

APPROVAL SHEET

SAW Filter for Multimedia Applications PART NO.: WBX3058D

Product Type:		Customer:	
SAW Filter			
Part NO.:		Customer Part NO.:	
WBX3058D			
Ver. Ctrl.:		Issued Date:	
SFX3058T-061024-v1.2			

PREPARED BY	CHECKED BY	APPROVED BY

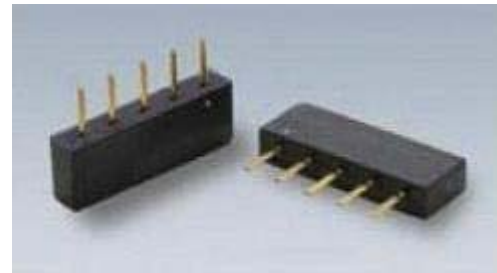
Part No.	:	WBX3058D
Pages	:	7
Data	:	2006-10-24
Revision	:	SFX3058T-061024-v1.2

WORLDBOND PIEZO-ELECTRIC CORP.

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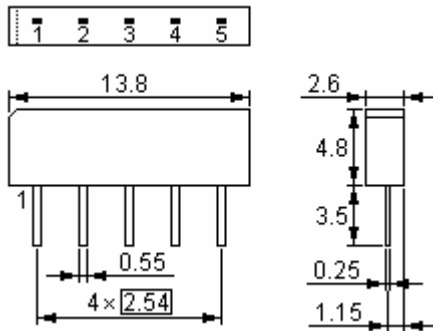
Features

- Standard: HDTV
- Constant group delay
- Optimized for cascade of two devices
- Optimized for balanced to balanced operation
- Plastic Package



Package Dimensions

Plastic Package: **SIP5T**

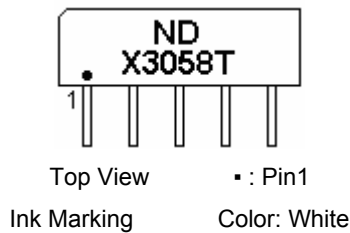


Unit: mm, approx weight 0.5g

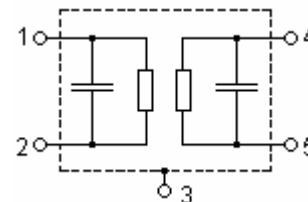
Pin Configuration

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

Marking



Equivalent LC Model



Maximum Ratings

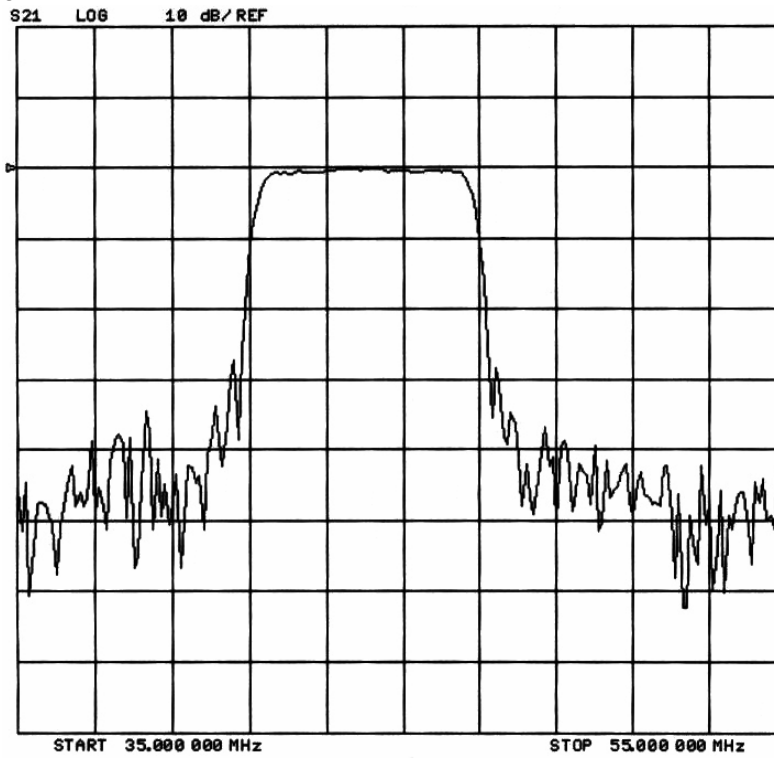
Rating		Value	Unit
DC Voltage (between any terminals)	V_{DC}	5	V
AC Voltage (between any terminals)	V_{PP}	10	V
Operating Temperature Range	T_A	-25 ~ +65	°C
Storage Temperature Range	T_{stg}	-40 ~ +85	°C

