

Structure : Silicon Monolithic Integrated Circuit

Product series : Control IC for CD-R/RW, DVD±R/RW, DVD-RAM drive

Type : **BB6390KU**

Features :

- Supports CD-DA/CD-ROM/CD-R/CD-RW formats.
- Supports DVD(ROM,Audio,Video)/DVD±R/DVD±RW/DVD-RAM formats.
- Supports CD 56x Read(40x for CD-DA) and 56x Write(32x for CD-RW).
- Supports DVD 16x Read and 16x Write(DVD±RW = 8x).
- Built-in the high performance Analog Front End Processor.
- Supports all CD recording format and all DVD recording format. (and Mt.Rainier and the CAV recording format.)
- Built-in ATIP/ADIP/LPP decoder.
- Built-in the high performance Write Strategy and automatic Strategy controller for the best recording .
- Built-in the data slicer, low jitter PLL, and automatic control function for the high readability.
- Built-in the Auto Formatter and the automatic generator of CD subcode and link block for reduction of load of the micro controller .
- Built-in the recovery function at the Buffer Under Run.
- Built in S/W servo control with digital servo DSP.
- Supports the data transfer of ATA/ATAPI PIO MODE4, Multi-Word DMA Mode2 and Ultra DMA Mode4.
- Built-in ARM7 processor.
- Supports CSS/CPRM/CPS.
- Supports EDO-DRAM/SDRAM(Max 128Mbit).
- Power saving function.
- UQFP-256. package.

Application example :

- The product described in this specification is designed to be used with ordinary electronic equipment or devices.
Should you intend to use this product with equipment or devices which require an extremely high level of reliability and the malfunction of which would directly endanger human life, please be sure to consult with our sales representative in advance.
- This product isn't designed for protection against radioactive rays.

○ Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Power supply voltage (Digital part Digital core)	VDD	1.68	V
Power supply voltage (Digital part Analog 1.2V)	AVDD12_1, 12_2	1.68	V
Power supply voltage (Digital part IO/Analog)	VDDIO1,2/AVDD33_1,33_2,33_3/VDDA_LV	4.5	V
Power supply voltage (RF part)	VCC33/VCC1,2,3/VDD5	7.0	V
Power dissipation	Pd	1.5 #	W
Storage temperature	Tstg	-55~125	°C

Reduce power by 15mW for each degree above 25°C.

Note) The storage temperature range is an ambient temperature.

The absolute maximum ratings is a limit value which does not rise even the origin of any condition and momentarily and moreover, the value that do not reach at the same time by any two items is set. When the absolute maximum ratings is exceeded and used, there is a possibility of deterioration or damaging it, and operation in the absolute maximum ratings is never guaranteed.

○ Recommended operating conditions (Ta=-20~+75°C)

• DSP/CPU Part

Note) The sign is a terminal name in LSI.

Parameter	Symbol	Standard value			Unit
		MIN	TYP	MAX	
Operating power supply voltage range (Digital core)	VDD	1.14	1.2	1.26	V
Operating power supply voltage range (Digital I/O)	VDDIO1,2	3.14	3.3	3.46	V
Operating power supply voltage range (Analog 1)	AVDD33_1,33_2,33_3, VDDA_LV	3.14	3.3	3.46	V
Operating power supply voltage range (Analog 2)	AVDD12_1,12_2	1.14	1.2	1.26	V
Operating temperature range	Topr	-20	25	75	°C
Input voltage	VIN	VSS-0.3	—	VDDIO+0.3	V

