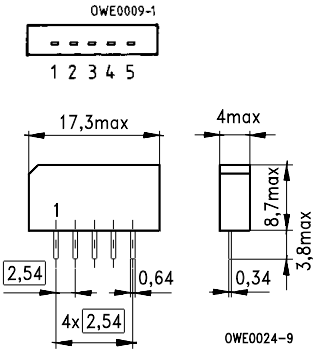
Features

- IF filter for digital satellite TV

Terminals

- Tinned CuFe alloy

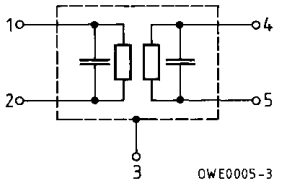
Plastic package **SIP 5 K**



Dimensions in mm, approx. weight 1,0 g

Pin configuration

1 Input
2 Input – ground
3 Chip carrier – ground
4 Output
5 Output



Type	Ordering code	Marking
X 6956 M	B39600-X6956-M100	Type, date code, pin 1

Maximum ratings

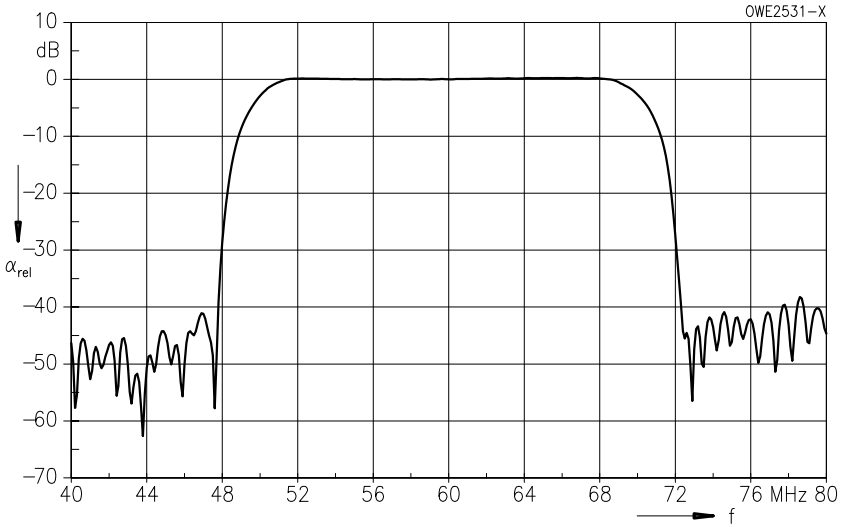
Ambient temperature	T_A	– 25/+ 65	˚C	—
Storage temperature	T_{stg}	– 25/+ 85	˚C	—
DC voltage	V_{DC}	12	V	between any terminals
AC voltage	V_{pp}	10	V	between any terminals

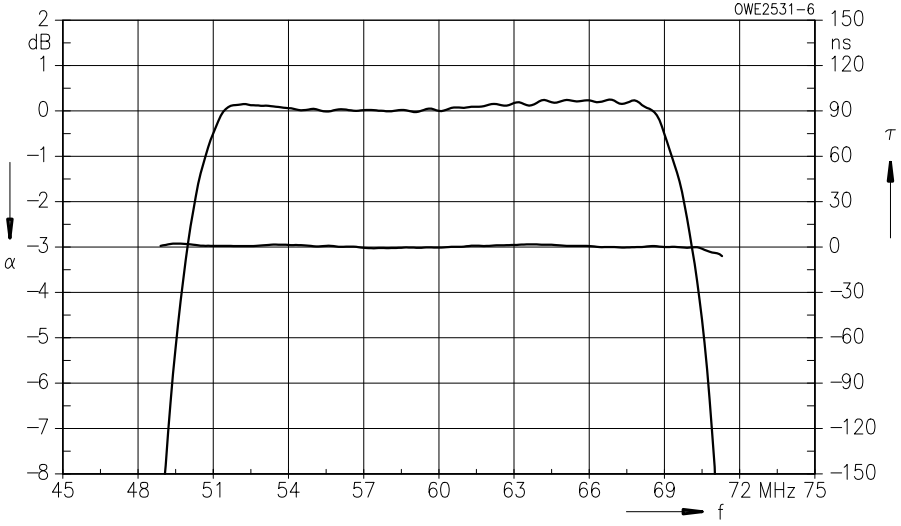
Characteristics

Ambient temperature T_A = 25 °C
Source impedance Z_S = 50 Ω
Load impedance Z_L = 2 kΩ || 3 pF
Group delay aperture 3,6 MHz

