Measurement condition

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

Characteristics

Remark:
The reference level for the relative attenuation a_{rel} of the TFS433AK is the minimum of the pass band attenuation. This value is defined as the insertion loss a_e. The nominal frequency f_N is fixed at 433.92 MHz without any tolerance. The values of relative attenuation a_{rel} are guaranteed over the whole operating temperature range. The frequency shift of the filter within the operating temperature range is included in the production tolerance scheme.

D a t a		typ. value		tolerance / limit		
Insertion loss	a_e	2.75	dB		3.80	dB
(reference level)		-			-	
Nominal frequency	f_N	-			433.92	MHz
Centre frequency	f_C	433.96	MHz		-	
Passband	PB					
1 dB		6.4	MHz	min.	1.71	MHz
Relative attenuation	a_{rel}					
f_N - 0.92 MHz ... f_N + 0.79 MHz		0.4	dB	max.	1	dB
f_N - 8.42 MHz ... f_N - 18.92 MHz		58	dB	min.	37	dB
f_N - 18.92 MHz ... f_N - 25.92 MHz		63	dB	min.	52	dB
f_N - 25.92 MHz ... f_N - 40.92 MHz		65	dB	min.	42	dB
f_N - 40.92 MHz ... f_N - 83.92 MHz		74	dB	min.	52	dB
f_N - 83.92 MHz ... f_N - 423.92 MHz		71	dB	min.	37	dB
f_N + 9.58 MHz ... f_N + 20.08 MHz		26	dB	min.	12	dB
f_N + 20.08 MHz ... f_N + 41.08 MHz		55	dB	min.	34	dB
f_N + 41.08 MHz ... f_N + 141.08 MHz		68	dB	min.	50	dB
f_N + 141.08 MHz ... f_N + 566.08 MHz		50	dB	min.	40	dB
Input power level		-		max.	5	dBm
Operating temperature range	OTR	-		- 40 °C ... + 85 °C		
Storage temperature range		-		- 55 °C ... + 125 °C		
Temperature coefficient of frequency	TC_f *)	-35	ppm/K		-	

*) $\Delta f = TC_f(T - T_A)f_N$

Generated:

Checked / Approved:

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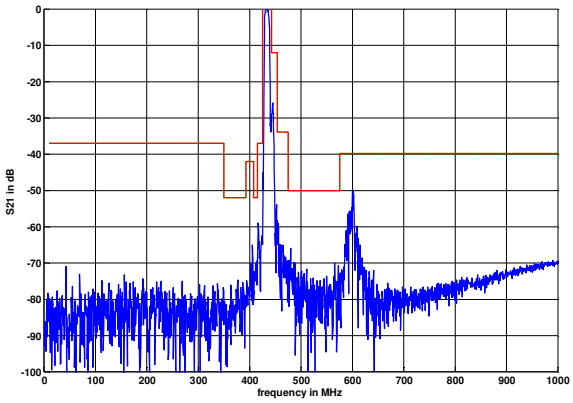
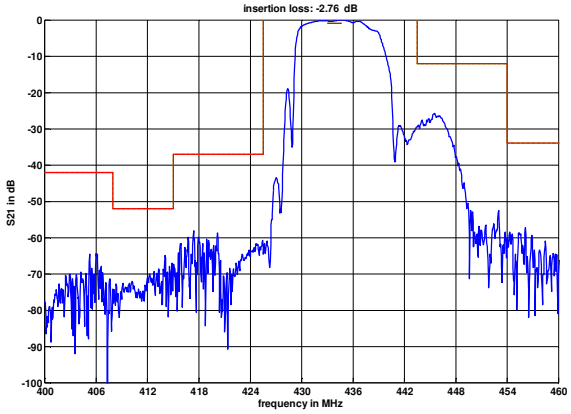
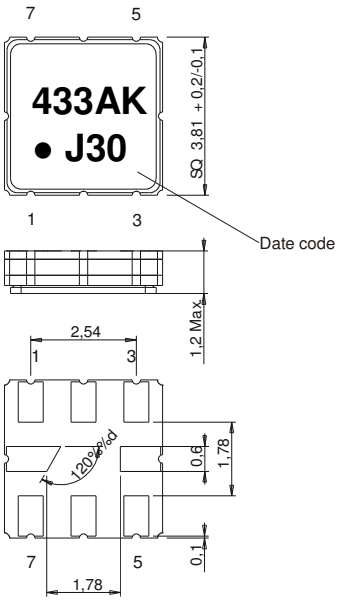
Filter characteristic





Construction and pin connection

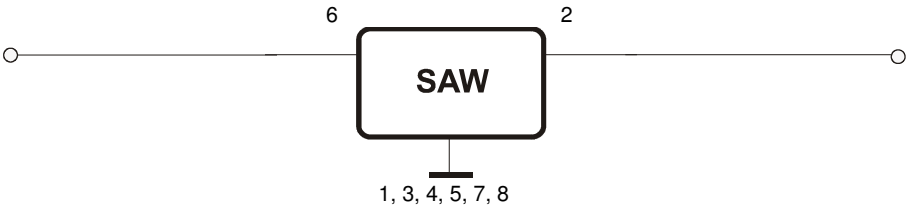
(All dimensions in mm)



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

Date code:	Year + week
J	2017
K	2018
L	2019
...	