Electrical Characteristics

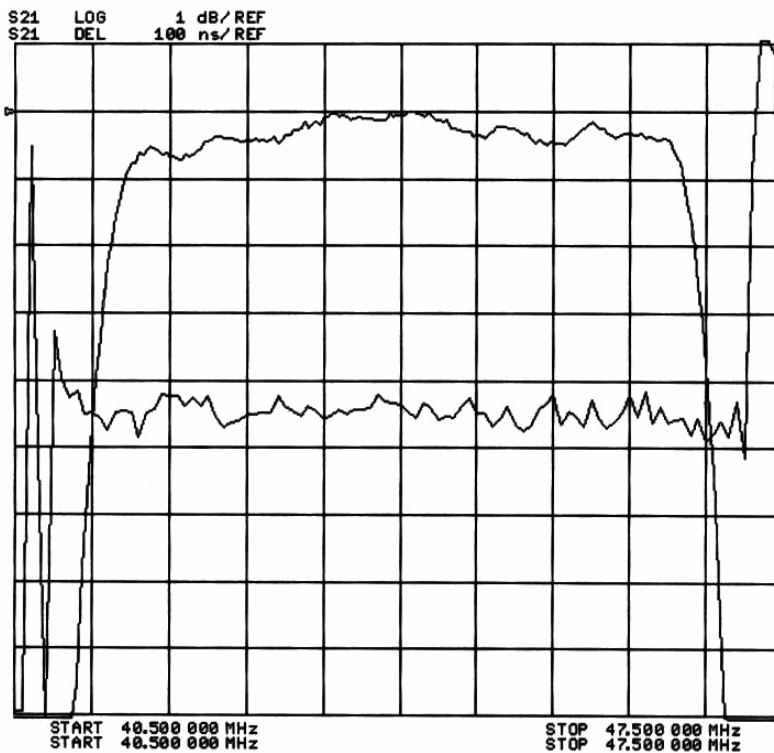
Reference temperature: $T_A = 25^\circ\text{C}$
 Terminating source impedance: $Z_S = 50\Omega$
 Terminating load impedance: $Z_L = 2k\Omega \parallel 3pF$ and matching network

Item	min.	typ.	max.	Unit	
Insertion attenuation					
Reference level for the following data	44.00 MHz	18.5	20.0	21.5	dB
Amplitude ripple (p-p)					
41.60 ... 46.40 MHz	—	0.5	—	dB	
Relative attenuation					
40.75 MHz	25.0	32.0	—	dB	
41.31 MHz	2.0	2.5	3.0	dB	
41.43 MHz	0.1	0.8	1.5	dB	
41.60 MHz	-0.4	0.1	0.6	dB	
46.40 MHz	-0.4	0.1	0.6	dB	
46.57 MHz	0.1	0.6	1.1	dB	
46.69 MHz	1.5	2.0	2.5	dB	
47.25 MHz	25.0	33.0	—	dB	
Lower sidelobe	35.00 ... 39.10 MHz	34.0	42.0	—	dB
	39.10 ... 40.35 MHz	30.0	35.0	—	dB
Upper sidelobe	47.65 ... 48.65 MHz	30.0	35.0	—	dB
	48.65 ... 55.00 MHz	32.0	37.0	—	dB
Reflected wave signal suppression					
1.5 μs ... 6.0 μs after main pulse (test pulse 250 ns, carrier frequency 44.00 MHz)	45.0	55.0	—	dB	
Group delay ripple (p-p)					
41.31 ... 46.69 MHz	—	50	100	ns	
Temperature coefficient of frequency					
	—	-18	—	ppm/K	

