

101518C

ID500-145-3U- 500 MHz Dispersive Delay Line 145 MHz Bandwidth

Specifications

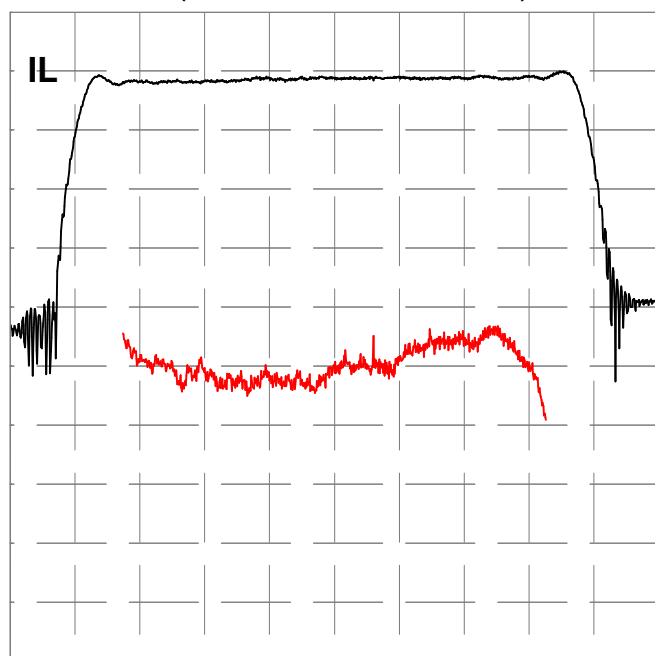
Parameter	Symbol	Min	Typical	Max	Unit
Center Frequency	F_0		500		MHz
Bandwidth	B		145		MHz
Dispersion	T		3		μsec
Delay	T_0	2.46	2.499	2.52	μsec
Insertion Loss	IL		30.3	34	dB
Slope	S_0	-0.021	-0.0208	-0.0205	$\mu\text{s}/\text{MHz}$
Pulse Width at -3 dB			0.0057	0.0058	μsec
Sidelobes for $ t - T_0 < T$			-12	-9	dB
Time Spurious for $ t - T_0 > T$			-60	-56	dB
Substrate Material	YZ-LN				

Notes

- Center Frequency (F_0) and Bandwidth (B) are defined, not measured. Dispersion (T) is defined as $|B * S_0|$.
- Insertion Loss is the minimum loss for $|f - F_0| < .5B$
- Delay and Slope determined by best fit quadratic pulse in $|f - F_0| < .5B$.
- 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 $x = 94E-6 * (\text{temperature} - 22 \text{ °C})$

Typical Performance

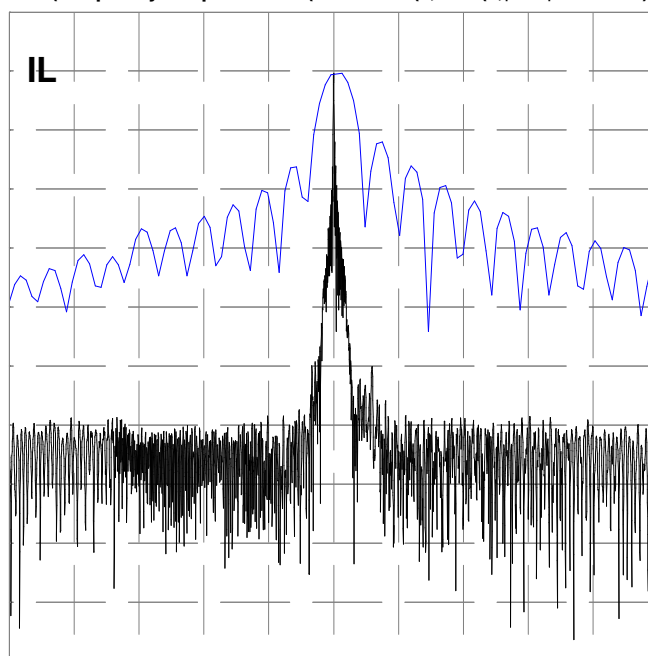
Frequency Response
(Best Fit Quadratic Phase Removed)



10 dB/div, 10 deg/div, 20.000 MHz/div

Compressed Pulse Response

FFT(Frequency Response * Cos(0.5 * PI * MIN(1, MAX(0, |f - F0| * 5.3 / B - 2.6))))^2

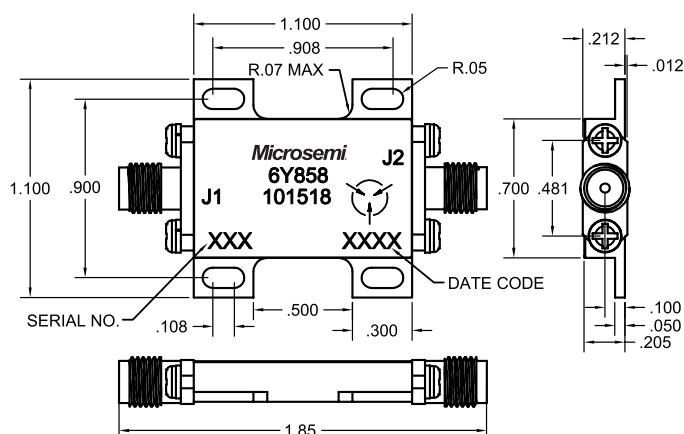


10 dB/div, 0.500 $\mu\text{s}/\text{div}$, 0.014 $\mu\text{s}/\text{div}$

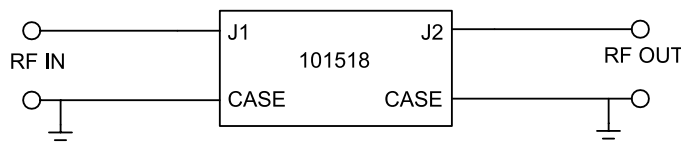
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Package Outline



Matching



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