DATA SHEET

Part No.	MN2DS0003
Package Code No.	LQFP256-P-2828

MN2DS0003

Single-chip LSI for DVD players

■ Overview

This is a super single-chip LSI for DVD players. A DVD player can be built by connecting this LSI, a driver IC, SDRAM, a flash memory, audio output DAC, and so on.
This LSI builds in Analog Front End (analogFE) for analog signal processing, an optical disk controller which deals with servo control, and error correction, AV decoder which supports MPEG1/MPEG2/JPEG video decoding and DVD Audio/Windows Media Audio (WMA)/MP3 audio decoding, and a 32-bit CPU as a system controller with instruction cache.

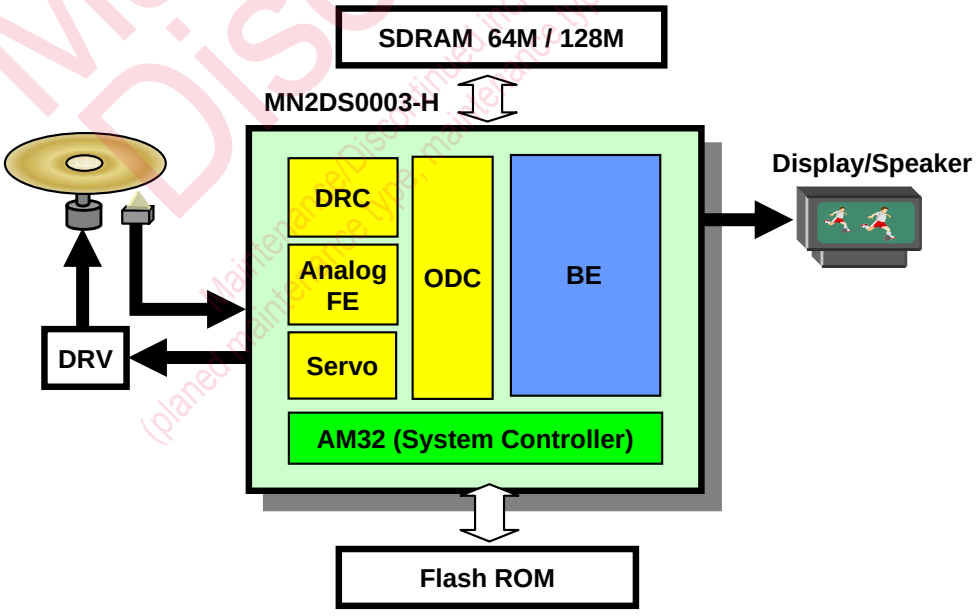
■ Feature

- High readability with built-in analog front-end DRC (digital read channel)
- Various audio decoding (DVD Audio/WMA/MP3)
- Progressive output
- 4.7 G RAM play
- FE/BE Unified Memory Architecture
- Built-in Audio PLL

■ Applications

DVD player for DVD-Audio and DVD-RAM

■ System block diagram of DVD player



Note : The detailed information for this product is disclosed after non-disclosure agreement between your company and MEI.

■ Specifications

BLOCK	FUNCTION	FEATURE
SYSTEM CONTROLLOR	CPU Core	Load/store architecture of five-step pipelining Linear address space is supported by no more than 4G bytes. 4K bytes instruction cache memory and 8K bytes data RAM
	Flash-ROM BUS I/F	Memory capacity up to 1-64 M bits. Address/data multiplex mode and separation mode are supported.
	Timer	16-bit up/down counter × 2 (Up/Down counter) 8-bit down counter × 8 (Down counter/Cascade connection available) Watchdog timer
	Serial I/F	Synchronous type (including I2C)/UART × 4 7/8-bit character length selectable, sends bit order selectable from LSB/MSB
FE	Error Correction	DVD error correction (Inner: 5 pile correction, Outer:8 pile correction, 16 burst correction) All CD-ROM mode including video CD data processing are supported. CLV16th velocity continuous reading, CD-DA look-ahead function,CD-Text
	Analog signal processing	Circuit which operates the signal from an optical pick-up and the RF signal processing circuit are built in.
	SERVO control function	Focus servo control, tracking servo control and traverse servo control function Automatic adjustments(balance adjustment and gain adjustment for focus/tracking) CLV control and CAV control by FG signal
	CIRC function	Synchronous reproduction of rotation around disk (jitter free) mode function CD error correction (C1: double correction, C2: four pile correction) Built-in audio circuit and differential OP amplifier (2-dgree LPF)
	FE/BE memory sharing	FE/BE Unified Memory Architecture
BE	Stream decoding	MPEG1 system stream/MPEG2 program stream
	Video decoding	MPEG1 video standard/MPEG2 video standard
	Still picture decoding	DVD sub-image (SPU)･SVCD sub-image(OGT) DVD-Audio still picture JPEG(Exif standard conforming)
	Audio decoding	Dolby Digital™･dts™ MPEG1&2 Layer2/Layer3(MP3) DVD Video standard Linear PCM/DVD Audio standard (Linear PCM/MLP) WMA™･CD-DA
	Copyright protection	Descramble function(CSS, CPPM, CPRM) Audio Watermark detection･CGMS･WSS Macrovision Rev.7.1.L1･ Macrovision (Progressive) Rev.1.2
	Video output	54 MHz 10-bit DAC(5-ch.) NTSC/PAL/PAL60 encode Progressive output (525P/625P) Y/Cb/Cr output (interlace/progressive) Y/C/Composite output (interlace) RGB output･Digital video output (REC656)
	Audio output	PCM output: 6-ch. + Mix 2-ch. Digital audio output (IEC60958/61937)
	Other functions	OSD two-plain display Scaling function of main image, sub-image, and JPEG image
Power		3.3 V(I/O)/1.2V (Core)
Package		LQFP-256-pin

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