MB86H55/MB86H56
Ultra Low Power Full HD H.264 Codec

Introduction
The Fujitsu MB86H55, MB86H56 can compress and decompress full high-definition (HD) video (1920 dots x 1080 lines) in the H.264 format in real-time.

The two products feature power consumption of only 500mW during Full HD encoding including the in-package memory, an industry-leading level for low power consumption. In addition, MB86H56 offers processing of Full HD video at 60p, to improve picture quality even further.

These two products have memory in-package size of 15mm x 15mm, thus making it ideal to record, play and transmit superior picture quality HD video on portable devices such as digital camcorders, as well as on home networked appliances, commercial broadcast equipment, and security cameras.

Features
- Small form-factor, low power consumption necessary for portable devices
Both new products contain one 512M bit memory in-package. Due to the reduction in the number of memory chips, as well as the usage of 65nm process technology, the power consumption during Full HD encoding, including the in-package memory, is reduced to 500mW (at 60i). Also, it is provided in a small form-factor, 15mm x 15mm package.
- Processing at 60p further improves picture quality (MB86H56)
The existing CODEC product, MB86H51, processes video at 30 frames per second(60i); while the new MB86H56 doubles this to 60 frames per second, to boost picture quality.
- Both LSIs feature embedded Up/Down scalar
Both products have an embedded scaler for expansion or reduction of the picture. In units of 16 bit x 32 lines, the scalar can be expanded by a maximum of 6 times or reduced to 1/6.
- Improved connectivity to peripheral LSIs
Both products contain many interfaces for improved connectivity. There is a 16 bit parallel interface and a TS interface as the video stream interface. In addition, there is a serial interface in which a reduction of pins for host interface is possible, as well as a PCI interface for connecting a PC or a recorder. Connection to external ROM is also possible, thus realizing high-speed boot for devices that feature this LSI.

Specifications
- Video
  - Profile: MB86H55: H.264 high profile / Level 4.2; H.264 Baseline profile: Level 3.0
  - Resolution: 1920 x 1080, 650 x 350 (30p, 25p, 24p); 1440 x 1080, 650 x 350 (30p, 25p, 24p)
  - Bit Rate: MB86H55: 24Mbps (Max.), MB86H56: 30Mbps (Max.)
- Audio
  - Interface: SPE 2746, SPE 32MB+32MB-2011, ITU-R BT.656, External sync mode (HDCP) + TPEG data
  - Input Clock Frequency: 72MHz

MB86H55/MB86H56 Sample Application Diagram

FUJITSU MICROELECTRONICS LIMITED
Shanghai, China, Shanghai, Dongchuan Road, No.110, Shanghai 201203, China
Tel: +86-21-6146-3688 Fax: +86-21-6335-1605
http://www.fujitsu.com/sg/microelectronics/

Specifications are subject to change without notice. For further information please contact our office.

All Rights Reserved.

FUJITSU MICROELECTRONICS LIMITED
Shanghai, China, Shanghai, Dongchuan Road, No.110, Shanghai 201203, China
Tel: +86-21-6146-3688 Fax: +86-21-6335-1605
http://www.fujitsu.com/sg/microelectronics/

North and South America
FUJITSU MICROELECTRONICS AMERICA, INC.
1250 E. Alum Rock Ave., San Jose, CA 95126, U.S.A.
Tel: +1-408-739-5500 Fax: +1-408-739-5505

Europe
FUJITSU MICROELECTRONICS EUROPE GmbH
Dahlemstrasse 47, 53225 Bonn, Germany
Tel: +49-228-7309 Fax: +49-228-7309-100

Korea
FUJITSU MICROELECTRONICS KOREA INC.
204-4525, 739-11 Daechi-Dong, Teheran-Ro, Seoul 135-01, Korea
Tel: +82-2-3484-7100 Fax: +82-2-3484-7111

Thailand
FUJITSU MICROELECTRONICS THAILAND CO., LTD.
324-432, 1021 Romklao Road, Klongtoey, Bangkok 10160, Thailand
Tel: +66-2-994-1111 Fax: +66-2-994-1122

Specifications are subject to change without notice. For further information please contact our office.

All Rights Reserved.

FUJITSU MICROELECTRONICS LIMITED
Shanghai, China, Shanghai, Dongchuan Road, No.110, Shanghai 201203, China
Tel: +86-21-6146-3688 Fax: +86-21-6335-1605
http://www.fujitsu.com/sg/microelectronics/

North and South America
FUJITSU MICROELECTRONICS AMERICA, INC.
1250 E. Alum Rock Ave., San Jose, CA 95126, U.S.A.
Tel: +1-408-739-5500 Fax: +1-408-739-5505

Europe
FUJITSU MICROELECTRONICS EUROPE GmbH
Dahlemstrasse 47, 53225 Bonn, Germany
Tel: +49-228-7309 Fax: +49-228-7309-100

Korea
FUJITSU MICROELECTRONICS KOREA INC.
204-4525, 739-11 Daechi-Dong, Teheran-Ro, Seoul 135-01, Korea
Tel: +82-2-3484-7100 Fax: +82-2-3484-7111

Thailand
FUJITSU MICROELECTRONICS THAILAND CO., LTD.
324-432, 1021 Romklao Road, Klongtoey, Bangkok 10160, Thailand
Tel: +66-2-994-1111 Fax: +66-2-994-1122

Specifications are subject to change without notice. For further information please contact our office.

All Rights Reserved.