1.0 SCOPE

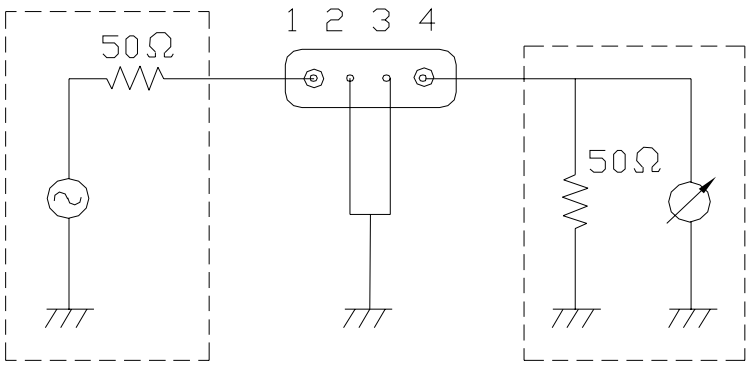
This specification describes a through hole 400.0 MHz SAW FILTER for RF telecommunication.

2.0 ELECTRICAL SPECIFICATIONS

ABRACON P/N: **AFS400.0W01-TD01**
Operating temperature: **-20°C to +60°C**
Storage temperature: **-40°C to +85°C**
AC Voltage : **10 V 50Hz/60Hz**
Maximum Input Power : **0 dBm**

Item	Specification			Unit
	Minimum	Typical	Maximum	
Center Frequency (f_0)		400.00		MHz
Usable Signal Band (BW)		±2.5		MHz
Insertion loss (IL) (fo ± 2.5MHz)		3.2	4.5	dB
Absolute Attenuation α				
DC ~ 380MHz	38	47		dB
425 ~ 600Mhz	45	55		dB
Pass Band Ripple ($\Delta\alpha$) (fo ± 2.5MHz)			2.0	dB
Input/Output Termination Impedance	50 Ω/0pF			

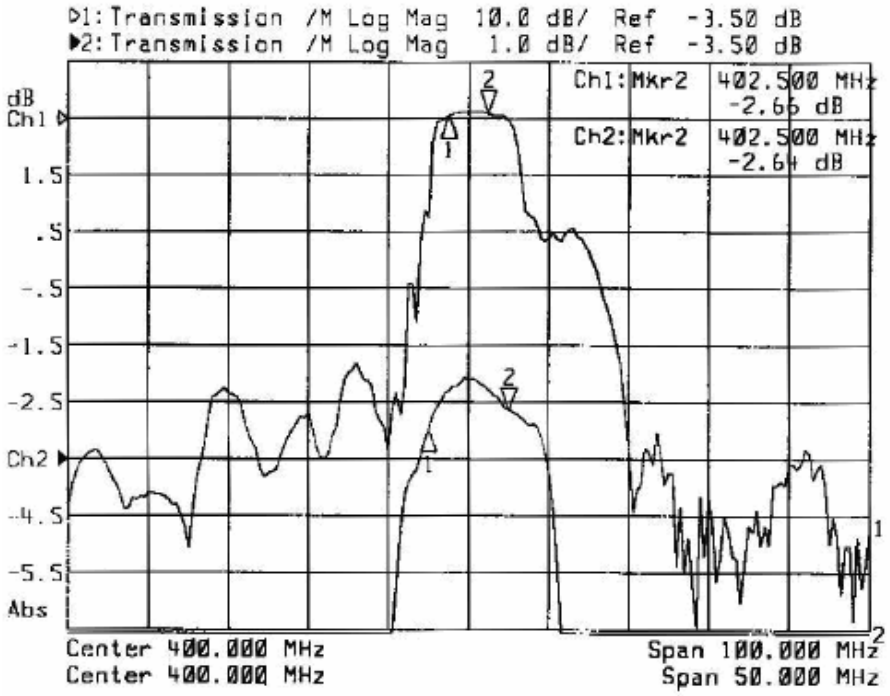
2.1 TEST CIRCUIT



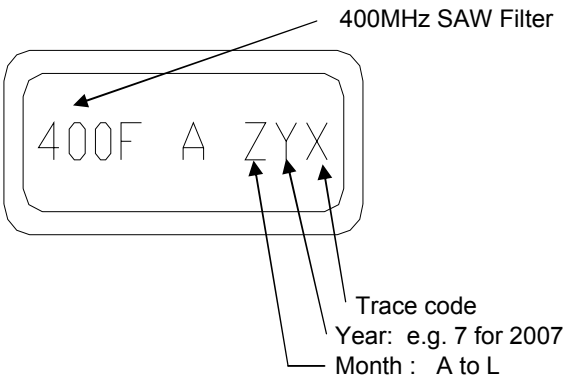
2.2 SPECIAL REQUIREMENT AND REMARKS :

This product is Pb free and RoHS compliant.