		min.	typ.	max.	
Center frequency (center between 3 dB points)	f_c	59,88	60,00	60,12	MHz
Insertion attenuation	α				
Reference level for the following data 60,00 MHz		25,5	27,0	28,5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
52,00 … 68,00 MHz		0,0	0,35	0,70	
Pass bandwidth					
$\alpha_{rel} \leq$ 3 dB	B_{3dB}	19,65	20,15	20,65	MHz
$\alpha_{rel} \leq$ 30 dB	B_{30dB}	23,65	24,15	24,65	MHz
Relative attenuation	α_{rel}				
Lower sidelobe 40,00 … 47,50 MHz		34,0	40,0	—	dB
Upper sidelobe 72,50 … 80,00 MHz		33,0	40,0	—	dB
Reflected wave signal suppression 0,8 µs … 6,0 µs after main pulse (test pulse: 250 ns, carrier frequency: 60,00 MHz)		44,0	56,0	—	dB
Feedthrough signal suppression 1,1 µs … 1,0 µs before main pulse (test pulse: 250 ns, carrier frequency: 60,00 MHz)		—	56,0	—	dB
Group delay ripple (p-p)	$\Delta\tau$				
51,50 … 68,50 MHz		—	3	4	ns
Impedance at 60,00 MHz					
Input: $Z_{IN} = R_{IN} \parallel C_{IN}$		—	2,2 || 12,0	—	kΩ || pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$		—	2,2 || 3,1	—	kΩ || pF
Temperature coefficient of frequency	TC_f	—	– 72	—	ppm/K

Frequency response





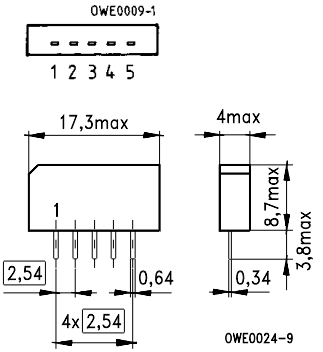
Features

- IF filter for digital satellite TV

Terminals

- Tinned CuFe alloy

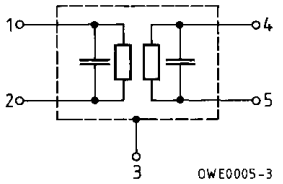
Plastic package **SIP 5 K**



Dimensions in mm, approx. weight 1,0 g

Pin configuration

1 Input
2 Input – ground
3 Chip carrier – ground
4 Output – ground
5 Output



Type	Ordering code	Marking
X 6961 M	B39700-X6961-M100	Type, date code, pin 1

Maximum ratings

Ambient temperature	T_A	– 25/+ 65	˚C	—
Storage temperature	T_{stg}	– 25/+ 85	˚C	—
DC voltage	V_{DC}	12	V	between any terminals
AC voltage	V_{pp}	10	V	between any terminals

