

VI TELEFILTER

Filter specification

TFS 150Y - 1/2

1. Measurement condition Package, pin connection and 50 Ω matching network (see sheet 2.)

Ambient temperature T_A :	23 $^{\circ}$ C
Input power level:	0 dBm
Typical terminating impedances in f_N :	for input: 233 Ω -10 pF. (see sheet 2.§4.)
	for output: 1260 Ω -3 pF. (see sheet 2.§4.)

2. Characteristics

Remark:

Reference level for the relative attenuation a_{rel} of the TFS 150Y is the minimum of the pass band attenuation a_{min} . The minimum of the pass band attenuation a_{min} is defined as the insertion loss a_e . The nominal frequency f_N is fixed at 150,0 MHz without tolerance or limit. The reference frequency f_C is the arithmetic mean value of the upper and lower frequencies at the 32 dB filter attenuation level relative to the insertion loss a_e . The temperature coefficient of frequency T_{cf} is valid both for the reference frequency f_C and the frequency response of the filter in the operating temperature range.

Data	typ. value	tolerance / limit
Insertion loss (Reference level) a_e	34,3 dB	max 35 dB
Nominal frequency f_N	-	150,0 MHz
Pass band		$f_N - 6,05$ MHz ... $f_N + 6,05$ MHz
Amplitude ripple (p-p): f_N ... $f_N \pm 6,05$ MHz	0,6 dB	max 0,8 dB
1 dB - band width	12,48 MHz	
1,5 dB - band width	12,53 MHz	
2 dB - band width	12,57 MHz	min 12,5 MHz
3 dB - band width	12,64 MHz	
10 dB - band width	12,90 MHz	
32 dB - band width	13,23 MHz	max 13,3 MHz
Relative attenuation a_{rel}		
f_N	$f_N \pm 6,05$ MHz	- max 0,8 dB
$f_N \pm 6,05$ MHz	$f_N \pm 6,25$ MHz	- max 2 dB
$f_N \pm 6,65$ MHz	$f_N \pm 10,0$ MHz	35...48 dB min 32...45 dB
In the frequency range $f_C \pm 6,65$ MHz ... $f_C \pm 10,0$ MHz the type of the LIMIT LINE is a SLOPING LINE (SL).		
$f_N \pm 10$ MHz	$f_N \pm 25$ MHz	48 dB min 45 dB
$f_N \pm 25$ MHz	$f_N \pm 50$ MHz	55 ... 60 dB min 35 dB
$f_N \pm 50$ MHz	$f_N \pm 100$ MHz	60 dB
Group delay	2,89 μ s	max 5 μ s
Group delay ripple in pass band (p-p):	± 40 ns	\pm max 100 ns
Deviation from linear phase (p-p) f_N ... $f_N \pm 6,25$ MHz	3,3 $^{\circ}$	
Triple transit attenuation compared to main signal	60 dB	
Input/Output return loss with matching network (S11/S22): min(2,5/3,5)		
Crosstalk	55 dB	
Substrate material	Quartz	
Frequency inversion temperature (T_o)	10 $^{\circ}$ C	
Temperature coefficient of frequency (T_{cf})	-0,044 ppm/K ²	-
Frequency deviation of f_C over temperature T : *)	$\Delta f_C(\text{Hz}) = T_{cf}(\text{ppm/K}) \times (T - T_o)^2 \times f_{T_o}(\text{MHz})$	
Operating temperature range	-20 $^{\circ}$ C ... + 75 $^{\circ}$ C	
Storage temperature range	- 40 $^{\circ}$ C ... + 85 $^{\circ}$ C	
Input power level	-	max. + 10 dBm
Permissible DC voltage V_{DC}		12 V
Permissible DC voltage V_{pp}		10 V

*) f_{T_o} is reference frequency f_C at frequency inversion temperature (T_o)Generated: Wadim P. DunzowChecked/Approved: Dr. Bert Wall

VI TELEFILTER

Potsdamer StraÙe 18

D 14 513 TELTOW / Germany

Tel: (+49) 3328 4784-52 / Fax: (+49) 3328 4784-30

E-Mail: tft@telefilter.com

Vectron International, Inc.

