



## □ Electrical Characteristics

### Maximum Ratings

Parameters Description	Unit	Minimum	Typical	Maximum
Operating Temperature Range	°C	-20	-	90
Storage Temperature Range	°C	-30	-	90
Maximum DC Voltage	V	-	-	10
Maximum Input Power	dBm	-	-	10
Source Impedance (single ended) <sup>(1)</sup>	Ω	-	50	-
Load Impedance (single ended) <sup>(1)</sup>	Ω	-	50	-
Package type & size	D1			
Length x Width	mm <sup>2</sup>	-	20.0 x 9.8	-
Height	mm	-	-	1.8

### Electrical Specification

Parameters Description	Unit	Minimum	Typical	Maximum
Center Frequency (Fo)	MHz	-	20.0	-
Insertion Loss at Fo	dB	-	9.3	12.0
Group Delay Variation at Fo ± 0.05 MHz	nsec	-	258	350
Absolute Delay at Fo	usec	-	2.6	2.9
Passband Ripple Variation at Fo ± 0.05 MHz	dB	-	0.13	0.90
Bandwidth at -1dB	MHz	0.15	0.24	-
Bandwidth at -3dB	MHz	-	0.38	-
Bandwidth at -40dB	MHz	-	1.16	1.30
Rejection level	dB	-	35	-
Relative Attenuation				
DC ~ 15MHz	dB	40	48	-
@ 40MHz	dB	33	40	-
Temperature Coefficient	ppm/°C	-	-18	-

**Notes :** (1) With Matching Network (Ref. Testing Environment Circuit as shown below).

Those impedances could be modified with different impedance values and/or structures, if necessary.



# БУТИС

Научно-производственное  
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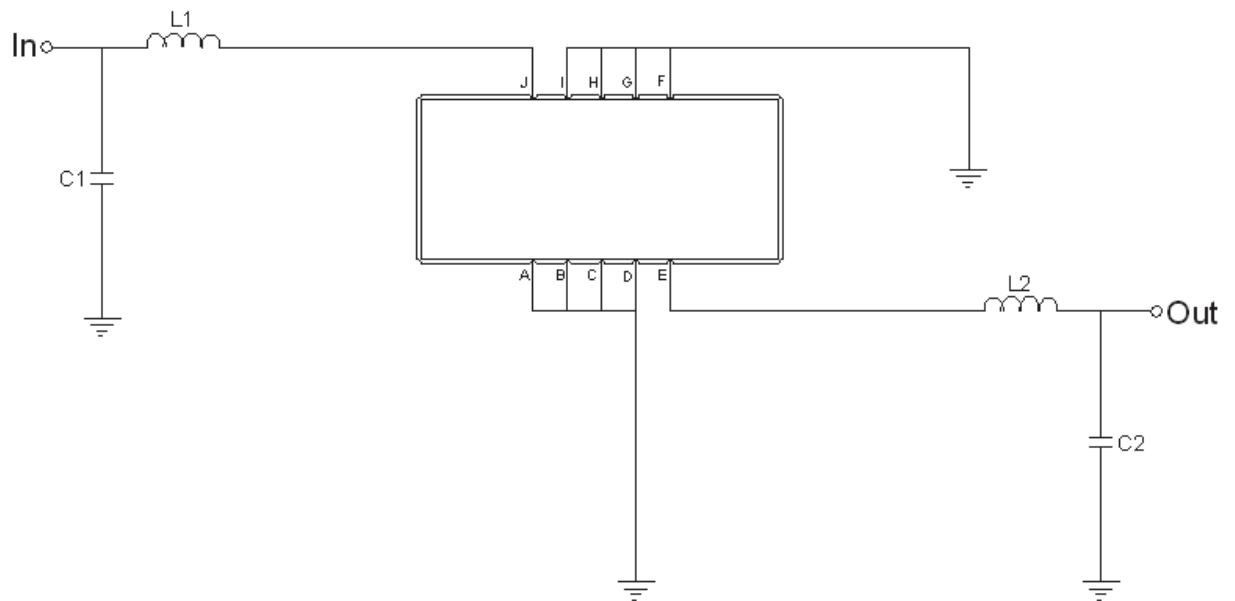
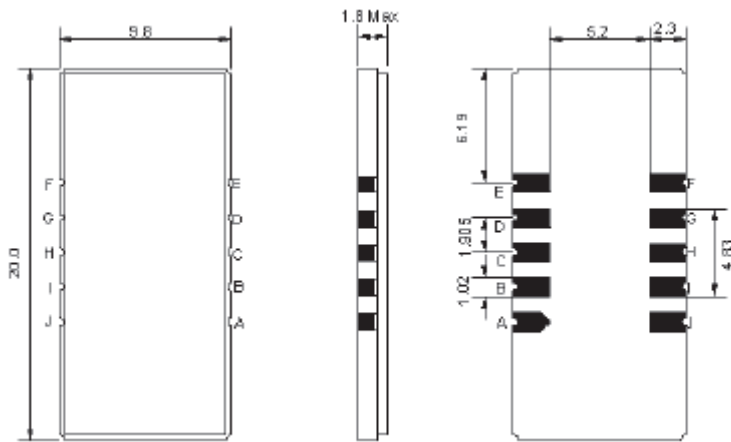
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121357, г. Москва  
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E-mail: [butis.m@ru.net](mailto:butis.m@ru.net)

