

VI TELEFILTER**Filter specification****TFS 465C****1/5****Measurement condition**

Ambient temperature:	23	°C	
Input power level:	0	dBm	
Terminating impedance:			
Input:	50	Ω	unbalanced
Output:	100	Ω	balanced

Characteristics**Remark:**

The maximum attenuation in the pass band is defined as the insertion loss a_e . The nominal frequency f_N is fixed at 465,0 MHz without any tolerance or limit. The values of absolute attenuation a_{abs} are guaranteed for the whole operating temperature range. The frequency shift of the filter in the operating temperature range is included in the production tolerance scheme.

D a t a		typ. value		tolerance / limit		
Insertion loss		a_e	4,1 dB	max.	4,8 dB	-
Nominal frequency		f_N	-		465,0	
Passband		PB	-	f_N	± 2,5	MHz
Absolute attenuation		a_{abs}				
0,3 MHz	... 452,5 MHz		53 dB	min.	48 dB	
452,5 MHz	... 457,5 MHz		49 dB	min.	37 dB	
485 MHz	... 1200 MHz		55 dB	min.	40 ** dB	
1200 MHz	... 1700 MHz		50 dB	min.	30 ** dB	
1700 MHz	... 2000 MHz		49 dB	min.	15 ** dB	
Operating temperature range		OTR	-		- 10 °C ... + 85°C	
Reduced operating temperature range			-		+ 15 °C ... + 40°C	
Storage temperature range			-		- 30 °C ... + 85°C	
Temperature coefficient of frequency		TC_f *	- 35 ppm/K		-	

*) $\Delta f(\text{Hz}) = TC_f(\text{ppm/K}) \times (T - T_0) \times f_{T0}(\text{MHz})$.

**) within reduced operating temperature range

Generated:**Checked / Approved:**

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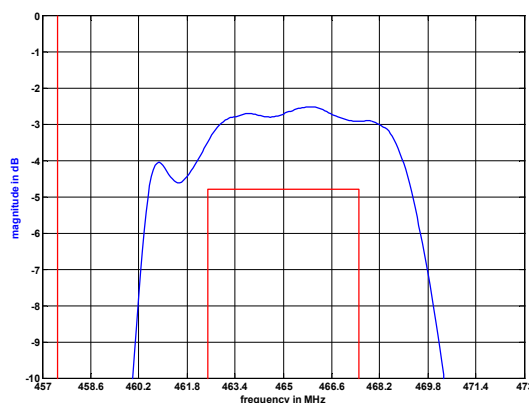
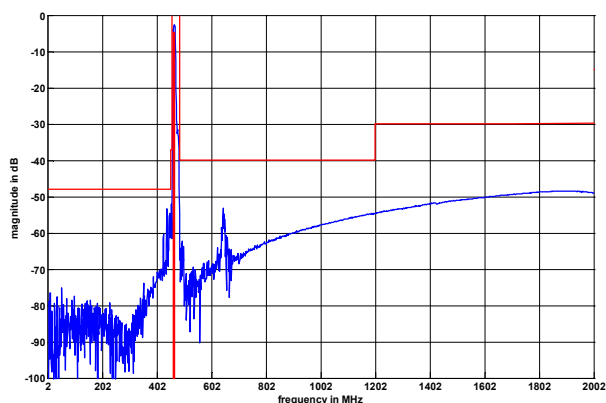
VI TELEFILTER

Filter specification

TFS 465C

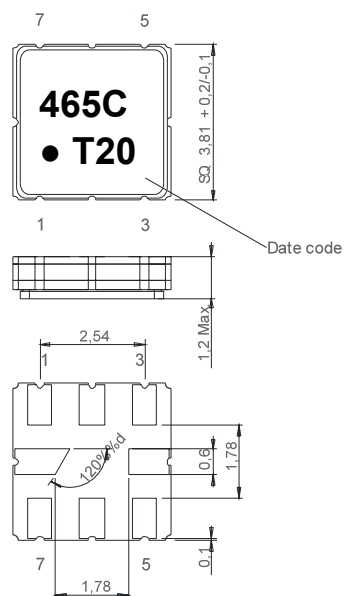
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Filter characteristic