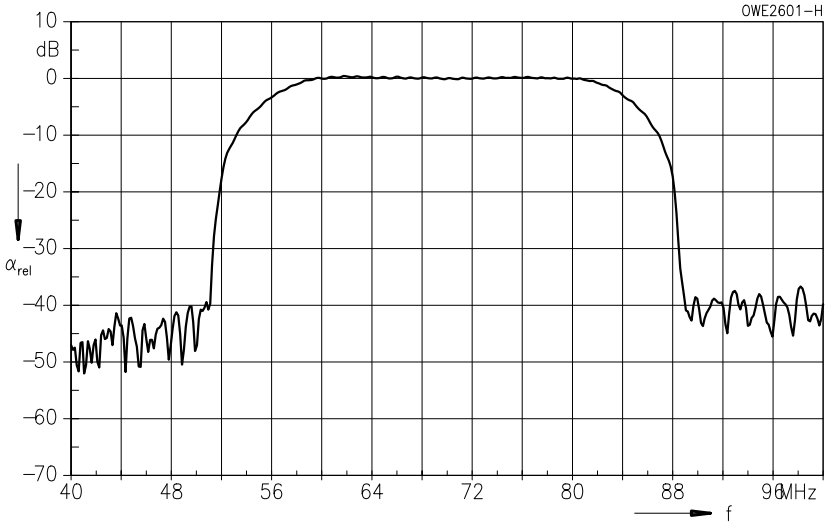
Characteristics

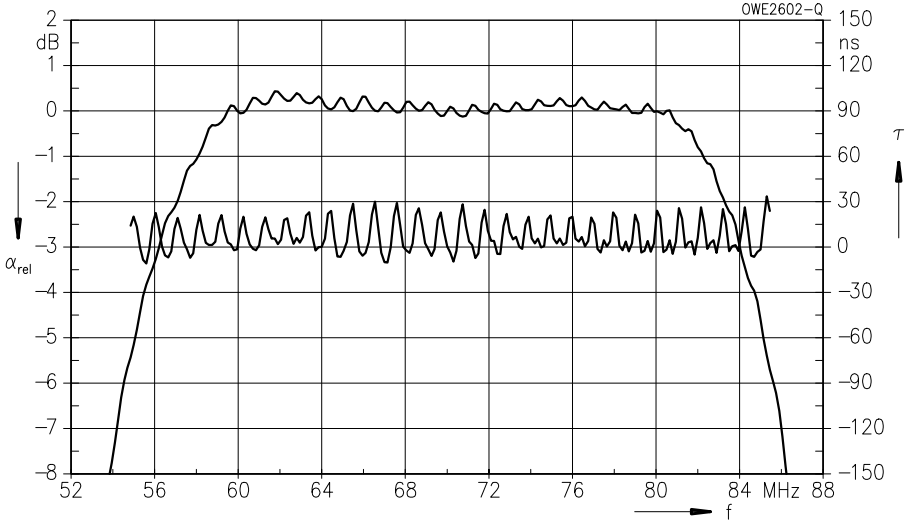
Ambient temperature T_A = 25 °C
Source impedance Z_S = 50 Ω and matching network
Load impedance Z_L = 50 Ω and matching network
Group delay aperture 150 kHz

		min.	typ.	max.	
Center frequency (center between 10 dB points)	f_c	—	70,00	—	MHz
Insertion attenuation	α				
Reference level for the following data 70,00 MHz		23,0	24,5	26,0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
56,00 … 74,00 MHz		—	0,3	—	dB
Pass bandwidth					
$\alpha_{rel} \leq$ 3 dB	B_{3dB}	—	28,0	—	MHz
$\alpha_{rel} \leq$ 30 dB	B_{30dB}	—	37,2	—	MHz
Relative attenuation	α_{rel}				
Lower sidelobe 40,00 … 50,00 MHz		34,0	40,0	—	dB
Upper sidelobe 90,00 … 100,00 MHz		32,0	38,0	—	dB
Reflected wave signal suppression					
0,6 µs … 6,0 µs after main pulse (test pulse: 250 ns, carrier frequency: 70,00 MHz)		48,0	59,0	—	dB
Group delay ripple (p-p)	$\Delta\tau$				
56,00 … 84,00 MHz		—	35	—	ns
Impedance at 70,00 MHz					
Input: $Z_{IN} = R_{IN} \parallel C_{IN}$		—	1,6 || 12,0	—	kΩ || pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$		—	3,8 || 5,0	—	kΩ || pF
Temperature coefficient of frequency	TC_f	—	– 72	—	ppm/K

Matching network:
Input: Serial coil; L1 = 200 nH
Output: Serial coil; L2 = 800 nH

