

## TC94A54MFG/TC94A60MFG Single-chip CD-MP3 Solution

### Highlights

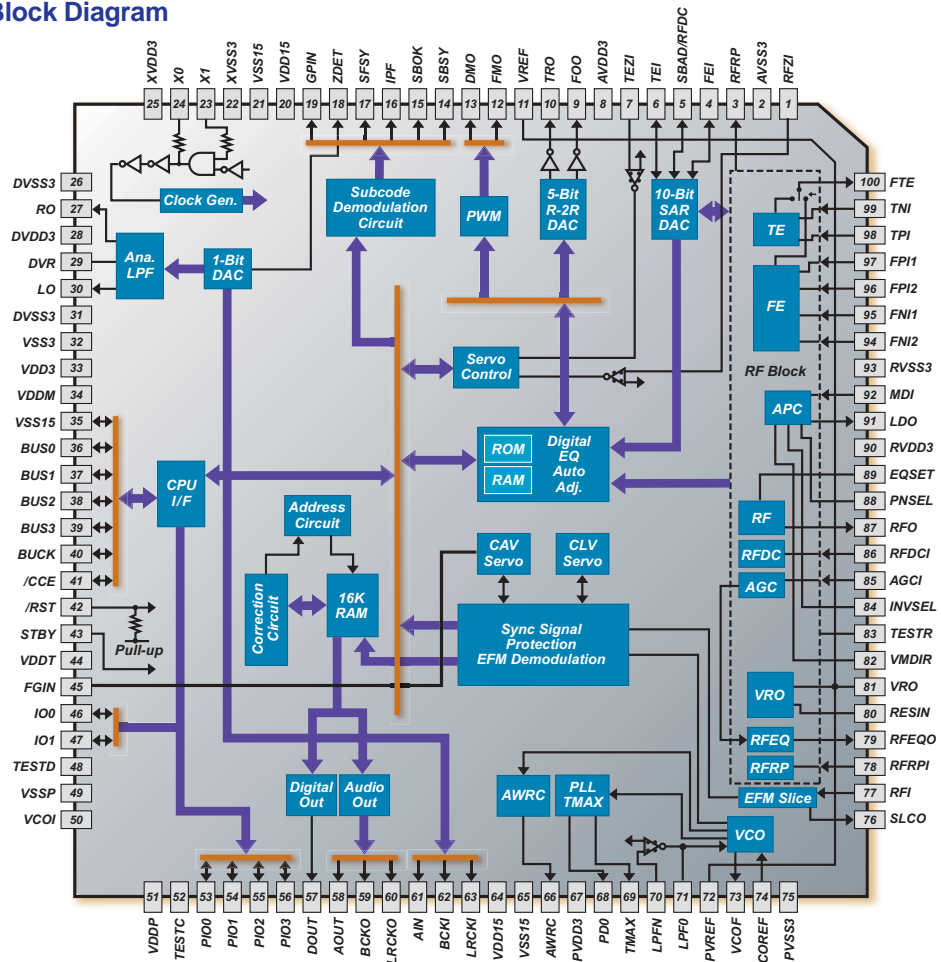
- Highly integrated solution with CD servo, RF amp, 1 Mbit SRAM, decoder and DA converter in a single SiP solution
- Expanding decoder firmware library including MP3, WMA, AAC, ATRAC CD, graphic equalization and surround field effects
- Macro commands simplify software programming
- Programmable RAM and pin-compatible ROM solutions enable customization and design flexibility

### Description

TC94A54MFG and TC94A60MFG are highly integrated, high-performance CD-MP3 solutions that enable playback of CD and multiple compressed audio formats from a single chip. Featuring high-quality audio output in I<sup>2</sup>S, S/PDIF or analog stereo formats, the TC94A54MFG and TC94A60MFG integrate a CD servo, RF amplifier, compressed audio decoder and DA converter in a single system-in-package (SiP) solution. TC94A54MFG

and TC94A60MFG are available in pin-compatible standard ROM versions that can be customized to specific customer requirements using programmable RAM. An extensive decoder firmware library is available for custom ROM versions. TC94A54MFG and TC94A60MFG are ideal for compressed audio CD players where low cost, design flexibility, and high-performance playback and tag/file management are key customer requirements.

### Block Diagram



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TC94A54MFG/TC94A60MFG Single-chip  
CD-MP3 Solution

**TOSHIBA**  
TOSHIBA AMERICA ELECTRONICS COMPONENTS, INC.

# Product Brief

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## Key Features

- CD servo and RF head amplifier with built-in DA converter
- Compressed audio decoder
- Extensive decoder firmware library including MP3, WMA, AAC, ATRAC CD, graphic equalization and surround field algorithms
- Capable of CD text data decoding
- Supports CD-DA and CD-R/RW
- Standard ROM and customized ROM versions available
- 1 Mbit SRAM for error correction and tag/file management
- Programmable RAM for software customization
- Standby function for data storage in 1Mbit SRAM
- I<sup>2</sup>S or S/PDIF output available for external DA converter
- 4-bit parallel CPU interface
- Power requirements: 3.3V and 1.5V
- Lead-free, pin-compatible LQFP100 packages

## Supported Product Families

- TC94A54MFG-001, MP3 and WMA9 decoder firmware
- TC94A54MFG-002, MP3, WMA9, and AAC decoder firmware
- TC94A60MFG-301, MP3 and ATRAC CD decoder firmware

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