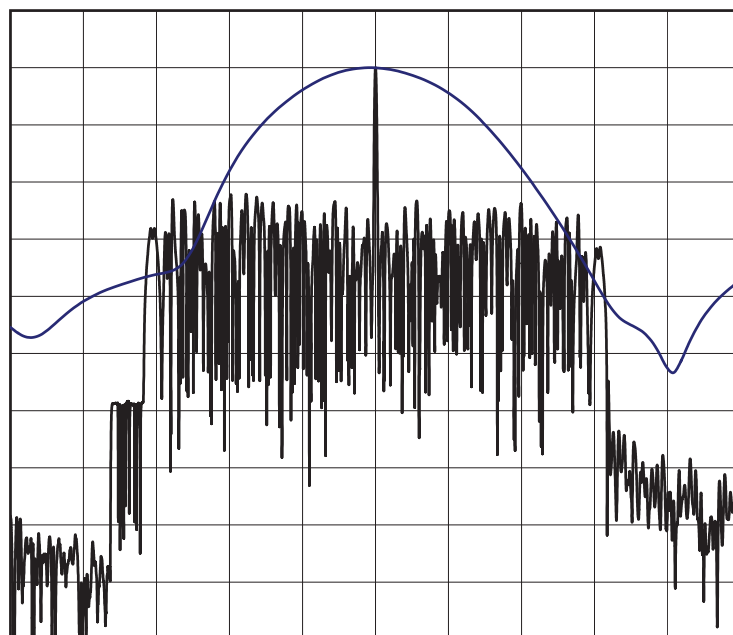
Impulse Response (Best Fit Linear Phase Removed)

$$\text{FFT}(S21(f)0\exp(+j2\pi T_0 f))0\exp(-j2\pi F_C t)$$



Correlated Pulse Response

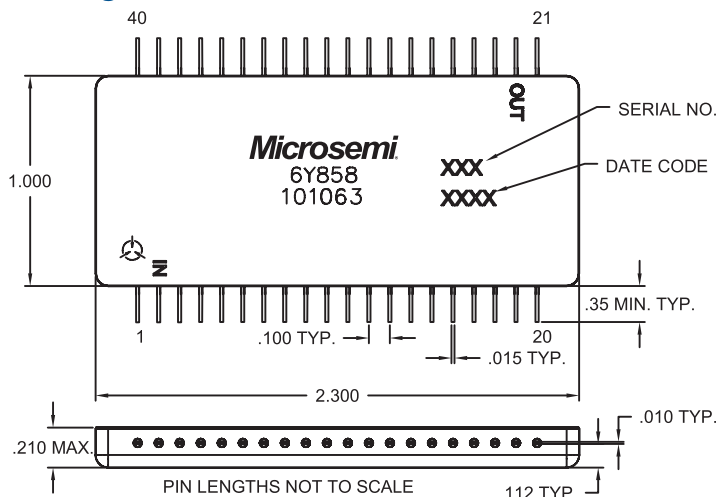
$$\text{Impulse Response (t)} * \text{Ideal Modulated Input}$$



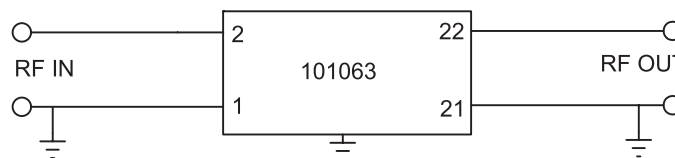
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Package Outline



Matching



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