# 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.

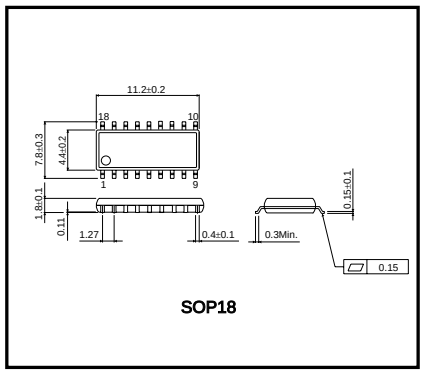
**●Applications**

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)




SOP18

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

| Parameter | Symbol | Limits | Unit |
|---|---|---|---|
| Supply voltage | $V_{CC}$ | 9 | V |
| Power dissipation | Pd | 550 * | mW |
| Operating temperature range | Topr | –40 to +85 | ℃ |
| Storage temperature range | Tstg | –55 to +125 | ℃ |

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

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

| Parameter | Symbol | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|
| Supply voltage | $V_{IN}$ | 4.5 | 5 | 8 | V |

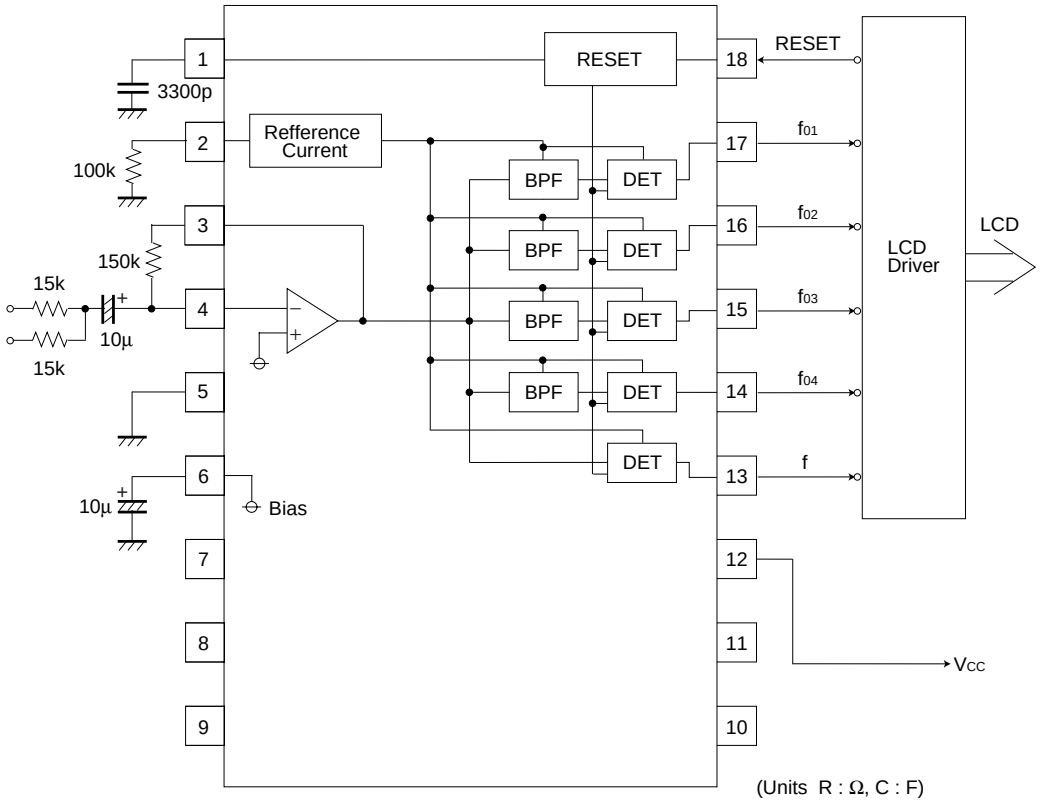
**●Electrical characteristics**

(Unless specified particularly, Ta=25°C, $V_{CC}$=5V, RL=10MΩ, $V_{IN}$= -30dBV and reset OFF)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|---|---|---|---|---|---|---|
| Circuit current upon no signal | $I_Q$ | – | 4 | 8 | mA | Upon no input |
| Maximum output level | $V_{OM}$ | 4.0 | 4.8 | – | V | $V_{IN}$= –14dBV,every output measurement |
| Output offset voltage | $V_{OS}$ | – | 30 | 150 | mV | Upon no input |
| Standard output level 1 | $V_{O1}$ | 1.00 | 1.80 | 2.30 | V | $f_{IN}$=125Hz, $f_{O1}$ output |
| Standard output level 2 | $V_{O2}$ | 1.00 | 1.80 | 2.30 | V | $f_{IN}$=500Hz, $f_{O2}$ output |
| Standard output level 3 | $V_{O3}$ | 1.00 | 1.80 | 2.30 | V | $f_{IN}$=2kHz, $f_{O3}$ output |
| Standard output level 4 | $V_{O4}$ | 1.00 | 1.80 | 2.30 | V | $f_{IN}$=8kHz, $f_{O4}$ output |
| Standard output level 5 | $V_{O5}$ | 0.80 | 1.50 | 1.85 | V | $f_{IN}$=1kHz, $f_{O5}$ output |
| Leak current upon reset terminal LOW | $I_R$ | – | 0.5 | 10 | μA | Pin18=0V |
| Reset rerminal H level | $V_{IH}$ | 3.5 | – | – | V | |
| Reset terminal L level | $V_{IL}$ | – | – | 1.5 | V | |

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

**●Application circuit**




(Units R : Ω, C : F)

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