

101262C

CP60-2.5-5.2 60 MHz Correlator 2.5 MHz Chip Rate

Specifications

Parameter	Symbol	Min	Typical	Max	Unit
Center Frequency	F_0		60		MHz
Chip Rate	B		2.5		MHz
Number of Chips	N		13		
Delay	T_0	3.3	3.35	3.4	μsec
Insertion Loss	IL		21	22	dB
Correlation Gain		10.5	11		dB
Pulse Width at -3 dB			0.284	0.294	μsec
Sidelobes for $ t - T_0 < T$			-40	-30	dB
Time Spurious for $ t - T_0 > T$			-44	-40	dB
Substrate Material		40YX-Q			

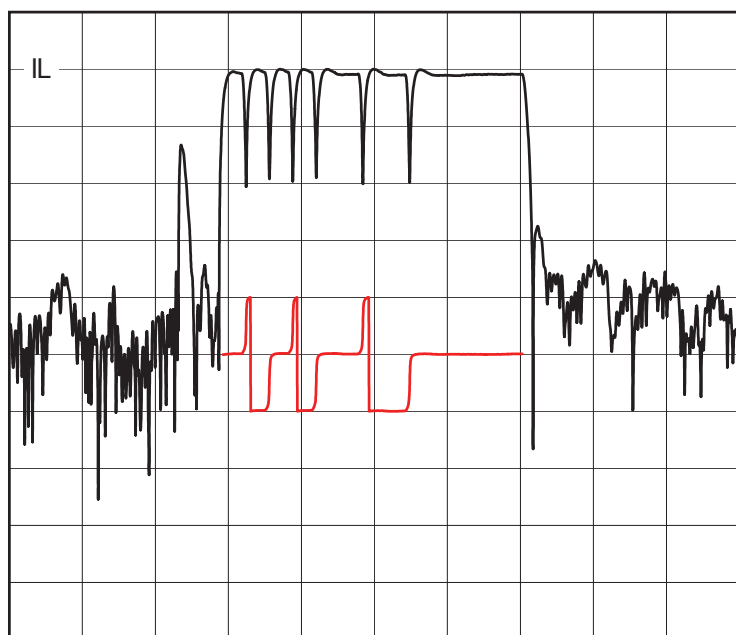
Notes

- 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)

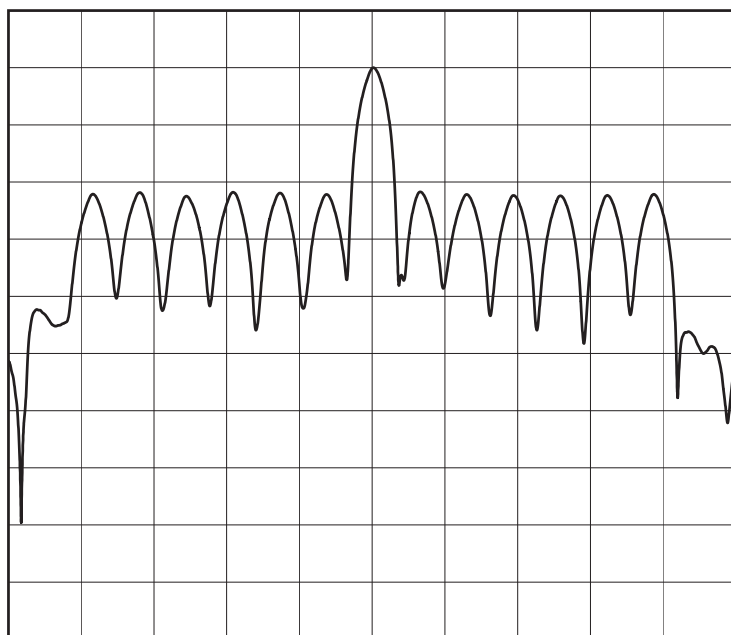
$$\text{FFT}(S21(f)) \exp(+j2\pi T_0 f) \exp(-j2\pi F_C t)$$



10 dB/div, 180 deg/div, 1.25 $\mu\text{s}/\text{div}$

Correlated Pulse Response

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

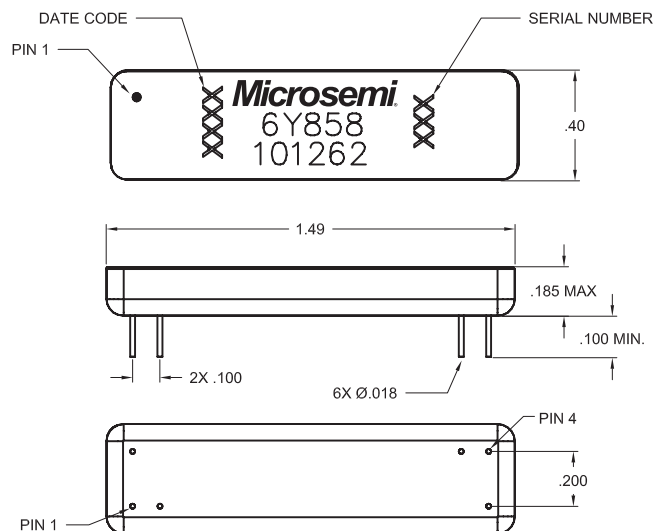


10 dB/div, 1.25 $\mu\text{s}/\text{div}$

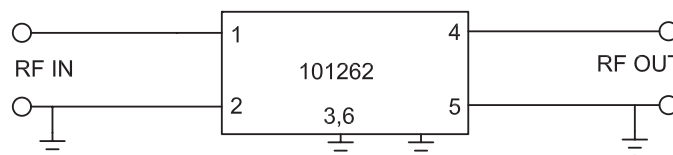
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Package Outline



Matching



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