

# 101401C

## RD50-14-10W- 50 MHz Dispersive Delay Line 14 MHz Bandwidth

### Specifications

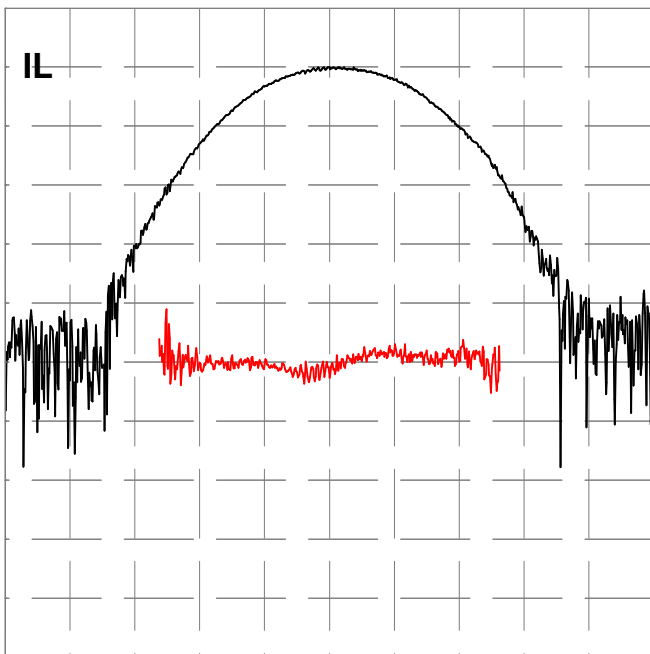
Parameter	Symbol	Min	Typical	Max	Unit
Center Frequency	$F_0$		50		MHz
Bandwidth	B		14		MHz
Dispersion	T		10		$\mu\text{sec}$
Delay	$T_0$	9.12	9.167	9.24	$\mu\text{sec}$
Insertion Loss	IL		32.6	33	dB
Slope	$S_0$	-0.705	-0.7	-0.695	$\mu\text{s}/\text{MHz}$
Pulse Width at -3 dB			0.0926	0.0931	$\mu\text{sec}$
Sidelobes for $ t - T_0  < T$			-37.4	-34	dB
Time Spurious for $ t - T_0  > T$			-52	-48	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

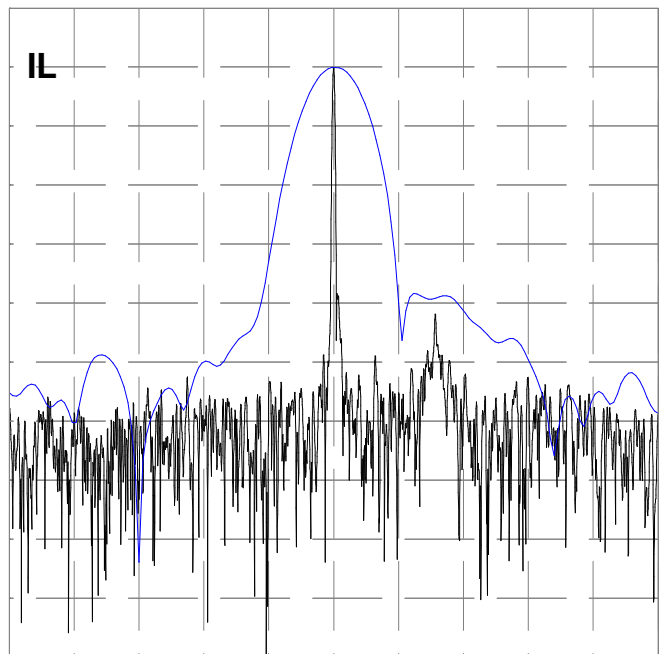
**Frequency Response**  
(Best Fit Quadratic Phase Removed)



10 dB/div, 10 deg/div, 2.400 MHz/div

**Compressed Pulse Response**

FFT(Frequency Response \* Cos(0.5 \* PI \* MIN(1, MAX(0, |f - F0| \* 2.8 / B - 1.4))))^2

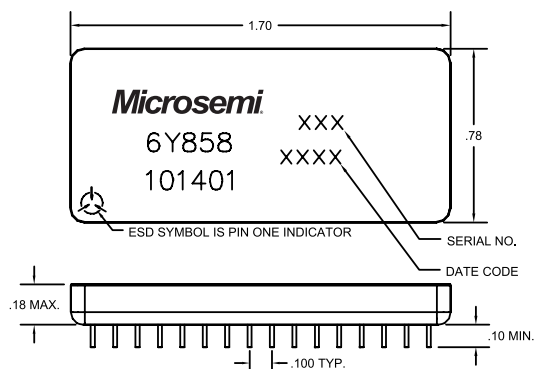


10 dB/div, 3.333  $\mu\text{s}/\text{div}$ , 0.143  $\mu\text{s}/\text{div}$

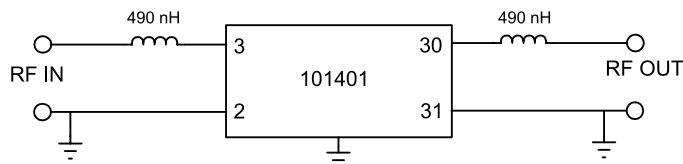
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## Package Outline



## Matching



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