Frequency response





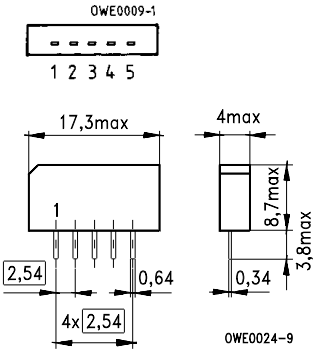
Features

- IF filter for digital satellite TV

Terminals

- Tinned CuFe alloy

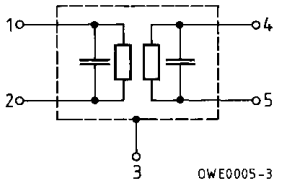
Plastic package **SIP 5 K**



Dimensions in mm, approx. weight 1,0 g

Pin configuration

1 Input
2 Input – ground
3 Chip carrier – ground
4 Output
5 Output



Type	Ordering code	Marking
X 6962 M	B39700-X6962-M100	Type, date code, pin 1

Maximum ratings

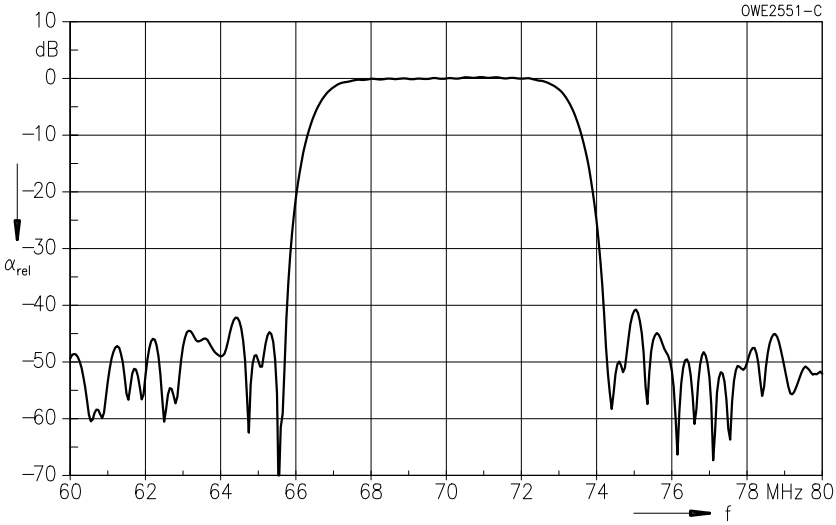
Ambient temperature	T_A	– 25/+ 65	˚C	—
Storage temperature	T_{stg}	– 25/+ 85	˚C	—
DC voltage	V_{DC}	12	V	between any terminals
AC voltage	V_{pp}	10	V	between any terminals

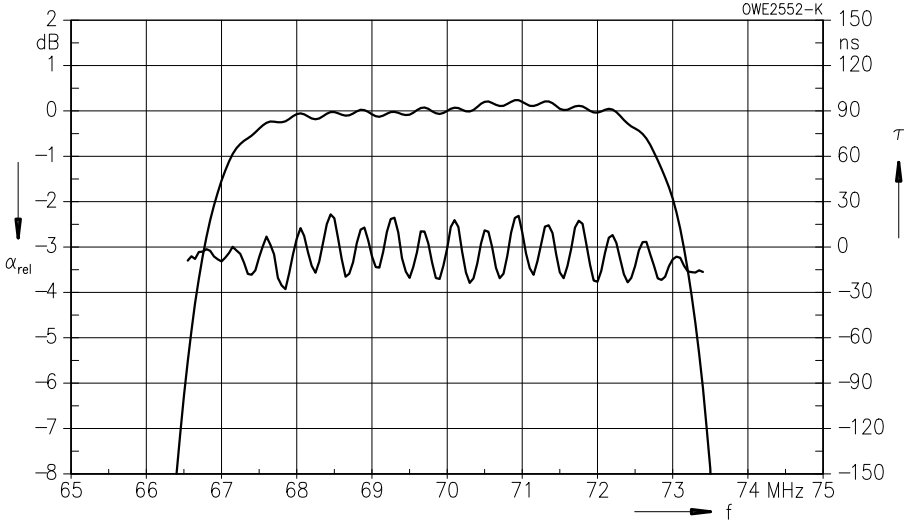
Characteristics

Ambient temperature $T_A = 25\,^{\circ}C$
Source impedance $Z_S = 50\ \Omega$
Load impedance $Z_L = 50\ \Omega$

		min.	typ.	max.	
Center frequency (center between 10 dB points)	f_c	—	70,00	—	MHz
Insertion attenuation	α				
Reference level for the following data 70,00 MHz		16,5	18,0	19,5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
67,50 … 72,50 MHz		—	0,3	—	dB
Pass bandwidth					
$\alpha_{rel} \leq$ 3 dB	B_{3dB}	—	6,3	—	MHz
$\alpha_{rel} \leq$ 30 dB	B_{30dB}	—	8,2	—	MHz
Relative attenuation	α_{rel}				
Lower sidelobe 60,00 … 65,00 MHz		36,0	40,0	—	dB
Upper sidelobe 74,40 … 75,60 MHz		36,0	41,0	—	dB
75,60 … 80,00 MHz		39,0	43,0	—	dB
Reflected wave signal suppression					
0,8 µs … 6,0 µs after main pulse (test pulse: 250 ns, carrier frequency: 70,00 MHz)		40,0	45,0	—	dB
Feedthrough signal suppression					
1,2 µs … 1,1 µs before main pulse (test pulse: 250 ns, carrier frequency: 70,00 MHz)		50,0	56,0	—	dB
Group delay ripple (p-p)	$\Delta\tau$				
66,85 … 73,15 MHz		—	60	—	ns
Impedance at 70,00 MHz					
Input: $Z_{IN} = R_{IN} \parallel C_{IN}$		—	0,6 || 16,5	—	kΩ || pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$		—	0,3 || 9,2	—	kΩ || pF
Temperature coefficient of frequency	TC_f	—	– 72	—	ppm/K