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## Package Dimensions



$L1 = 820 \text{ nH}$ ;  $L2 = 1000 \text{ nH}$ ;  $C1 = 160 \text{ pF}$ ;  $C2 = 270 \text{ pF}$

J – In

E – Out

A, B, C, D, F, G, H, I – Ground



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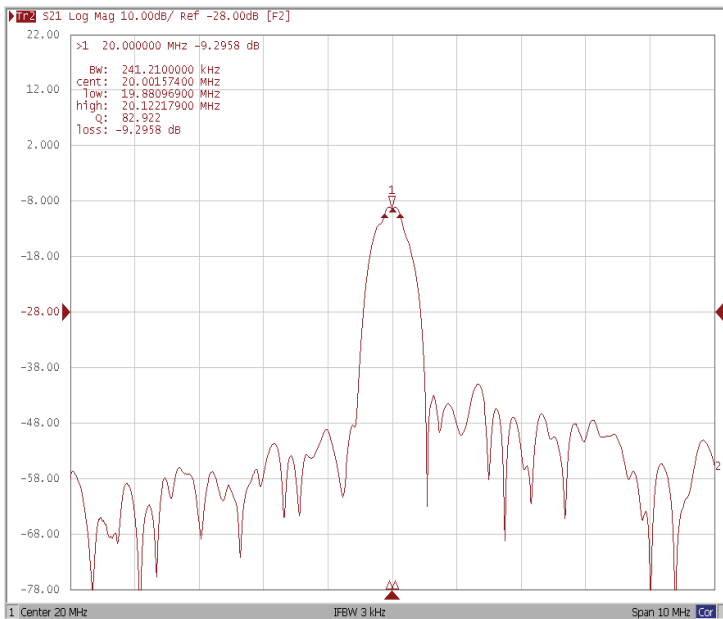
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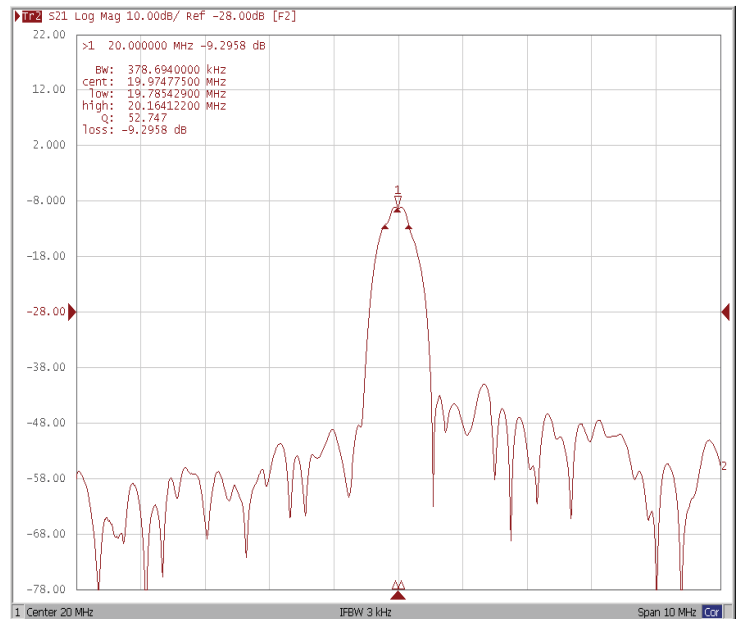
## Frequency Characteristics

