

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.

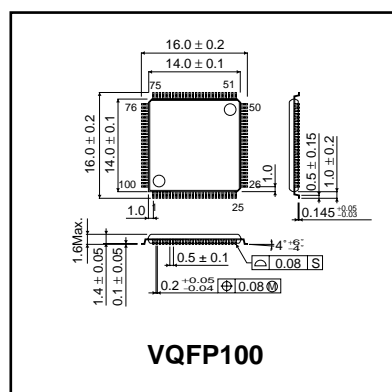
●Applications

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
Operating 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)

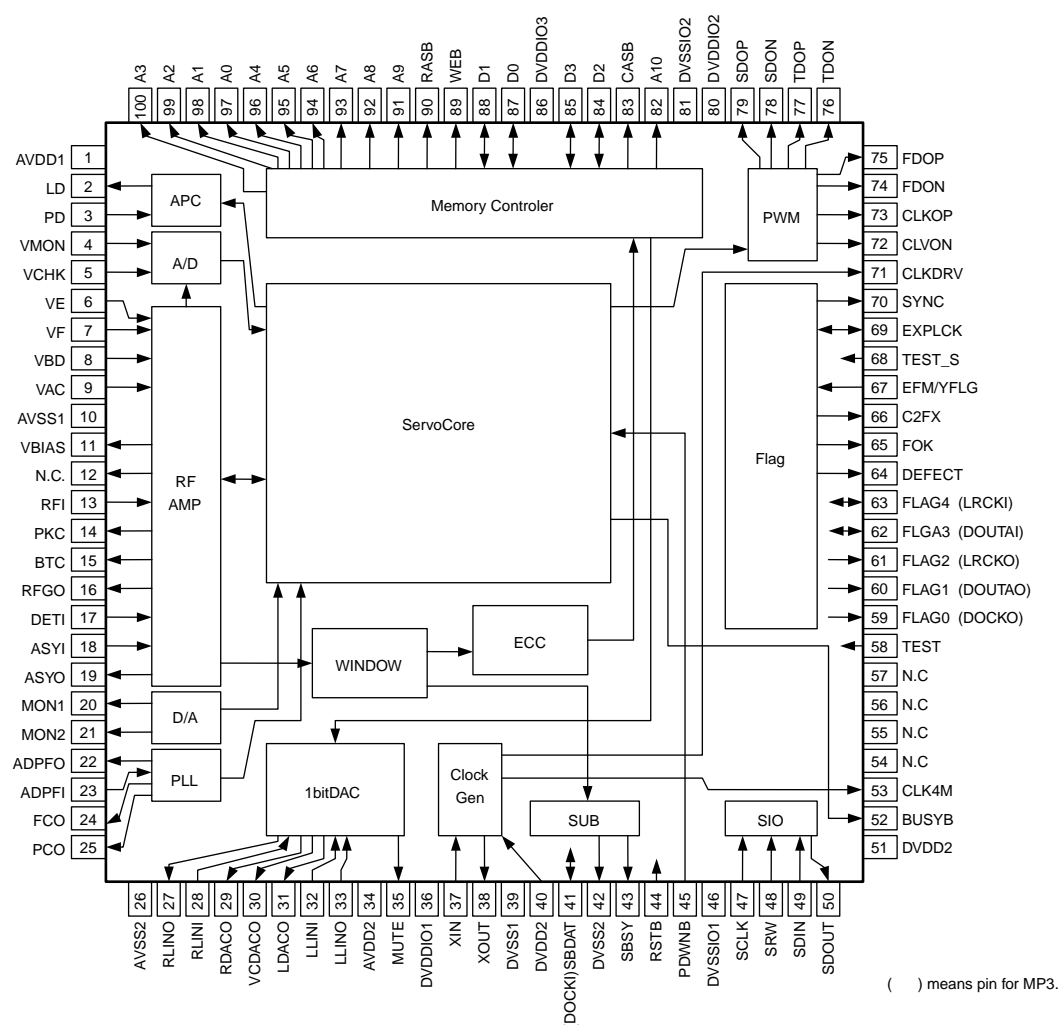
Parameter	Symbol	Min.	Typ.	Max.	Unit
Digital core power supply	DV _{DD}	1.42	1.5	1.65	V
Digital I/O power supply	DV _{DDIO}	1.85	2.0	2.5	V
Analog power supply	AV _{DD1}	1.95	2.0	2.50	V
Audio analog power supply	AV _{DD2}	1.95	2.25	2.65	V

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
Oscillating 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 _{CCDVIO}	—	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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