Frequency response





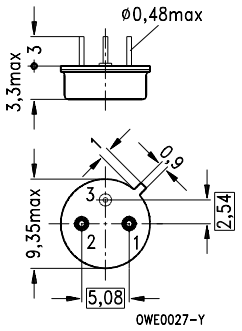
Features

- IF filter for DSB receivers
- Constant group delay

Terminals

- Gold-plated NiFeCo alloy

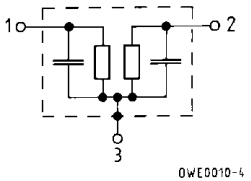
Metal package **TO 39**



Dimensions in mm, approx. weight 1,0 g

Pin configuration

1 Input
2 Output
3 Ground



Type	Ordering code	Marking
B 674	B39481-B674-B510	Type, date code

Electrostatic **S**ensitive **D**evice (**ESD**)

Maximum ratings

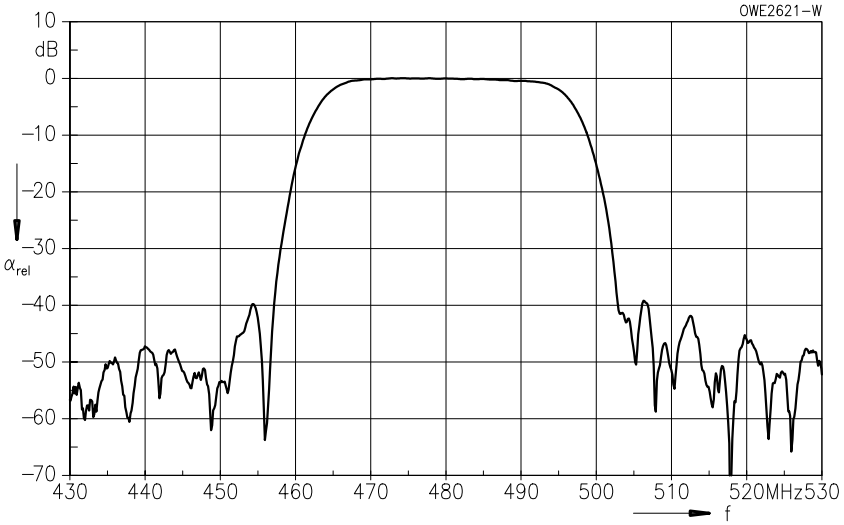
Ambient temperature	T_A	– 20/+ 80	°C	—
Storage temperature	T_{stg}	– 25/+ 85	°C	—
DC voltage	V_{DC}	0	V	between any terminals
AC voltage	V_{pp}	5	V	between any terminals

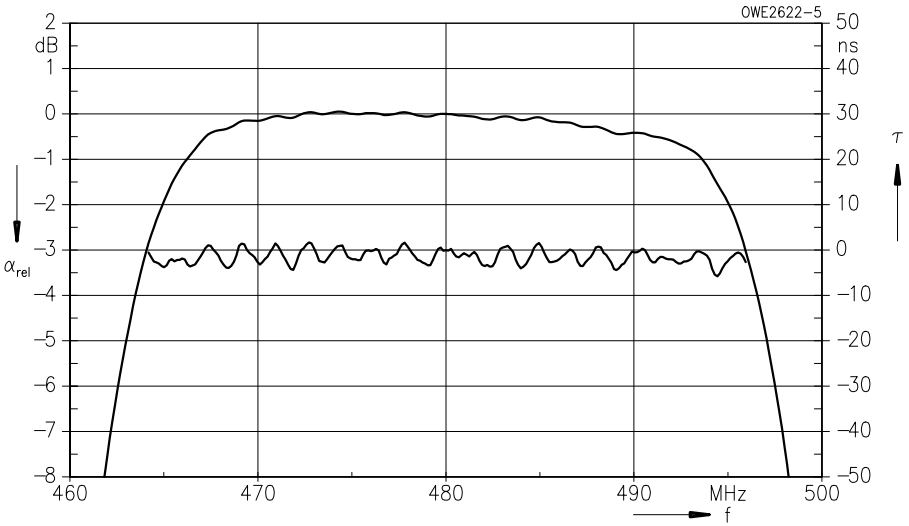
Characteristics

Ambient temperature T_A = 25 °C
Source impedance Z_S = 50 Ω
Load impedance Z_L = 50 Ω
Group delay aperture 3,6 MHz