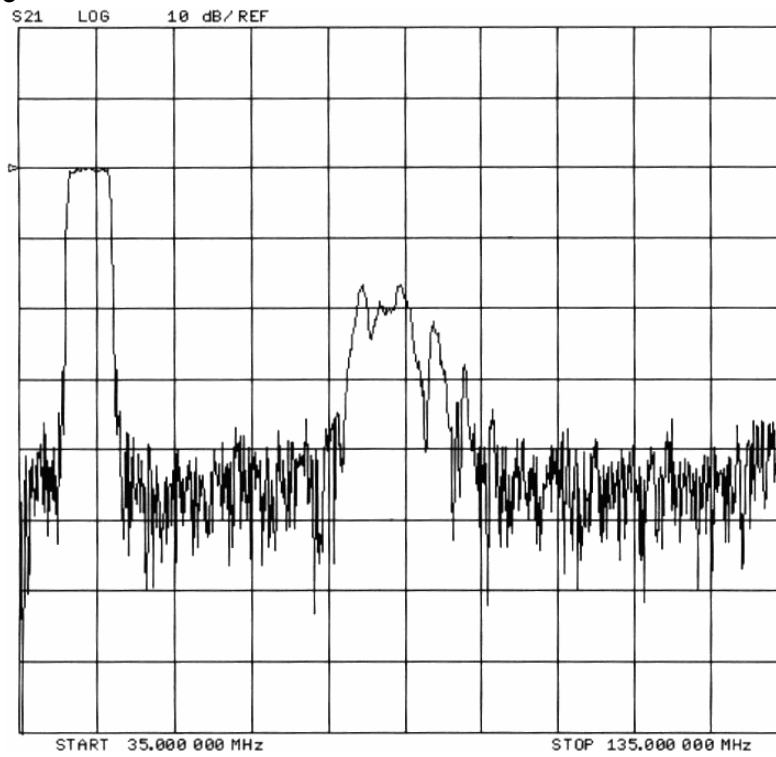
Frequency Response



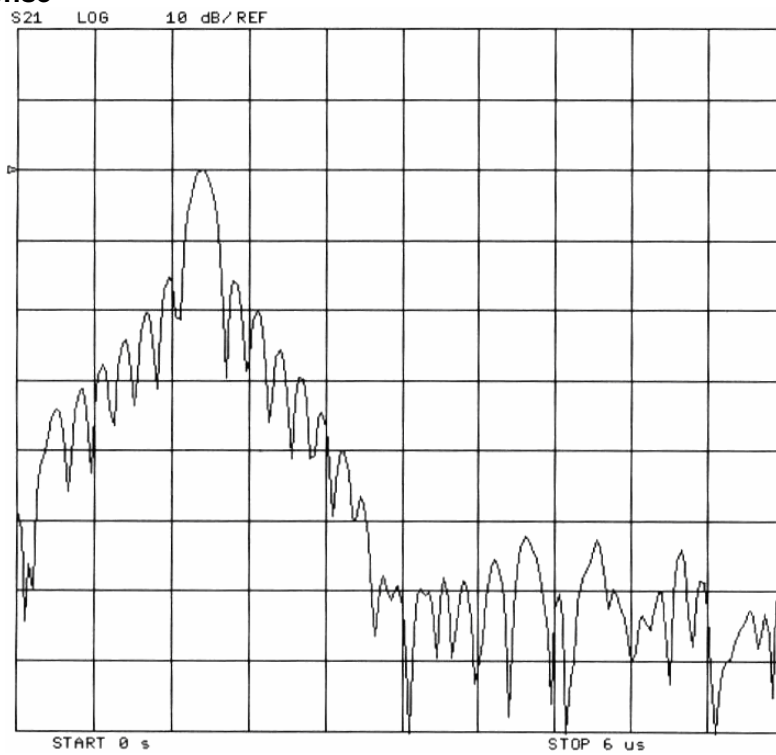
Group Delay



Frequency Response



Time Domain Response



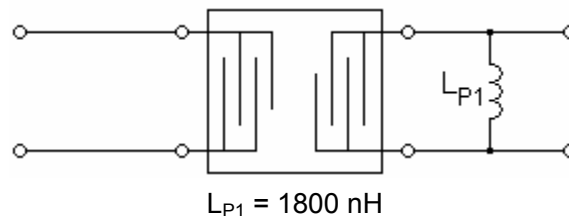
Stability Characteristics

	Test item	Condition of test
1	Mechanical shock	(a) Drops: 3 times on concrete floor (b) Height: 1.0 m
2	Vibration resistance	(a) Frequency of vibration: 10~55Hz (c) Directions: X,Y and Z (b) Amplitude: 1.5 mm (d) Duration: 2 hours
3	Moisture resistance	(a) Condition: 40°C, 90~95% R.H. (c) Wait 4 hours before measurement (b) Duration: 96 hours
4	Climatic sequence	(a) +70°C for 16 hours (c) -25°C for 2 hours (e) Wait 4 hours before measurement (b) +55°C for 24 hours, 90~95% R.H. (d) +40°C for 24 hours, 90~95% R.H.
5	High temperature exposure	(a) Temperature: 70°C (c) Wait 4 hours before measurement (b) Duration: 250 hours
6	Thermal impact	(a) +70°C for 30 minutes ⇒ -25°C for 30 minutes repeated 3 times (b) Wait 4 hours before measurement