50 Ohm Test circuit



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Stability characteristics, reliability

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

1. Shock: 500 g, 1 ms, half sine wave, 3 shocks each plane; DIN IEC 60068 T2 - 27

2. Vibration: 10 Hz to 2000 Hz, 0.35 mm or 5 g respectively, 1 octave per min, 10 cycles per plane, 3 planes; DIN IEC 60068 T2 - 6

3. Change of temperature: -55 °C to 125 °C / 15 min. each / 100 cycles DIN IEC 60068 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;

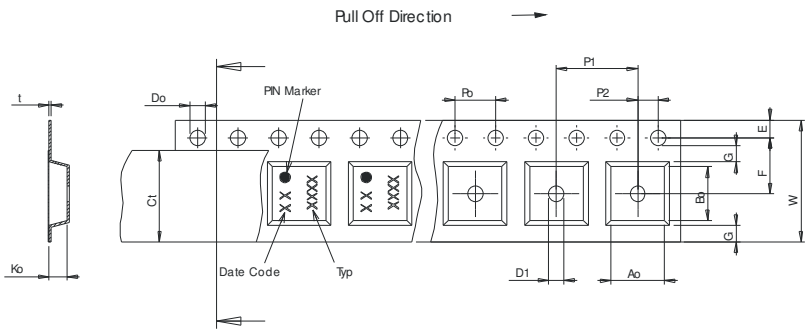
5. SAW devices are Electrostatic Discharge (ESD) sensitive devices.

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;

reel of empty components at start:	min. 300 mm
reel of empty components at start including leader:	min. 500 mm
trailer:	min. 300 mm

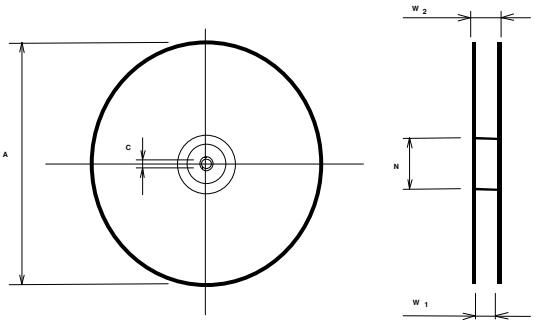


Tape (all dimensions in mm)

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	:	9.2	±0.1
Ko	:	1.80	±0.1
t	:	0.30	±0.05

Reel (all dimensions in mm)

A	:	330	or 180
W1	:	12.4	+2/-0
W2(max)	:	18.40	
N(min)	:	50.00	
C	:	13.0	+0.5/-0.2



The minimum bending radius is 45 mm.

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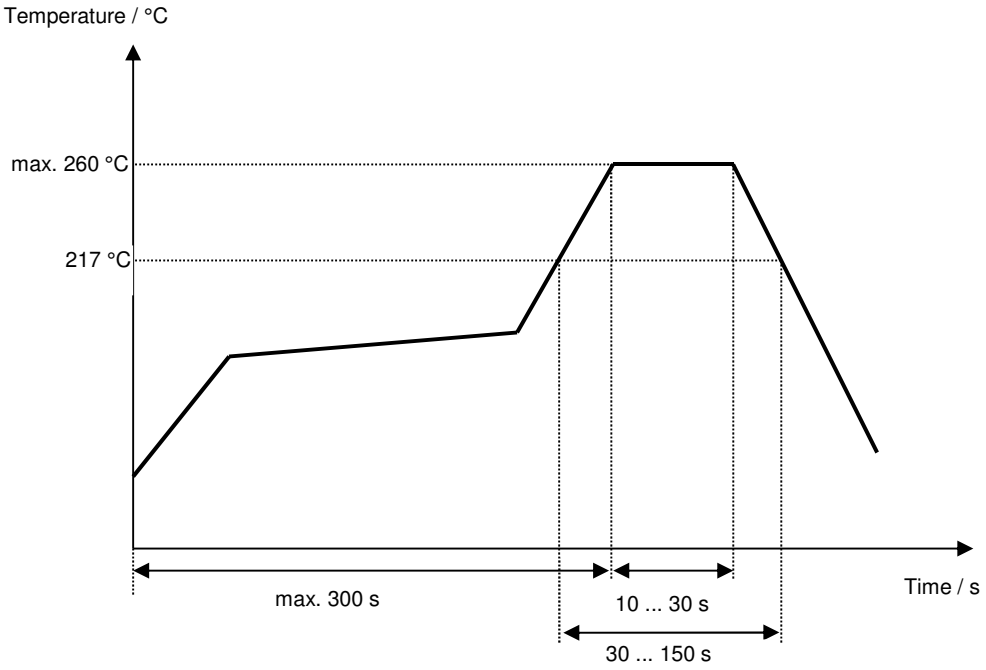
Air reflow temperature conditions

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



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History

Version	Reason of Changes	Name	Date
1.0	Generation of filter specification.	Abutaimah	09.03.2017
1.1	Update storage temperature range Update construction and pin connection Update 50 Ω test circuit Update tape & reel Update typos	P. Jaster	27.07.2017

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ООО «ЛайфЭлектроникс» “LifeElectronics” LLC

ИНН 7805602321 КПП 780501001 Р/С 40702810122510004610 ФАКБ "АБСОЛЮТ БАНК" (ЗАО) в г.Санкт-Петербурге К/С 30101810900000000703 БИК 044030703

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

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- *Специальные условия для постоянных клиентов.*
- *Подбор аналогов.*
- *Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.*

- *Приемлемые сроки поставки, возможна ускоренная поставка.*
- *Доставку товара в любую точку России и стран СНГ.*
- *Комплексную поставку.*
- *Работу по проектам и поставку образцов.*
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- *Тестирование поставляемой продукции.*
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- *Входной контроль качества.*
- *Наличие сертификата ISO.*

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