### Frequency Response

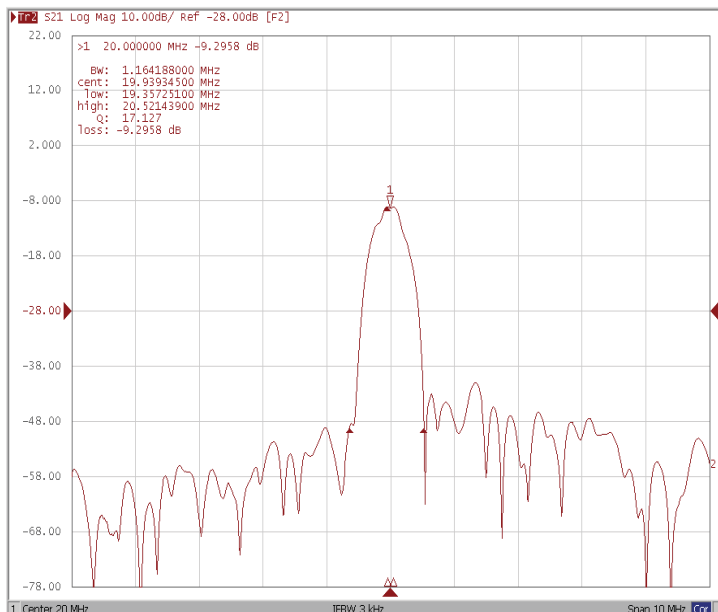
Bandwidth at -1.0 dB



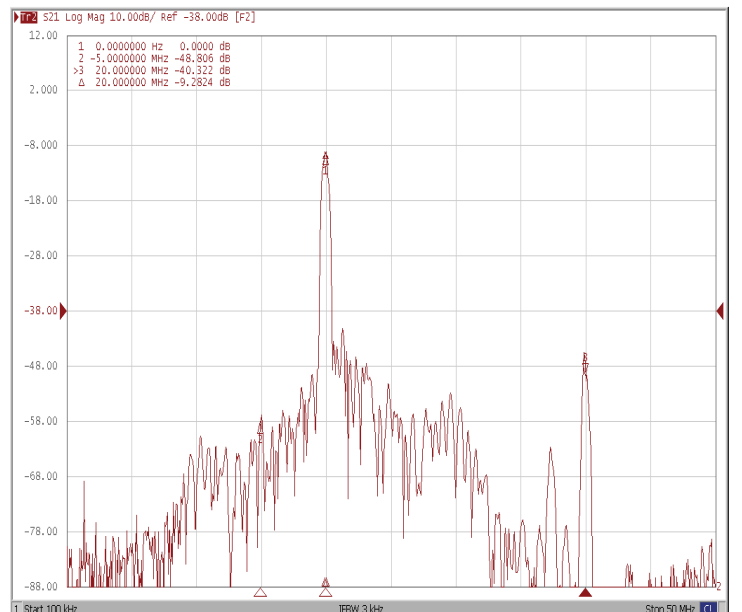
Bandwidth at -3.0 dB



Bandwidth at -40.0 dB



Wide-Band (DC~15MHz, @40MHz)