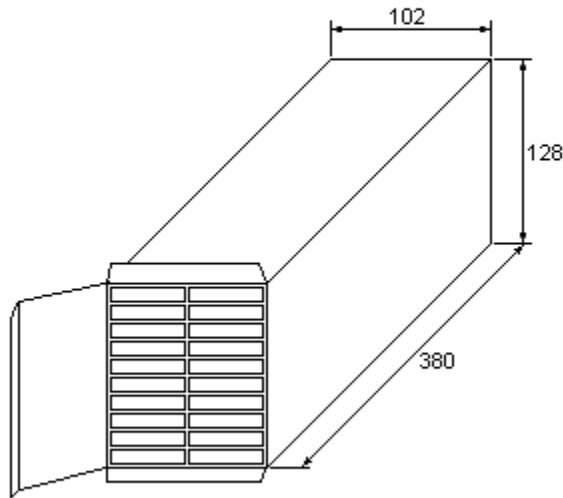
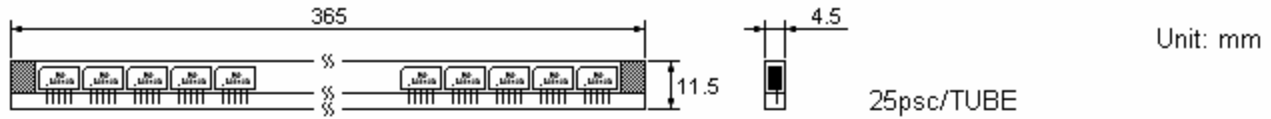
Requirements: The SAW filter shall remain within the electrical specifications after tests.

Remarks

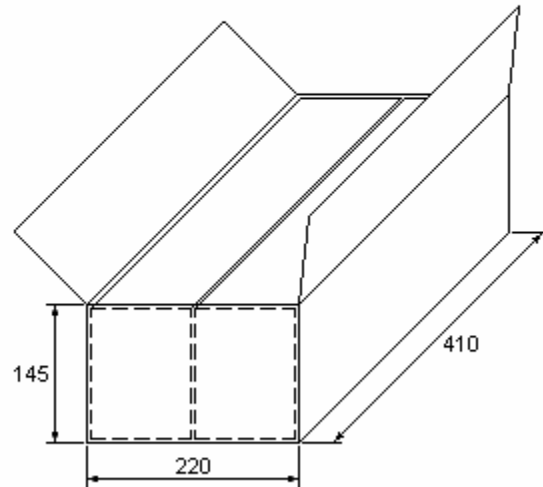
- SAW devices should not be used in any type of fluid such as water, oil, organic solvent, etc.
- Be certain not to apply voltage exceeding the rated voltage of components.
- Do not operate outside the recommended operating temperature range of components.
- Sudden change of temperature shall be avoided, deterioration of the characteristics can occur.
- Be careful of soldering temperature and duration of components when soldering.
- Do not place soldering iron on the body of components.
- Be careful not to subject the terminals or leads of components to excessive force.
- SAW devices are electrostatic sensitive. Please avoid static voltage during operation and storage.
- Ultrasonic cleaning shall be avoided. Ultrasonic vibration may cause destruction of components.

Matching Network

Packing Information



5k/BOX (20 tubes)



10k/CARTON (2 boxes)

1. The specifications of this device are subject to change or obsolescence without notice.
2. Typically, equipment utilizing this device requires emissions testing and government approval, which is the responsibility of the equipment manufacturer.
3. Our liability is only assumed for the Surface Acoustic Wave (SAW) component(s) per se, not for applications, processes and circuits implemented within components or assemblies.
4. For questions on technology, prices and delivery, please contact our sales offices or e-mail sales@worldbond.com