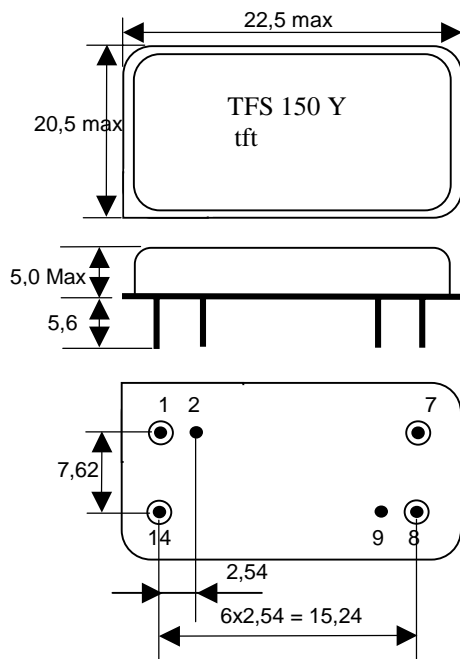
267 Lowell Road

Hudson, NH 03051 / USA

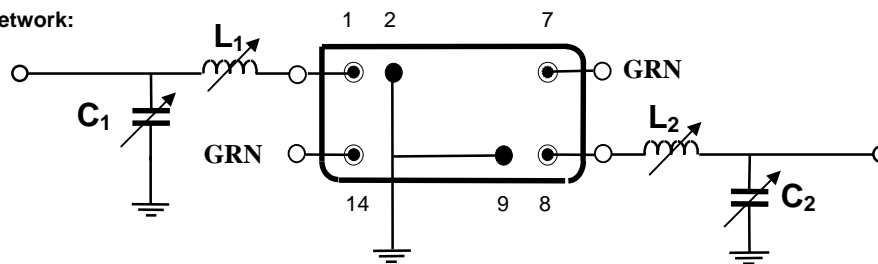
Tel: (603) 598-0070 Fax: (603) 598-0075

E-Mail: vti@vtinh.com

VI TELEFILTER reserves the right to make changes to the product(s) and/or information contained herein without notice. No liability is assumed as a result of their use or application. No rights under any patent accompany the sale of any such product(s) or information

VI TELEFILTER**Filter specification****TFS 150Y - 1/2****3. Package**

Pin 1	Input
Pin 14	Input RF Return
Pin 8	Output
Pin 7	Output RF Return
Pin 2,9	Package Ground

4. 50 Ω matching network:

$$L_1 \approx 100 \text{ nH} \quad C_1 \approx 18 \text{ pF.}$$

$$L_2 \approx 400 \text{ nH} \quad C_2 \approx 18 \text{ pF.}$$

These values will be influenced by your board design.

VI TELEFILTER
 Potsdamer Straße 18
 D 14 513 TELTOW / Germany
 Tel: (+49) 3328 4784-52 / Fax: (+49) 3328 4784-30
 E-Mail: tft@telefilter.com