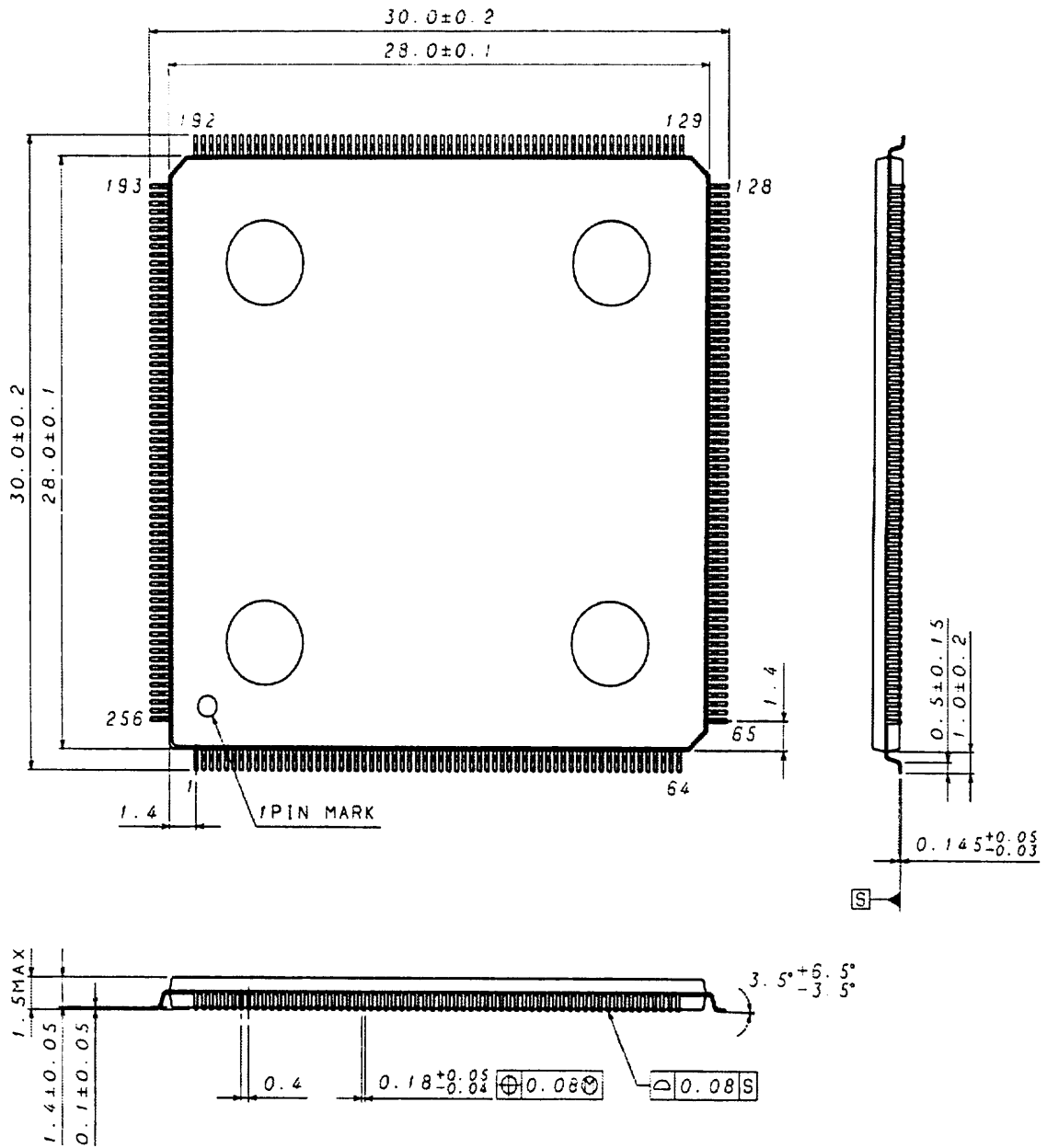
• AFEP part

Note) The sign is a terminal name in LSI.

Parameter	Symbol	Standard value			Unit
		MIN	TYP	MAX	
Operating power supply voltage range (Analog 1)	VCC33	3.14	3.3	3.46	V
Operating power supply voltage range (Analog 2)	VCC1,2,3	4.75	5.0	5.25	V
Operating power supply voltage range (Digital 2)	VDD5	4.75	5.0	5.25	V
Operating temperature range	Topr	-20	25	75	°C
Input voltage	VIN	VSS-0.3	—	#+0.3	V

The input voltage is different depending on the power supply voltage of each terminal.

○ Package outlines



(UNIT: mm)

Drawing No. EX278-6001

Notes

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Should you intend to use these products with equipment or devices which require an extremely high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), please be sure to consult with our sales representative in advance.

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U.S.A / San Diego	TEL : +1(858)625-3630	FAX : +1(858)625-3670
Atlanta	TEL : +1(770)754-5972	FAX : +1(770)754-0691
Dallas	TEL : +1(972)312-8818	FAX : +1(972)312-0330
Germany / Dusseldorf	TEL : +49(2154)9210	FAX : +49(2154)921400
United Kingdom / London	TEL : +44(1)908-282-666	FAX : +44(1)908-282-528
France / Paris	TEL : +33(0)1 56 97 30 60	FAX : +33(0) 1 56 97 30 80
China / Hong Kong	TEL : +852(2)740-6262	FAX : +852(2)375-8971
Shanghai	TEL : +86(21)6279-2727	FAX : +86(21)6247-2066
Dilian	TEL : +86(411)8230-8549	FAX : +86(411)8230-8537
Beijing	TEL : +86(10)8525-2483	FAX : +86(10)8525-2489
Taiwan / Taipei	TEL : +866(2)2500-6956	FAX : +866(2)2503-2869
Korea / Seoul	TEL : +82(2)8182-700	FAX : +82(2)8182-715
Singapore	TEL : +65-6332-2322	FAX : +65-6332-5662
Malaysia / Kuala Lumpur	TEL : +60(3)7958-8355	FAX : +60(3)7958-8377
Philippines / Manila	TEL : +63(2)807-6872	FAX : +63(2)809-1422
Thailand / Bangkok	TEL : +66(2)254-4890	FAX : +66(2)256-6334

Japan /
(Internal Sales)

Tokyo	2-1-1, Yaesu, Chuo-ku, Tokyo 104-0082	TEL : +81(3)5203-0321	FAX : +81(3)5203-0300
Yokohama	2-4-8, Shin Yokohama, Kohoku-ku, Yokohama, Kanagawa 222-8575	TEL : +81(45)476-2131	FAX : +81(45)476-2128
Nagoya	Dainagayo Building 9F 3-28-12, Meieki, Nakamura-ku, Nagoya, Aichi 450-0002	TEL : +81(52)581-8521	FAX : +81(52)561-2173
Kyoto	579-32 Higashi Shiokouji-cho, Karasuma Nishi-iru, Shiokoujidori, Shimogyo-ku, Kyoto 600-8216	TEL : +81(75)311-2121	FAX : +81(75)314-6559

(Contact address for overseas customers in Japan)

Yokohama	TEL : +81(45)476-9270	FAX : +81(045)476-9271
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