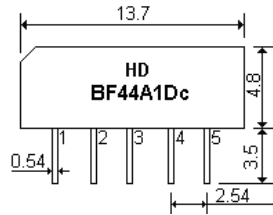




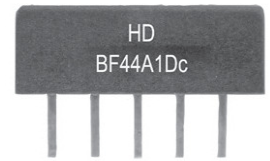
DESCRIPTION

SHOULDER's SAW filter series have broad line up products meeting all broadcast standard including NTSC, PAL and SECAM systems. These filters are composed of two interdigital transducers on a single-crystal piezoelectrical chip. They are used in electronic equipments such as TV and so on.

MECHANICAL DIMENSIONS (All in mm)



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



ELECTRICAL SPECIFICATION - Table 1

Part Number	Frequency	Min	Typ	Max	Unit
Center Frequency	Fo	43.96	44.06	44.16	MHz
Insertion attenuation (Reference level)	44.06MHz	13.2	14.7	16.2	dB
Pass bandwidth	B3dB		6.1		MHz
	B30dB		7.7		MHz
Amplitude ripple	41.53 to 46.59 MHz		0.4	0.8	dB
	41.53MHz		0.4		dB
	46.59MHz		0.4		dB
	41.06MHz	1.8	3.0	4.2	dB
	47.06MHz	1.5	2.7	3.9	dB
Relative attenuation	47.31MHz		6.2		dB
	39.81MHz		52.0		dB
	35.06 to 39.46MHz	40.0	47.0		dB
	39.46 to 40.06MHz	36.0	41.0		dB
Sidelobe	48.06 to 50.06MHz	35.0	40.0		dB
	50.06 to 55.06MHz	38.0	45.0		dB
	Group delay ripple	41.53 to 46.59 MHz		40	80
Temperature coefficient			-72		ppM/k
Reflected wave signal suppression: 1.2µs...6.0µs after main pulse(test pulse 250ns, carrier frequency 44.06MHz)		42	52		dB
Feedthrough signal suppression: 1.2µs...1.1µs before main pulse (test pulse 250ns, carrier frequency 44.06MHz)		50	56		dB
Impedance at 44.06 MHz: Input: Zin = Rin // Cin Output: Zout=Rout // Cout			1.3//16.1 1.1//5.6		kΩ//pF kΩ//pF
Operating Temperature Range		-10	25	+60	°C
Storage Temperature Range		-40		+70	°C

*Source Impedance Zs = 50 Ohms
*Load Impedance ZL = 2kΩ//3pF TA = 25 °C

ENVIRONMENTAL PERFORMANCE CHARACTERISTICS

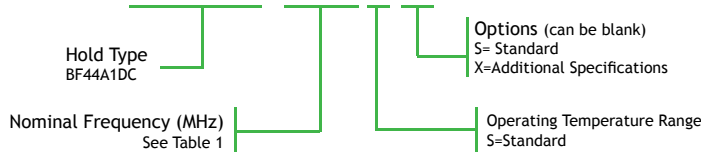
Item	Condition	Specifications
High Temperature		The specimen shall be store at a temperature of 80±2°C for 96±4h. Then it shall be subjected to standard atmospheric conditions for 1h, after which measurement shall be made within 1h.
Low Temperature		The specimen shall be store at a temperature of -20±3°C for 96±4h. Then it shall be subjected to standard atmospheric conditions for 1h, after which measurement shall be made within 1h.
Humidity		The specimen shall be store at a temperature of 40±2°C with relative humidity of 90% to 96% for 96±4h. Then it shall be subjected to standard atmospheric conditions for 1h, after which measurement shall be made within 1h.
Resistance to Soldering heat		Reflow soldering method. Peak: 255 ±5°C, 220 ±5°C, 40s At electrode temperature of the specimen. The specimen shall be passed through the reflow furnace with the condition shown in the above profile for 1 time. The specimen shall be stored at standard atmospheric conditions for 1h, after which the measurement shall be made. Test board shall be 1.6 mm thick. Base material shall be glass fabric base epoxy resin.
Solderability		Immerse the pins melt solder at 260°C+5/-0°C for 5 sec.

Mechanical characteristics and specifications in electrical characteristics shall be satisfied. There shall be no excessive change in appearance.

More than 95% of total area of the pins should be covered with solder

PART NUMBERING SYSTEM (Example)

BF44A1DC-44.06-S-XX

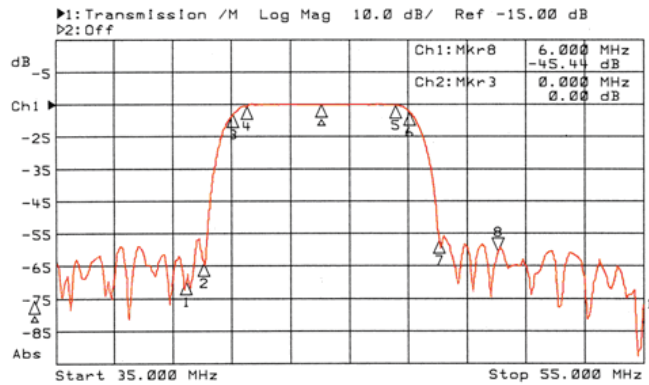


*Operating Temperature Range: 10 to 60°C (Standard)
* Specific Operating Temperature Range under request.