Construction and pin connection

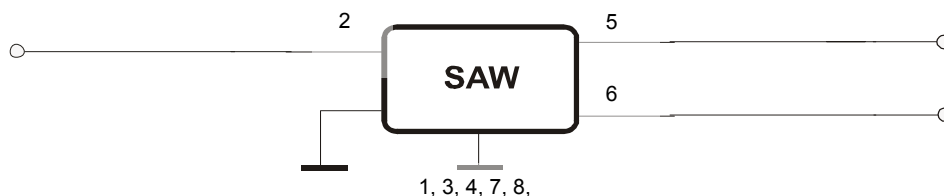
(All dimensions in mm)



- | | |
|---|-----------------|
| 1 | Ground |
| 2 | Input |
| 3 | Ground |
| 4 | Ground |
| 5 | Balanced Output |
| 6 | Balanced Output |
| 7 | Ground |
| 8 | Ground |

Date code: Year + week
 T 2005
 U 2006
 V 2007
 ...

50/100 Ω Test circuit



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VI TELEFILTER**Filter specification****TFS 465C****3/5****Stability characteristics**

After the following tests the filter shall meet the whole specification:

1. Shock: 500g, 1 ms, half sine wave, 3 shocks each plane;
DIN IEC 68 T2 - 27
2. Vibration: 10 Hz to 500 Hz, 0,35 mm or 5 g respectively, 1 octave per min, 10 cycles per plan, 3 plans;
DIN IEC 68 T2 - 6
3. Change of temperature: -55 °C to 125°C / 30 min. each / 10 cycles
DIN IEC 68 part 2 – 14 Test N
4. Resistance to solder heat (reflow): reflow possible: twice max.;
for temperature conditions refer to the attached "Air reflow temperature conditions" on page 4;

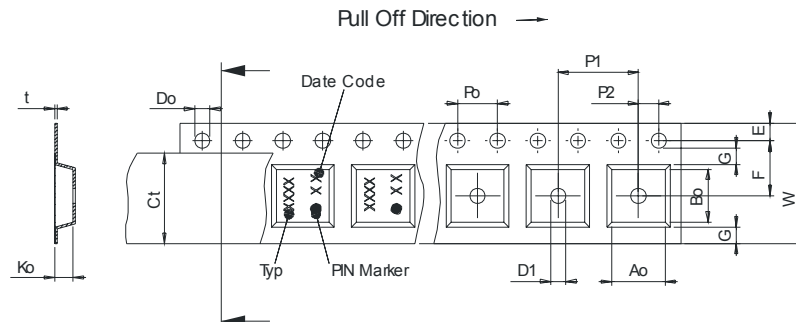
Packing

Tape & Reel: IEC 286 – 3, with exeption of value for N and minimum bending radius;
tape type II, embossed carrier tape with top cover tape on the upper side;

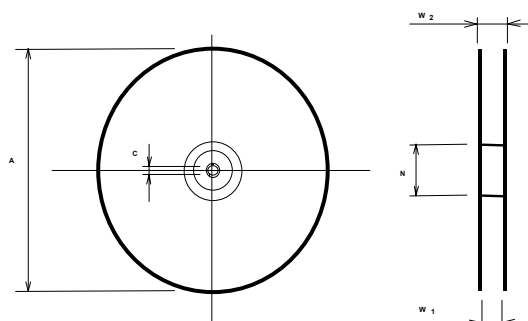
max. pieces of filters peer reel:	3000
reel of empty components at start:	min. 300 mm
reel of empty components at start including leader:	min. 500 mm
trailer:	min. 300 mm