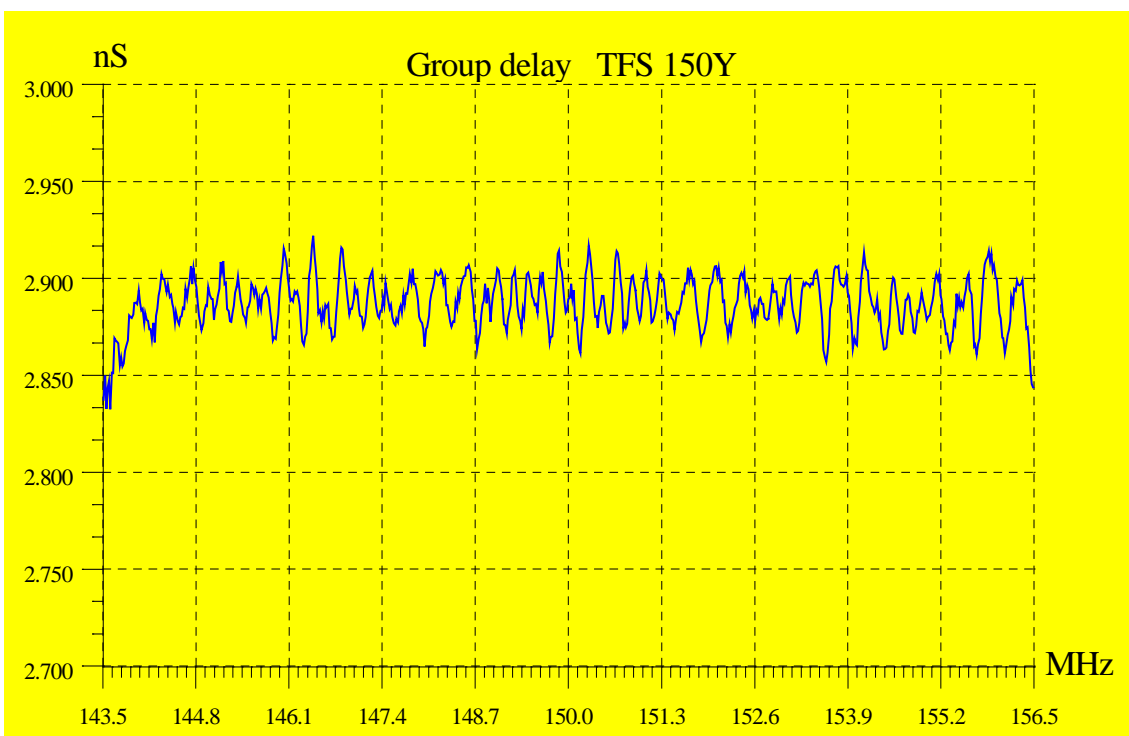
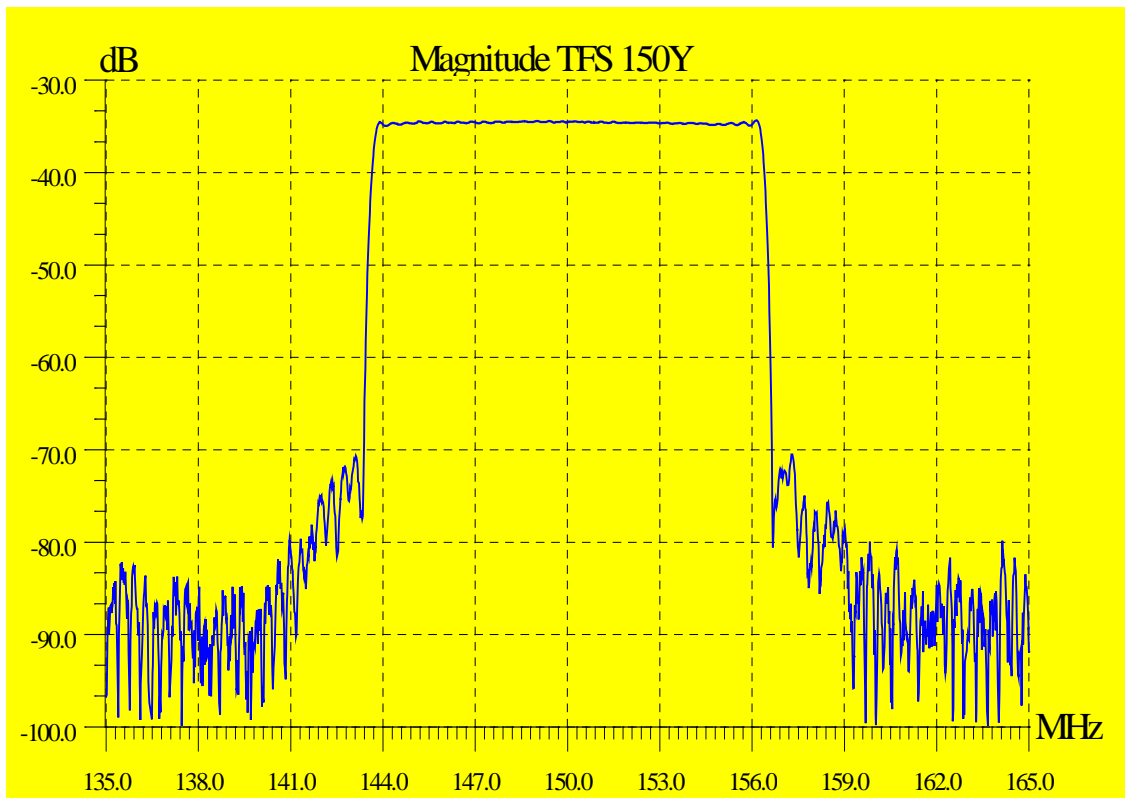
Vectron International, Inc.
 267 Lowell Road
 Hudson, NH 03051 / USA
 Tel: (603) 598-0070 Fax: (603) 598-0075
 E-Mail: vti@vtinh.com

