101341C

RD500-100-10W-500 MHz Dispersive Delay Line 100 MHz Bandwidth

Specifications

Parameter	Symbol	Min	Typical	Max	Unit
Center Frequency	F_0		500		MHz
Bandwidth	B		100		MHz
Dispersion	T		10		µsec
Delay	T_0	7.4	7.444	7.48	µsec
Insertion Loss	IL		35.2	39	dB
Slope	S_0	–0.0982	–0.098	–0.0977	µs/MHz
Pulse Width at –3 dB			0.0118	0.0124	µsec
Sidelobes for $\|t - T_0\| < T$			–28.7	–24	dB
Time Spurious for $\|t - T_0\| > T$			–66	–60	dB
Substrate Material	YZ-LN				

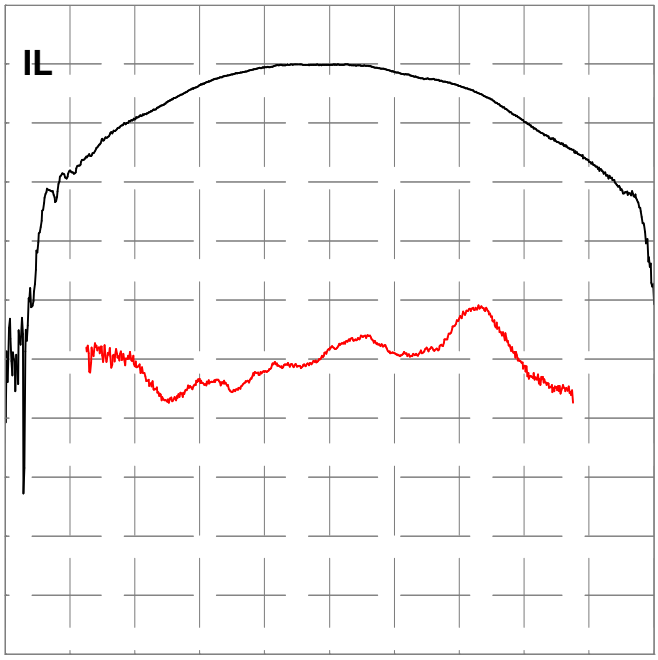
Notes

1. Center Frequency (F_0) and Bandwidth (B) are defined, not measured. Dispersion (T) is defined as $|B * S_0|$.
2. Insertion Loss is the minimum loss for $|f - F_0| < .5B$
3. Delay and Slope determined by best fit quadratic pulse in $|f - F_0| < .5B$.
4. Specifications are at 22 °C only. Unit will operate undamaged from –54 °C to 125 °C with shifts $dF_0 = -x * F_0$, $dT_0 = x * (T_0 + S_0 * F_0)$, $dS_0 = x * 2 * S_0$, where x = 94E-6 * (temperature – 22 °C)

Typical Performance

Frequency Response

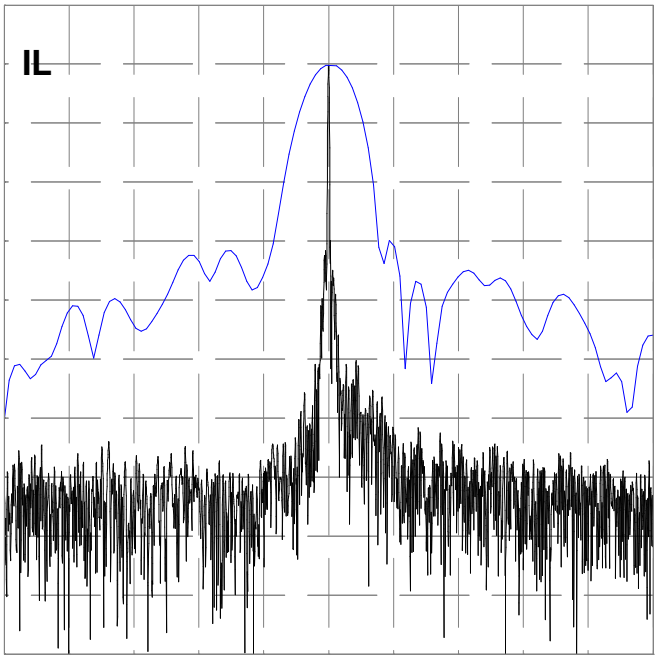
(Best Fit Quadratic Phase Removed)



10 dB/div, 10 deg/div, 12.000 MHz/div

Compressed Pulse Response

FFT(Frequency Response*Cos(0.5*PI*MIN(1,MAX(0,|f-F0|*10.0/B-5.0)))^2)



10 dB/div, 0.667 us/div, 0.020 us/div

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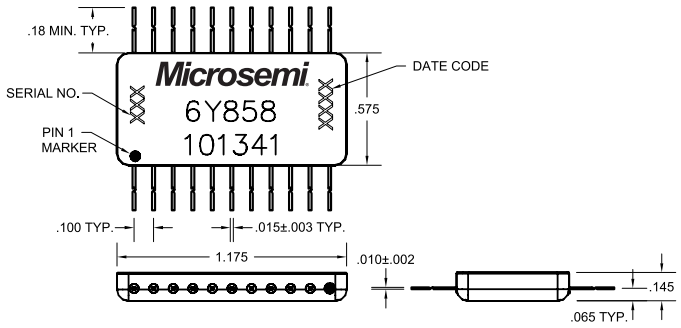
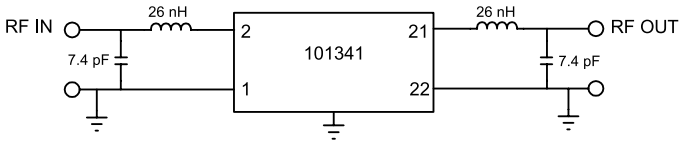
Package Outline



Matching



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