Tape (all dimensions in mm)

W	: 12,00 ± 0,3
Po	: 4,00 ± 0,1
Do	: 1,50 +0,1/-0
E	: 1,75 ± 0,1
F	: 5,50 ± 0,05
G(min)	: 0,75
P2	: 2,00 ± 0,05
P1	: 8,00 ± 0,1
D1(min)	: 1,50
Ao	: 4,30 ± 0,1
Bo	: 4,30 ± 0,1
Ct	: 9,5 ± 0,1

**Reel (all dimensions in mm)**

A	: 330
W1	: 12,4 +2/-0
W2(max)	: 18,4
N(min)	: 50
C	: 13,0 +0,5/-0,2



The minimum bending radius is 45 mm.

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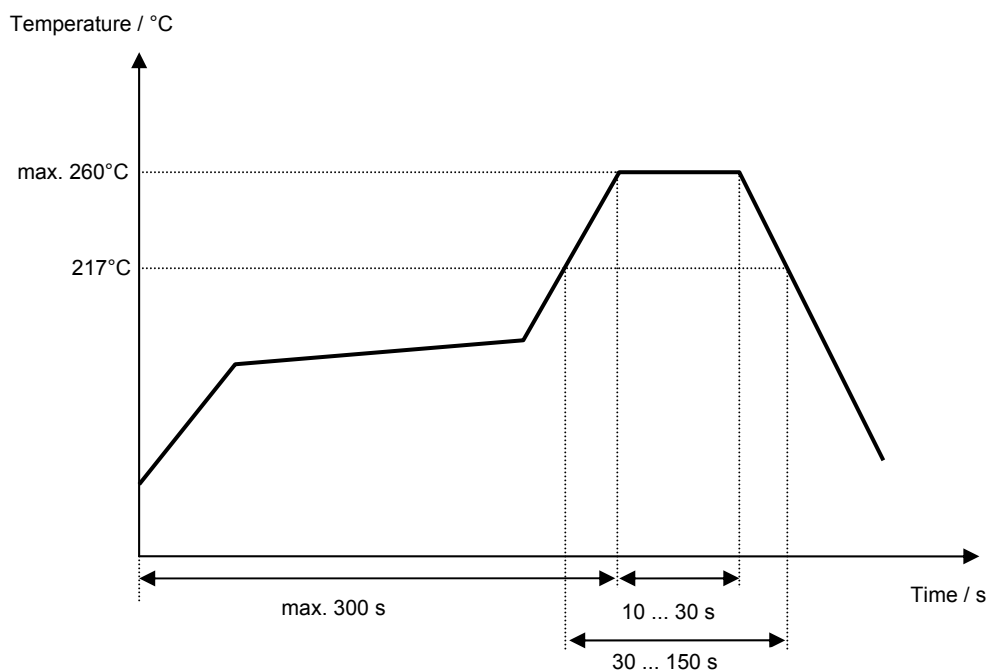
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VI TELEFILTER**Filter specification****TFS 465C****4/5****Air reflow temperature conditions**

Conditions	Exposure
Average ramp-up rate (30°C to 217°C)	less than 3°C/second
> 100°C	between 300 and 600 seconds
> 150°C	between 240 and 500 seconds
> 217°C	between 30 and 150 seconds
Peak temperature	max. 260°C
Time within 5°C of actual peak temperature	between 10 and 30 seconds
Cool-down rate (Peak to 50°C)	less than 6°C/second
Time from 30°C to Peak temperature	no greater than 300 seconds

Chip-mount air reflow profile

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VI TELEFILTER**Filter specification****TFS 465C****5/5****History**

Version	Reason of Changes	Name	Date
1.0	- Generation of development specification	Noack	07.07.2004
1.1	- Added typical values and filter characteristics - Reworked stability characteristics and air reflow profile - Removed VSWR - Generation of filter specification	Noack	13.05.2005

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