VI TELEFILTER reserves the right to make changes to the product(s) and/or information contained herein without notice. No liability is assumed as a result of their use or application. No rights under any patent accompany the sale of any such product(s) or information

VI TELEFILTER

Filter specification

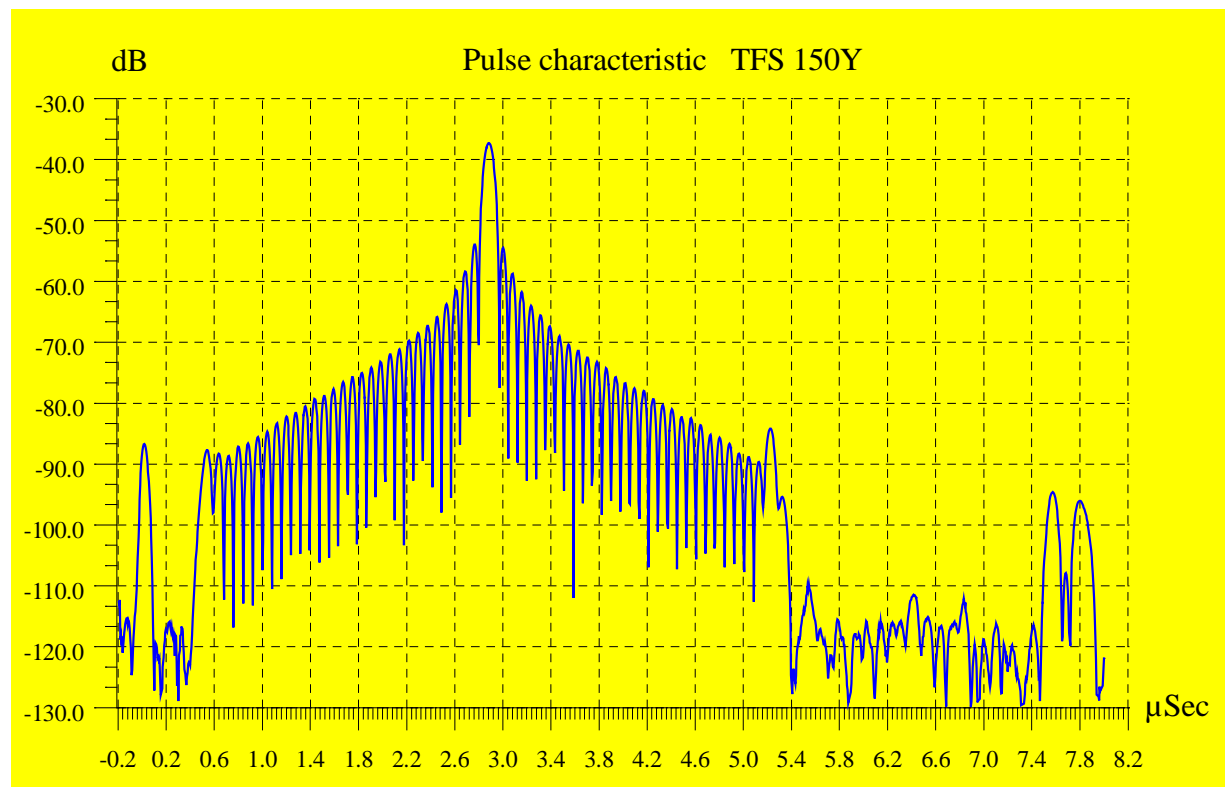
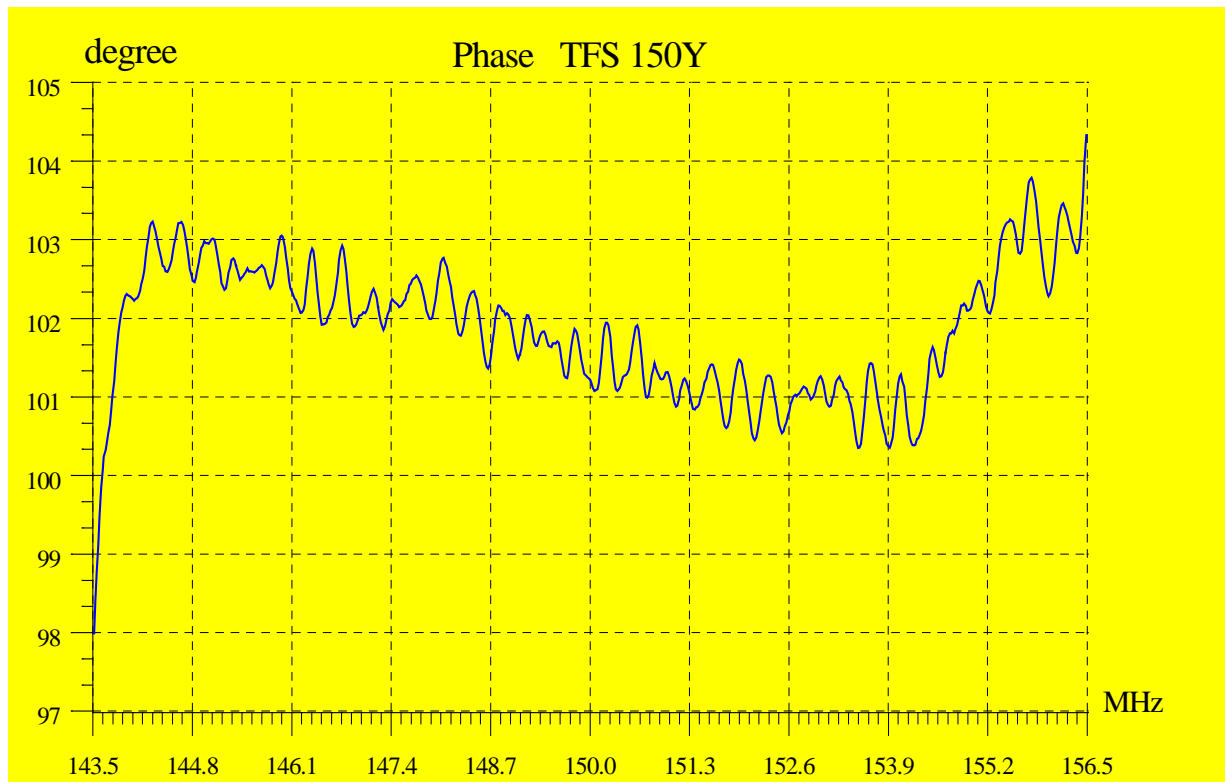
TFS 150Y - 1/2



