

# Spectral analysis band-pass filter for mini component stereo

## BA3833F

The BA3833F is a 4+1 band-pass filter IC for spectrum analyzer with built-in recording indicator output. External components can be reduced largely by incorporating all capacitors that compose a filter. This enables to make set smaller and more highly-reliable.

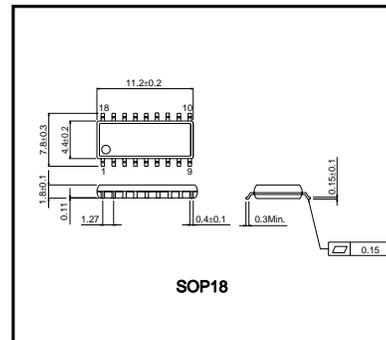
### ●Applications

CD radio cassette player, mini component stereo, car stereo

### ●Features

- 1) Spectral analysis 4-band band-pass filter and rectifier circuit (with internal capacitor).
- 2) Detector circuit for every frequency.
- 3) Parallel output with internal Lch / Rch mixing-up function.
- 4) Single battery operation in 5 to 6 V.

### ●External dimensions (Unit : mm)



### ●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Supply voltage	V <sub>CC</sub>	9	V
Power dissipation	P <sub>d</sub>	550 *	mW
Operating temperature range	T <sub>opr</sub>	-40 to +85	°C
Storage temperature range	T <sub>stg</sub>	-55 to +125	°C

\* For an operation with Ta=25°C or more, 5.5mW shall be reduced per 1°C.  
A glass epoxy board 50mmx50mmx1.6mm in thickness shall be mounted.

### ●Recommended operating conditions (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply voltage	V <sub>IN</sub>	4.5	5	8	V

Audio ICs

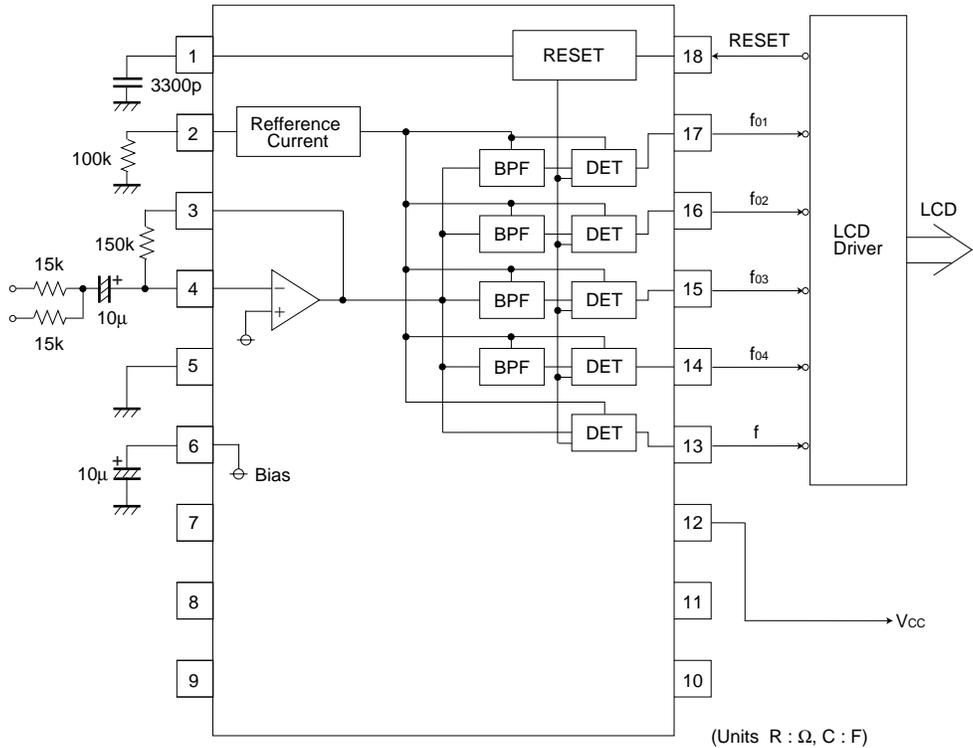
●Electrical characteristics

(Unless specified particularly, Ta=25°C, Vcc=5V, RL=10MΩ, VIN= -30dBV and reset OFF)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Circuit current upon no signal	I <sub>o</sub>	-	4	8	mA	Upon no input
Maximum output level	V <sub>OM</sub>	4.0	4.8	-	V	V <sub>IN</sub> = -14dBV, every output measurement
Output offset voltage	V <sub>OS</sub>	-	30	150	mV	Upon no input
Standard output level 1	V <sub>O1</sub>	1.00	1.80	2.30	V	f <sub>IN</sub> =125Hz, f <sub>o1</sub> output
Standard output level 2	V <sub>O2</sub>	1.00	1.80	2.30	V	f <sub>IN</sub> =500Hz, f <sub>o2</sub> output
Standard output level 3	V <sub>O3</sub>	1.00	1.80	2.30	V	f <sub>IN</sub> =2kHz, f <sub>o3</sub> output
Standard output level 4	V <sub>O4</sub>	1.00	1.80	2.30	V	f <sub>IN</sub> =8kHz, f <sub>o4</sub> output
Standard output level 5	V <sub>O5</sub>	0.80	1.50	1.85	V	f <sub>IN</sub> =1kHz, f <sub>o5</sub> output
Leak current upon reset terminal LOW	I <sub>R</sub>	-	0.5	10	μA	Pin18=0V
Reset terminal H level	V <sub>IH</sub>	3.5	-	-	V	
Reset terminal L level	V <sub>IL</sub>	-	-	1.5	V	

Designed according to Q=1.  
 ©Radiation resistance is not included in the design.

●Application circuit



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