

Microchip**Filter specification****TFS 2655B****1/5****Measurement condition**

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

Characteristics**Remark:**

The reference level for the relative attenuation a_{rel} of the TFS2655B 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 2655MHz. The values for relative attenuation are guaranteed over the whole operating temperature range. The frequency shift of the filter over temperature defined by the temperature coefficient of frequency T_{cf} is included in the production tolerance scheme.

D a t a**typ. value****tolerance / limit**

Insertion loss		a_e	1.8 dB	max.	3.5	dB
Nominal frequency		f_N			2655	MHz
Passband		PB		$f_N \pm$	35	MHz
Passband variation			1.2 dB	max.	1.8	dB
Relative attenuation		a_{rel}				
950	MHz ... 2350	MHz	23 dB	min.	20	dB
2350	MHz ... 2550	MHz	26 dB	min.	15	dB
2760	MHz ... 3000	MHz	31 dB	min.	23	dB
3000	MHz ... 3830	MHz	31 dB	min.	20	dB
Group delay variation within PB			5 ns	max.	20	ns
Return loss within PB			10 dB	min.	7	dB
Input power level				max.	9*	dBm
Operating temperature range		OTR			-40 °C ... + 95 °C	
Storage temperature range					-45 °C ... + 95 °C	
Temperature coefficient of frequency		TC_f^{**}	-46 ppm/K			

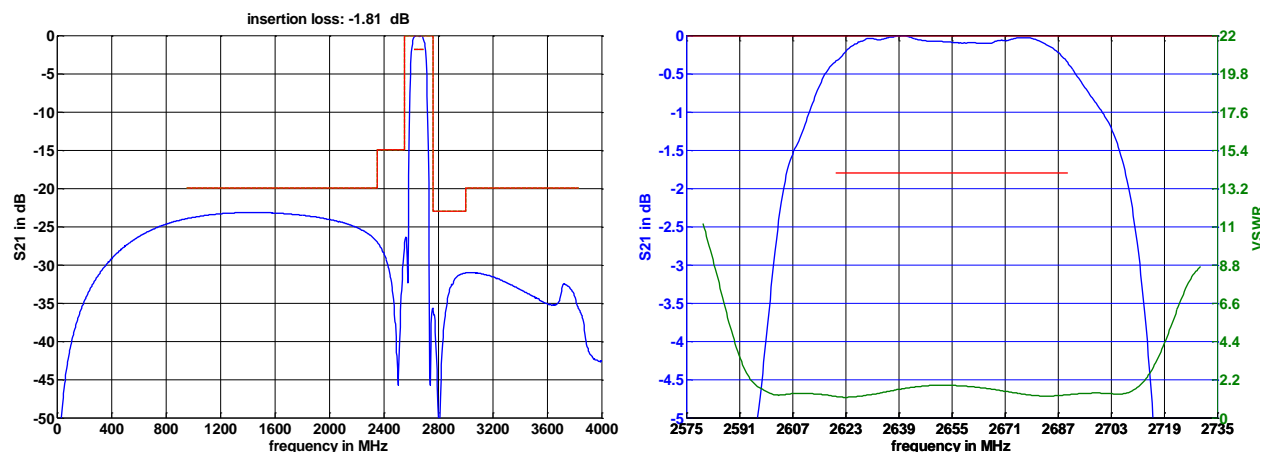
*) 9dBm continuous power over 15 years life time; 15dBm continuous power over 1000h life time

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

Generated:**Checked / Approved:****Microchip Frequency Technology GmbH****Potsdamer Straße 18****D 14 513 TELTOW / Germany****Tel: (+49) 3328 4784-0 / Fax: (+49) 3328 4784-30**

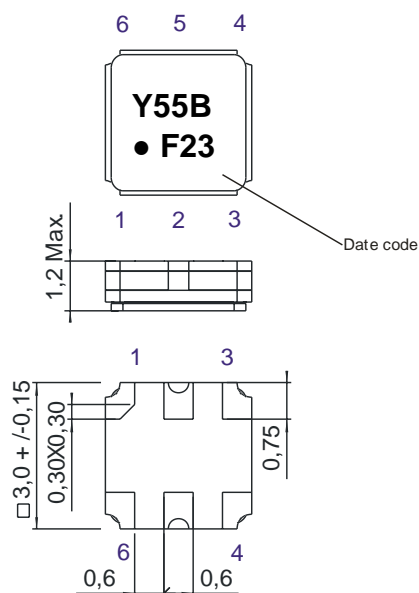
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Filter characteristic



Construction and pin connection

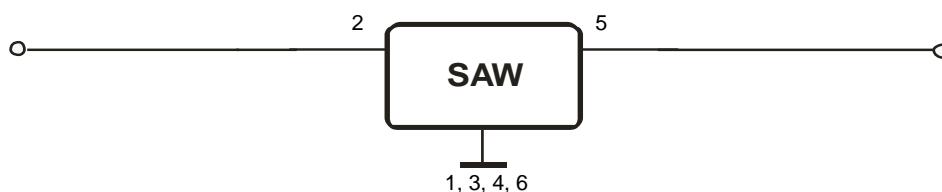
(All dimensions in mm)



1	Ground
2	Input
3	Ground
4	Ground
5	Output
6	Ground

Date code:	Year + week
F	2015
G	2016
H	2017
...	