VI TELEFILTER
Potsdamer Straße 18
D 14 513 TELTOW / Germany
Tel: (+49) 3328 4784-52 / Fax: (+49) 3328 4784-30
E-Mail: tft@telefilter.com

Vectron International, Inc.
267 Lowell Road
Hudson, NH 03051 / USA
Tel: (603) 598-0070 Fax: (603) 598-0075
E-Mail: vti@vtinh.com

VI TELEFILTER reserves the right to make changes to the product(s) and/or information contained herein without notice. No liability is assumed as a result of their use or application. No rights under any patent accompany the sale of any such product(s) or information

VI TELEFILTER**Filter specification****TFS 150Y - 1/2**

VI TELEFILTER
 Potsdamer Straße 18
 D 14 513 TELTOW / Germany
 Tel: (+49) 3328 4784-52 / Fax: (+49) 3328 4784-30
 E-Mail: tft@telefilter.com

Vectron International, Inc.
 267 Lowell Road
 Hudson, NH 03051 / USA
 Tel: (603) 598-0070 Fax: (603) 598-0075
 E-Mail: vti@vtinh.com

VI TELEFILTER reserves the right to make changes to the product(s) and/or information contained herein without notice. No liability is assumed as a result of their use or application. No rights under any patent accompany the sale of any such product(s) or information