3.0 FREQUENCY CHARACTERS



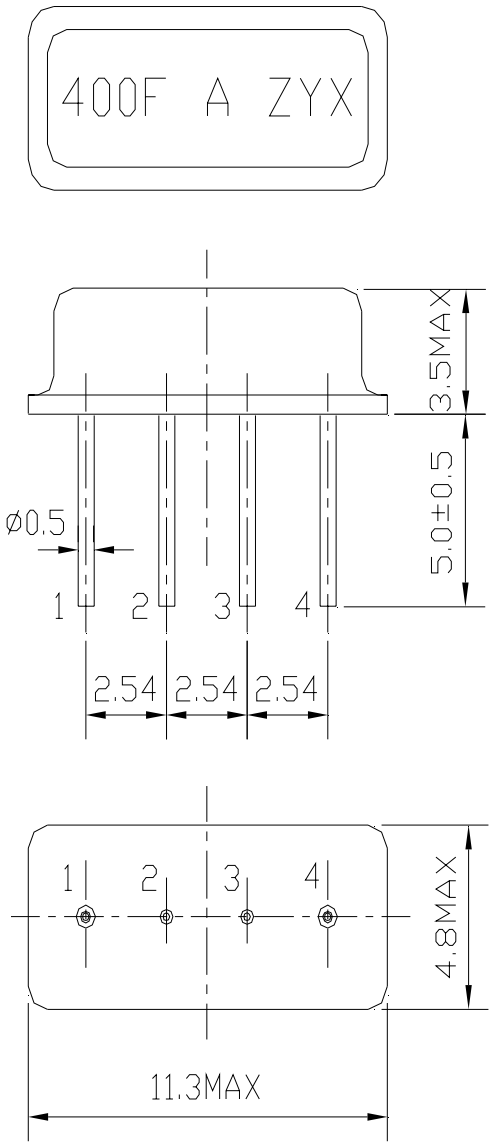
4.0 Marking



Month	Code
January	A
February	B
March	C
April	D
May	E
June	F
July	G
August	H
September	I
October	J
November	K
December	L

4.1 Marking Method : Laser Marking

5.0 Outline dimensions



pin	Function
1	Input/Output
2	Ground
3	Ground
4	Output/Input

Dimension : mm

TOLERANCES:
UNLESS OTHERWISE SPECIFIED: .X: ± 0.1 (0.25) .XX: ± 0.01 (0.025) .XXX: ± 0.005 (0.013)

6.0 Reliability Test

6.1 Resistance to Soldering heat:

6.1.1 The components shall remain within the electrical specifications after it soldered on the 1mm-thickness PCB board and dipped in the solder at 250℃±5℃ for 5±1 seconds.

6.1.2 The components shall remain within the electrical specifications after it soldered by electric iron, solder at for 3~4 seconds, recovery time : 2h±0.5h

6.2 Thermal Shock:

The components shall remain within the electrical specifications after being kept at the condition of heat cycle conditions: TA=-40℃±3℃, TB=85℃±2℃, t1=t2=30min, switch time≤3min & cycle time : 100 times, recovery time :

6.3 The Temperature Storage:

6.3.1 High Temperature Storage: The components shall remain within the electrical specifications after being kept at the 85℃±2℃for 500 hours, recovery time : 2h±0.5h.

6.3.2 Low Temperature Storage: The components shall remain within the electrical specifications after being kept at the –40℃±3℃for 500 hours, recovery time : 2h±0.5h.

6.4 Humidity test:

The components shall remain within the electrical specifications after being kept at the condition of ambient temperature 60℃±2℃, and 90~95% RH for 500 hours.

6.5 Drop test:

The components shall remain within the electrical specifications after random free drops 10 times from height of 1.0 meter onto concrete floor, and the specimens shall meet the electrical specifications in table 5, external visual inspection.

6.6 Solderability test:

At the condition of temperature 230℃±5℃ Depth: DIP 2/3 , SMD 1/5, time: 3.0s-5.0s, 80% or more of the immersed surface shall be covered with solder and well-proportioned.

6.7 Vibration Fatigue:

The components shall remain within the electrical specifications after loaded vibration at 10~55Hz, amplitude 1.5mm, X, Y, Z, direction, for 2 hours.

6.8 Terminal strength:

The force 10±1 seconds of 19.6N is applied to each terminal, and 45° in the same direction 2 times with 2N bending force (Exception: SMD)

5.1.1 Static voltage

Static voltage between signal load & ground may cause deterioration & destruction of the SAW filter. Please avoid static voltage.

5.1.2 Ultrasonic cleaning

Ultrasonic vibration may cause deterioration & destruction of the SAW filter. Please avoid ultrasonic cleaning.

5.1.3 Soldering

Only leads of the component may be soldered. Please avoid soldering other parts of the component.

6.9 Mechanical Shock:

The components shall remain within the electrical specifications after 1000 shocks, acceleration 392 m/s2 , duration 6ms.

Note: As a result of the particularity of inner structure of SAW products, it easy to be breakdown by electrostatic, so we should pay attention to ESD protect in the test.

7.0 Soldering Process :

Only leads of component may be soldered. Please avoid soldering another part of component.

7.1 Ultrasonic cleaning :

Ultrasonic vibration may cause deterioration & destruction of the component. Please avoid ultrasonic cleaning.

7.2 Static Voltage :

Static voltage between signal load & ground may cause deterioration & destruction of the component. Please avoid static voltage.

8.0 Note

(1) The parts are manufactured in accordance with this specification. If other conditions and specifications which are required for this specification, please contact ABRACON for more information.

(2) ABRACON will supply the parts in accordance with this specification unless we receive a written request to modify prior to an order placement.

(3) In no case shall ABRACON be liable for any product failure from in appropriate handling or operation of the item beyond the scope of this specification.

(4) When changing your production process, please notify ABRACON immediately.

(5) If you intend to use the product for listed application which may possibly cause to loss of life or assets, please notify ABRACON in advance.
(For example, Medical, Aerospace, Aeronautic equipment, Safety control equipment as well as safety related.)

(6) All specifications and Marking will be subject to change without notice.

(7) See ABRACON website (www.abracon.com) for additional Terms and Conditions.

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