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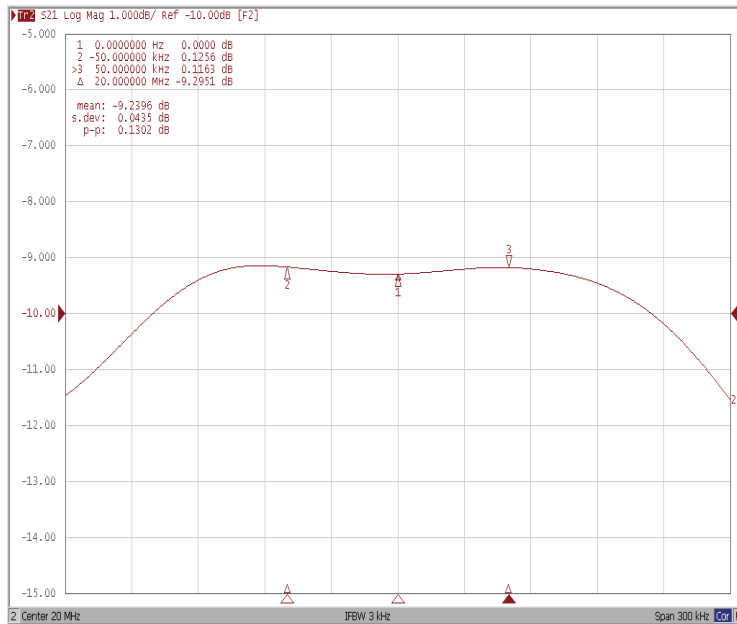
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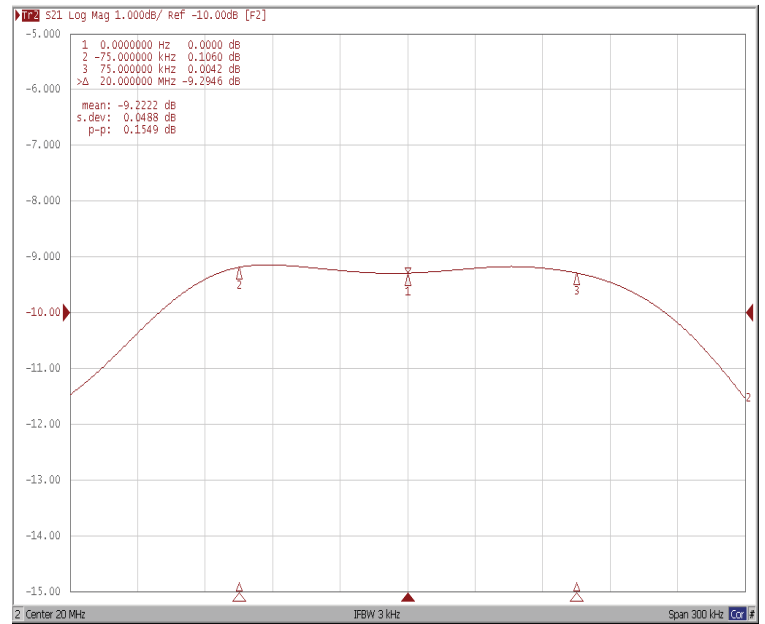
## Frequency Characteristics

### Frequency Response

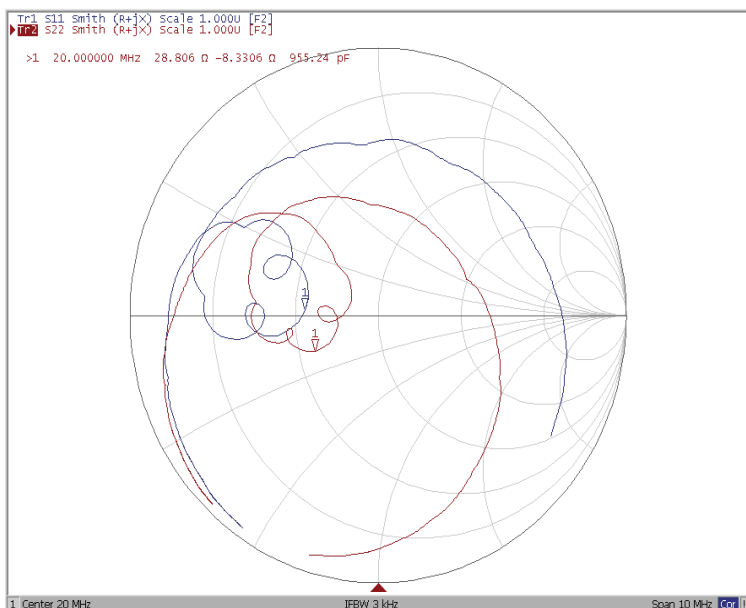
Ripple Variation  $F_{0\pm 0.05\text{MHz}}$