MECHANICAL TEST

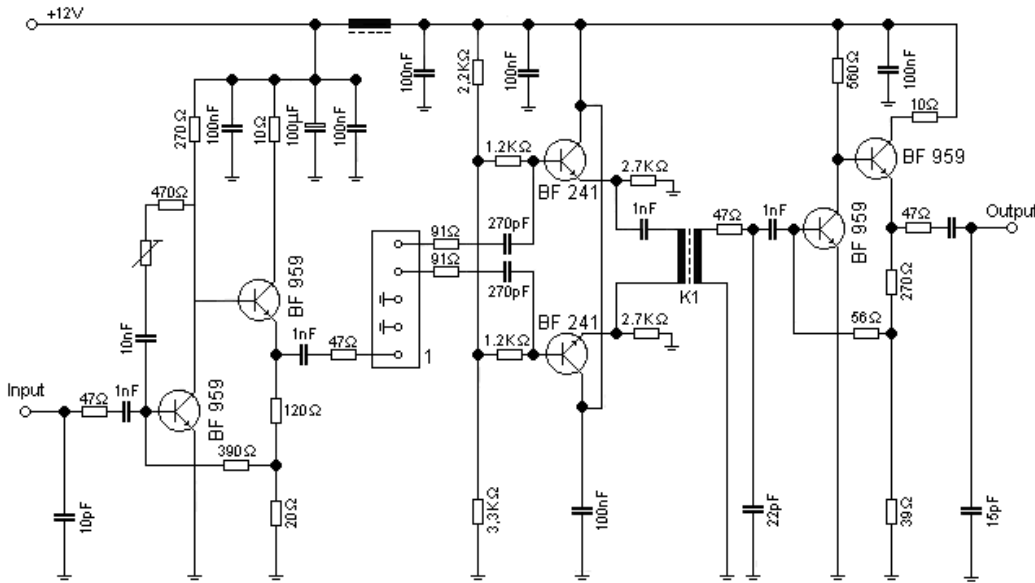
Item	Condition
Vibration	600-3300rpm amplitude 1.5mm 3 directions 2 H each. There shall be no damage
Drop	On maple plate from 1 m high 3 times There shall be no damage
Lead pull	Pull with 1 kg force for 30 seconds. There shall be no damage
Lead bend	90° C bending with 500g weigh 2 times. There shall be no damage

FREQUENCY RESPONSE



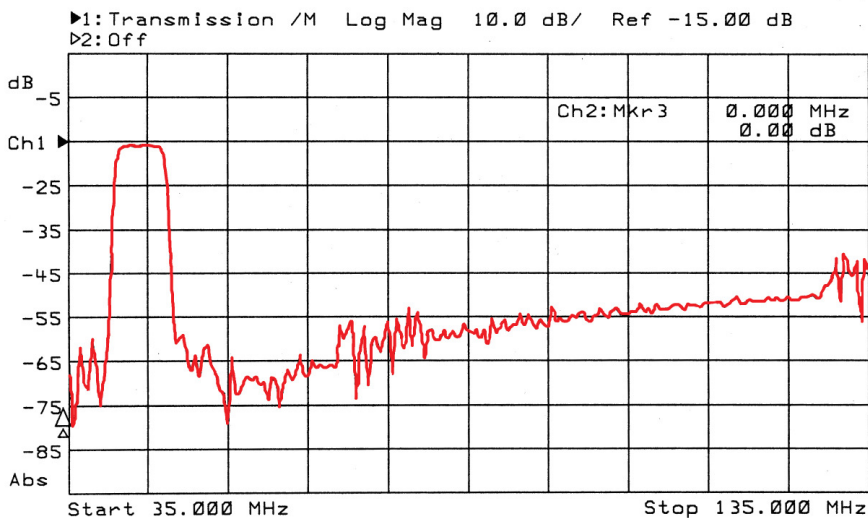
MKR	Δ Freq. (MHz)	Ch1 (dB)
1	-4.600	-54.47
2	-4.000	-49.11
3	-3.000	-3.15
4	-2.530	-0.57
5	2.530	-0.36
6	3.000	-2.44
7	4.000	-42.19
8	6.000	-45.14

ELECTRICAL TEST



Test circuit for SIP-5 filter
 Input impedance of the symmetrical post-amplifier:
 2k in parallel with 3pF
 K1 = 4:2 turns

FREQUENCY RESPONSE



FREQUENCY RESPONSE

