

System LSI for CD player

BU9354KV

BU9354KV is system LSI for CD player that integrates pre-servo amplifier, signal processing, RAM control for anti-shock and D/A converter for audio into a single chip. Built-in programmable sequencer controller enables to construct optional servo algorithm and servo filter.

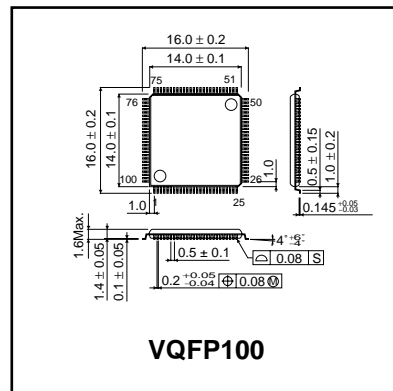
●Applications

Portable CD player

●Features

- 1) Low power consumption design considering operation by using RAM controller.
- 2) Programmable structure including servo filter.
- 3) Built-in x4 speed CMOS structure RF block and signal processing circuit.
- 4) Built-in RAM controller for 4M, 16M DRAM.
- 5) MP3 decoder connectable.

●External dimensions (Units : mm)



●Absolute maximum ratings (Ta=25°C)

| Parameter | Symbol | Limits | Unit |
|----------------------------|------------------|------------|------|
| Supply voltage | V _{CC} | 3.5 | V |
| Power dissipation | P _d | 1.0 * | W |
| Perating temperature range | T _{opr} | -10 ~ +75 | °C |
| Storage temperature range | T _{stg} | -55 ~ +125 | °C |

* Derating : 10mW/°C for operation above Ta=25°C.

●Recommended Operating Conditions (Ta=25°C)

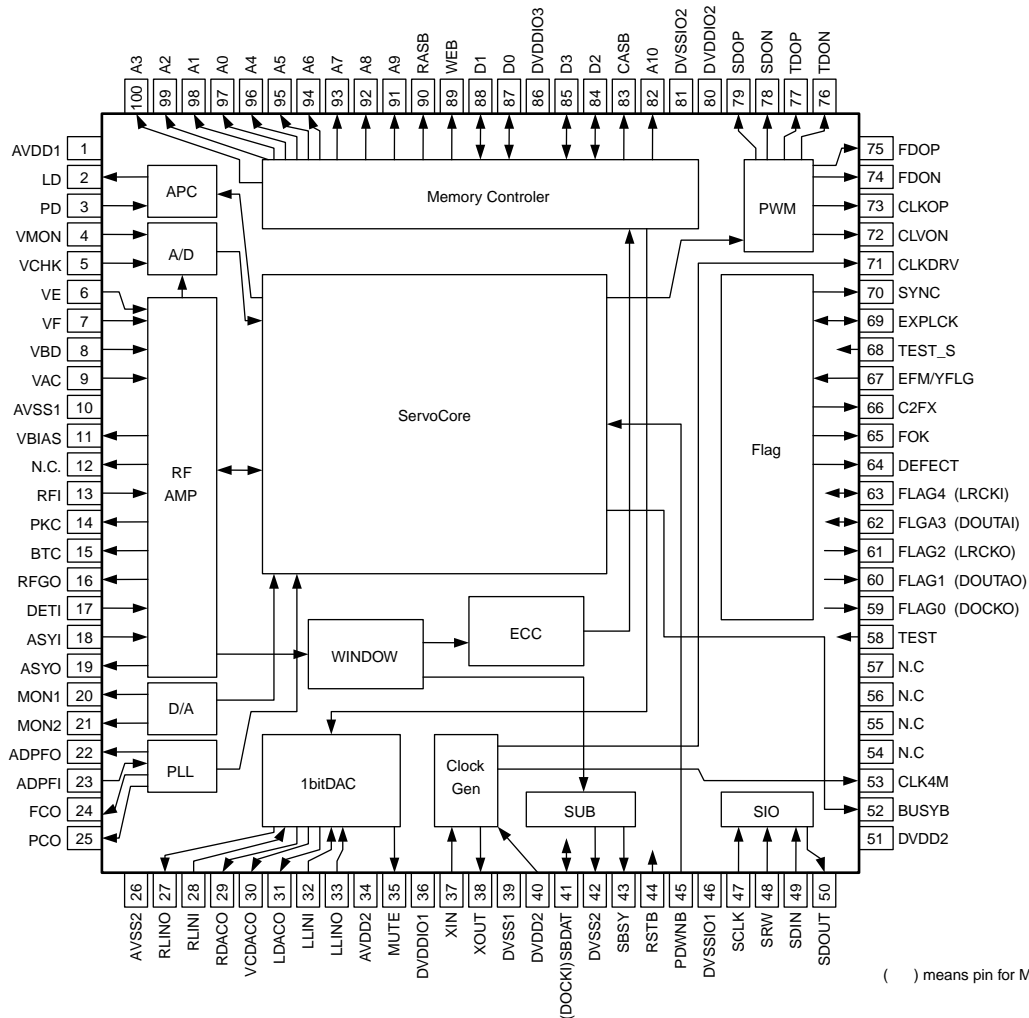
| Parameter | Symbol | Min. | Typ. | Max. | Unit |
|---------------------------|--------------------|------|------|------|------|
| Digital core power supply | DV _{DD} | 1.42 | 1.5 | 1.65 | V |
| Digital I/O power supply | DV _{DDIO} | 1.85 | 2.0 | 2.5 | V |
| Analog power supply | AV _{DD1} | 1.95 | 2.0 | 2.50 | V |
| Audio analog power supply | AV _{DD2} | 1.95 | 2.25 | 2.65 | V |

Optical Discs

●Electrical characteristics (Unless otherwise noted : Ta=25°C, V_{DD}=1.5V, V_{CC}=2.0V)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|------------------------------------|--------------------|------|---------|------|------------------|---------------------------------------|
| Osvillating frequency | fosc | 7 | 16.9344 | 20 | MHz | Ceramic oscillation device connection |
| Servo analog operating current | I _{CCA1} | - | 4.5 | 6.75 | mA | RF Amp. + current |
| Audio analog operating current | I _{CCA2} | - | 1.5 | 2.25 | mA | Post filter for audio |
| Digital core operating current | I _{CCDV} | - | 11 | 16.5 | mA | Digital core operating current |
| I/O operating current | I _{CCDIO} | - | 0.8 | 1.6 | mA | Total current in I/O |
| Servo analog current at sleep mode | I _{OFFA1} | - | 0 | 10 | μA | |
| Digital core current at sleep mode | I _{OFFDV} | - | 4.3 | 6.45 | mA | Spindle is hole at sleep mode |
| Audio distortion rate | THD | - | 0.01 | - | % | 0dB, 1kHz, sin waveform |
| Audio dynamic range | DR | - | 95 | - | dB | -60dB, 1kHz, sin waveform |
| Audio S/N | SN | - | 95 | - | dB | |
| Audio maximum output level | V _{AUMAX} | 0.59 | 0.63 | - | V _{rms} | 0dB, 1kHz, sin waveform |

●Application Circuit



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