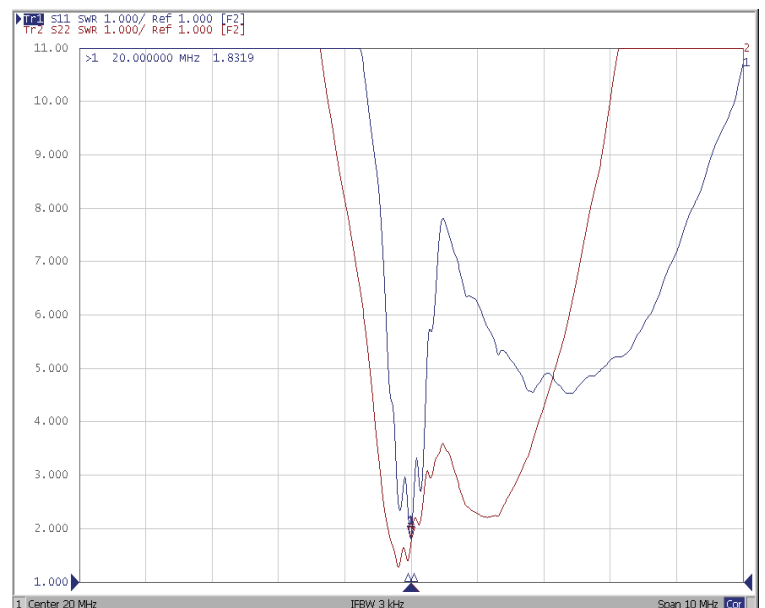
Ripple Variation  $F_{0\pm 0.075\text{MHz}}$



Smith Chart



VSWR





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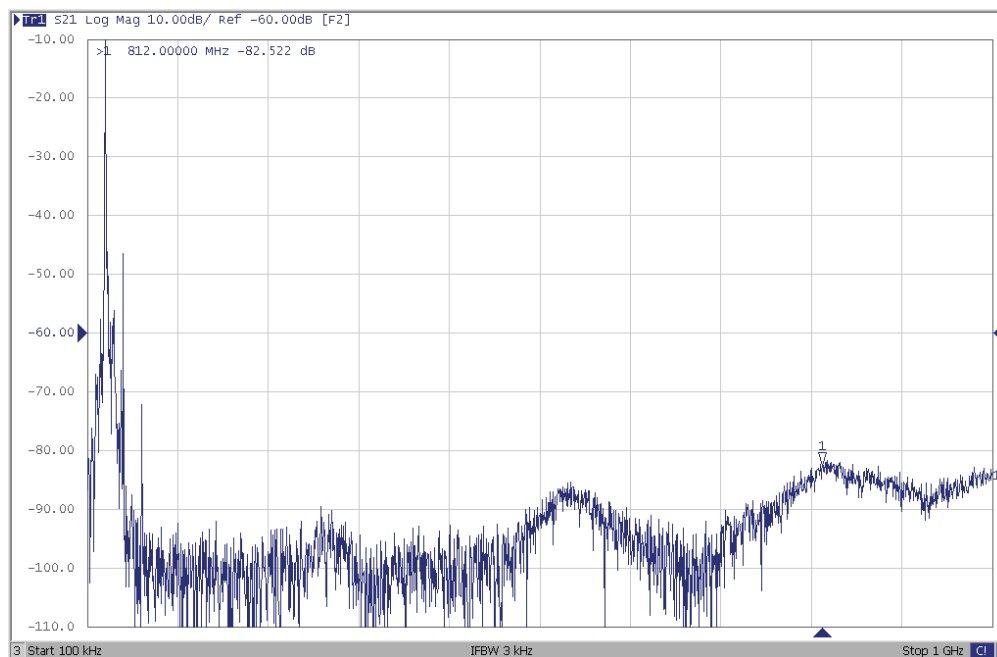
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## □ Frequency Characteristics

### Frequency Response

#### WIDE\_812MHz



#### WIDE\_1.6GHz