			min.	typ.	max.	
Center frequency		f_c	479,00	480,00	481,00	MHz
Insertion attenuation		α				
Reference level for the following data	480,00 MHz		—	20,0	22,0	dB
Amplitude ripple (p-p)		$\Delta\alpha$				
	467,00 … 492,00 MHz		—	0,8	1,2	dB
Pass bandwidth						
$\alpha_{rel} \leq$ 3 dB		B_{3dB}	31,00	32,00	33,00	MHz
Relative attenuation		α_{rel}				
	464,00 MHz		—	2,6	5,0	dB
	496,00 MHz		—	3,5	5,0	dB
Lower sidelobe	430,00 … 450,00 MHz		37,0	44,0	—	dB
Upper sidelobe	510,00 … 530,00 MHz		37,0	44,0	—	dB
Reflected wave signal suppression						
0,135 µs … 2,0 µs after main pulse			40,0	48,0	—	dB
Group delay ripple (p-p)		$\Delta\tau$				
	467,00 … 492,00 MHz		—	2,3	3,5	ns
Impedance at 480,00 MHz						
Input: $Z_{IN} = R_{IN} \parallel C_{IN}$			—	590 || 2,0	—	kΩ || pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$			—	260 || 4,2	—	kΩ || pF
Temperature coefficient of frequency		TC_f	—	– 86	—	ppm/K

Frequency response





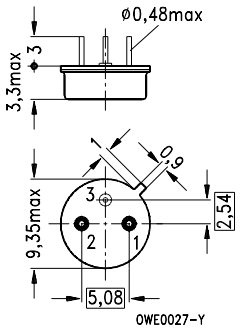
Features

- IF filter for DSB receivers
- Constant group delay
- Optimized group delay time

Terminals

- Gold-plated NiFeCo alloy

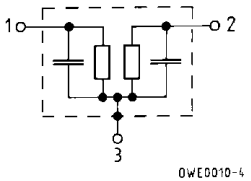
Metal package **TO 39**



Dimensions in mm, approx. weight 1,0 g

Pin configuration

1 Input
2 Output
3 Ground



Type	Ordering code	Marking
B 686	B39481-B686-B510	Type, date code

Electrostatic **S**ensitive **D**evice (**ESD**)

Maximum ratings

Ambient temperature	T_A	– 20/+ 80	°C	—
Storage temperature	T_{stg}	– 25/+ 85	°C	—
DC voltage	V_{DC}	0	V	between any terminals
AC voltage	V_{pp}	5	V	between any terminals

Characteristics

Ambient temperature T_A = 25 °C
Source impedance Z_S = 50 Ω
Load impedance Z_L = 50 Ω
Group delay aperture 3,6 MHz

			min.	typ.	max.	
Center frequency		f_c	479,00	480,00	481,00	MHz
Insertion attenuation		α				
Reference level for the following data	480,00 MHz		—	21,0	22,5	dB
Amplitude						
Amplitude ripple (p-p)	467,00 … 493,00 MHz	$\Delta\alpha$	—	0,3	0,5	dB
Amplitude tilt	467,00 … 493,00 MHz		—	0,02	—	dB/MHz
Pass bandwidth						
$\alpha_{rel} \leq$ 3 dB		B_{3dB}	35,20	36,20	37,20	MHz
Relative attenuation		α_{rel}				
	462,00 MHz		—	3,0	4,2	dB
	498,00 MHz		—	2,9	4,2	dB
Lower sidelobe	430,00 … 450,00 MHz		36,0	41,0	—	dB
Upper sidelobe	510,00 … 530,00 MHz		36,0	42,0	—	dB
Reflected wave signal suppression						
0,1 µs … 2,0 µs after main pulse			40,0	48,0	—	dB
Group delay	480,00 MHz	τ	—	274,0	—	ns
Group delay ripple	466,50 … 493,50 MHz	$\Delta\tau$	—	1,4	3,0	ns
Impedance at 480,00 MHz						
Input: $Z_{IN} = R_{IN} \parallel C_{IN}$			—	60 || 4,8	—	kΩ || pF
Output: $Z_{OUT} = R_{OUT} \parallel C_{OUT}$			—	260 || 3,1	—	kΩ || pF
Temperature coefficient of frequency		TC_f	—	– 86	—	ppm/K

Frequency response