50 Ohm Test circuit



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Stability characteristics, reliability

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

1. Shock: 500g, 1ms, half sine wave, 3 shocks each plane;
DIN IEC 68 T2 - 27
2. Vibration: 10Hz to 500Hz, 0.35 mm or 5g respectively, 1 octave per min, 10 cycles per plane, 3 planes; DIN IEC 68 T2 - 6
3. Change of temperature: -55°C to 125°C / 15min. each / 100 cycles
DIN IEC 68 part 2 – 14 Test N
4. Resistance to solder heat (reflow): reflow possible: three times max.;
for temperature conditions refer to the attached "Air reflow temperature conditions" on page 4;

This filter is RoHS compliant (2011/65/EU)

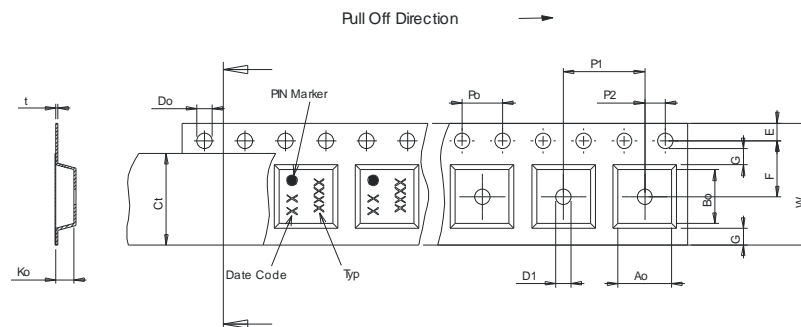
Packing

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

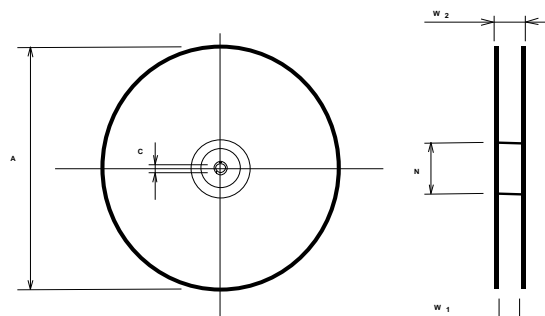
max. pieces of filters per reel: 3000
reel of empty components at start: min. 300 mm
reel of empty components at start including leader: min. 500 mm
trailer: min. 300 mm

Tape (all dimensions in mm)

W	: 8.00 ± 0.3
Po	: 4.00 ± 0.1
Do	: 1.50 +0.1/-0
E	: 1.75 ± 0.1
F	: 3.50 ± 0.05
G(min)	: 0.75
P2	: 2.00 ± 0.05
P1	: 4.00 ± 0.1
D1(min)	: 1.50
Ao	: 3.25 ± 0.1
Bo	: 3.25 ± 0.1
Ct	: 5.3 ± 0.1

**Reel (all dimensions in mm)**

A	: 330 or 180
W1	: 8.4 +1.5/-0
W2(max)	: 14.4
N(min)	: 60
C	: 13.0 ± 0.2



The minimum bending radius is 45 mm.

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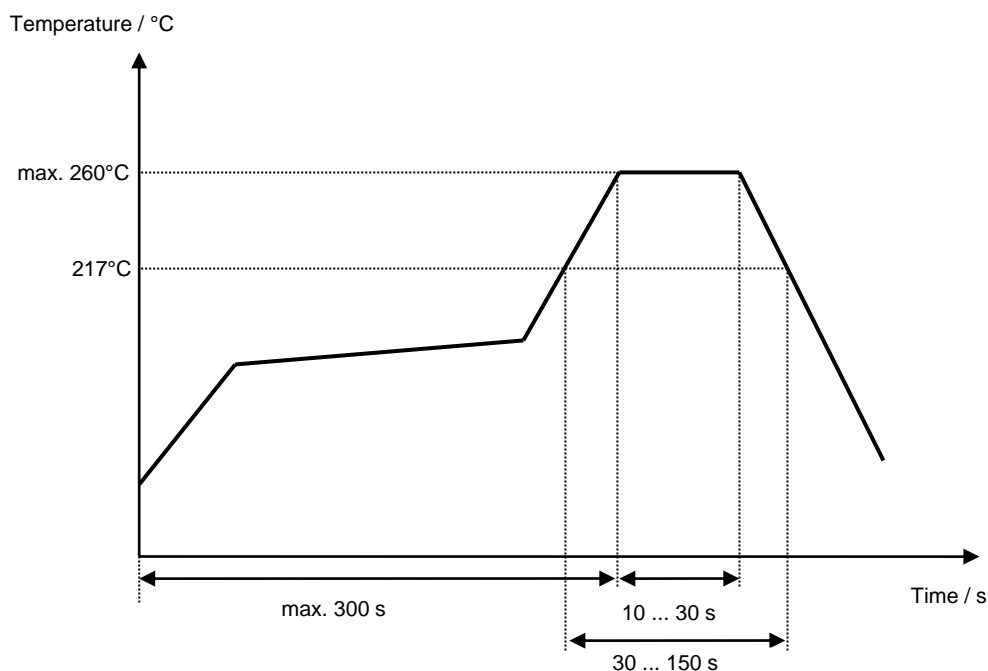
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Air reflow temperature conditions

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**Microchip Frequency Technology GmbH****Potsdamer Straße 18****D 14 513 TELTOW / Germany****Tel: (+49) 3328 4784-0 / Fax: (+49) 3328 4784-30**

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Microchip**Filter specification****TFS 2655B****5/5****History**

Version	Reason of Changes	Name	Date
1.0	Generation of development specification	S.Springfeldt	04.09.2014
1.1	Refinement of power conditions due to customer requirement	S.Springfeldt	05.09.2014
1.2	Change of package (long pin1 to short pin1) Minor changes in the remark section	S.Springfeldt	12.09.2014
1.3	Generation of filter specification	S.Springfeldt	07.10.2014
1.4	Updating typical values and plots after filter optimisation	S.Springfeldt	03.06.2015

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