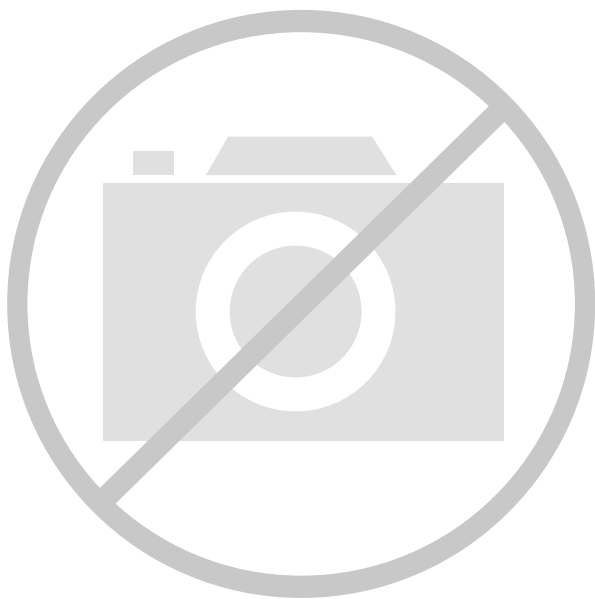




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Details

Product Status	Obsolete
Core Processor	-
Core Size	-
Speed	-
Connectivity	-
Peripherals	-
Number of I/O	-
Program Memory Size	-
Program Memory Type	-
EEPROM Size	-
RAM Size	-
Voltage - Supply (Vcc/Vdd)	-
Data Converters	-
Oscillator Type	-
Operating Temperature	-
Mounting Type	-
Package / Case	-
Supplier Device Package	-
Purchase URL	https://www.e-xfl.com/product-detail/infineon-technologies/mb91637apmc-g-101k5e1

MB91635A Series

Pin no.		Pin name	I/O circuit type*3	Function	CMOS level input	CMOS level hysteresis input
LQFP-144*1	PFBGA-144*2					
20	G3	V _{SS}	—	GND pin	—	—
21	G4	V _{CC}	—	Power pin	—	—
22	H1	PC0	C	General-purpose I/O port	—	○
		TIOA12_1		Base timer ch.12 TIOA pin (Port 1)	—	—
		SOUT6_1 (SDA6_1)		Multifunction serial interface ch.6 output pin (Port 1). This pin operates as SOUT6_1 when it is used in a UART/CSIO (operation modes 0 to 2) and as SDA6_1 when it is used in an I ² C (operation mode 4).	—	○
		INT8_1		External interrupt request 8 input pin (Port 1)	—	○
23	H2	PC1	C	General-purpose I/O port	—	○
		TIOB12_1		Base timer ch.12 TIOB pin (Port 1)	—	○
		SIN6_1		Multifunction serial interface ch.6 input pin (Port 1)	—	○
		INT9_1		External interrupt request 9 input pin (Port 1)	—	○
24	H3	PC2	C	General-purpose I/O port	—	○
		TIOA13_1		Base timer ch.13 TIOA pin (Port 1)	—	○
		SCK6_1 (SCL6_1)		Multifunction serial interface ch.6 clock I/O pin (Port 1). This pin operates as SCK6_1 when it is used in a UART/CSIO (operation modes 0 to 2) and as SCL6_1 when it is used in an I ² C (operation mode 4).	—	○
		INT10_1		External interrupt request 10 input pin (Port 1)	—	○
25	H4	PC3	C	General-purpose I/O port	—	○
		TIOB13_1		Base timer ch.13 TIOB pin (Port 1)	—	○
		INT11_1		External interrupt request 11 input pin (Port 1)	—	○

(Continued)

MB91635A Series

Pin no.		Pin name	I/O circuit type*3	Function	CMOS level input	CMOS level hysteresis input
LQFP-144*1	PFBGA-144*2					
48	L5	P80	E	General-purpose I/O port	—	○
		AN8		10-bit A/D converter ch.8 analog input pin	—	—
		IN0_1		32-bit input capture ch.0 input pin (Port 1)	—	○
		INT24		External interrupt request 24 input pin	—	○
49	K5	P81	E	General-purpose I/O port	—	○
		AN9		10-bit A/D converter ch.9 analog input pin	—	—
		IN1_1		32-bit input capture ch.1 input pin (Port 1)	—	○
		INT25		External interrupt request 25 input pin	—	○
50	M6	P82	E	General-purpose I/O port	—	○
		AN10		10-bit A/D converter ch.10 analog input pin	—	—
		IN2_1		32-bit input capture ch.2 input pin (Port 1)	—	○
		INT26		External interrupt request 26 input pin	—	○
51	N6	P83	E	General-purpose I/O port	—	○
		AN11		10-bit A/D converter ch.11 analog input pin	—	—
		IN3_1		32-bit input capture ch.3 input pin (Port 1)	—	○
		INT27		External interrupt request 27 input pin	—	○
52	L6	P84	E	General-purpose I/O port	—	○
		AN12		10-bit A/D converter ch.12 analog input pin	—	—
		IN4_1		32-bit input capture ch.4 input pin (Port 1)	—	○
		INT28		External interrupt request 28 input pin	—	○

(Continued)

MB91635A Series

Pin no.		Pin name	I/O circuit type*3	Function	CMOS level input	CMOS level hysteresis input
LQFP-144*1	PFBGA-144*2					
68	L10	PA6	E	General-purpose I/O port	—	○
		AN22		10-bit A/D converter ch.22 analog input pin	—	—
		TMI1_1		16-bit reload timer ch.1 input pin (Port 1)	—	○
		INT22_1		External interrupt request 22 input pin (Port 1)	—	○
69	N11	PA7	E	General-purpose I/O port	—	○
		AN23		10-bit A/D converter ch.23 analog input pin	—	—
		TMI2_1		16-bit reload timer ch.2 input pin (Port 1)	—	○
		INT23_1		External interrupt request 23 input pin (Port 1)	—	○
70	M11	PB0	E	General-purpose I/O port	—	○
		AN24		10-bit A/D converter ch.24 analog input pin	—	—
		INT24_1		External interrupt request 24 input pin (Port 1)	—	○
71	N12	PB1	E	General-purpose I/O port	—	○
		AN25		10-bit A/D converter ch.25 analog input pin	—	—
		INT25_1		External interrupt request 25 input pin (Port 1)	—	○
72	N13	V _{SS}	—	GND pin	—	—
73	M13	V _{CC}	—	Power pin	—	—
74	M12	PB2	E	General-purpose I/O port	—	○
		AN26		10-bit A/D converter ch.26 analog input pin	—	—
		INT26_1		External interrupt request 26 input pin (Port 1)	—	○
75	L13	PB3	E	General-purpose I/O port	—	○
		AN27		10-bit A/D converter ch.27 analog input pin	—	—
		INT27_1		External interrupt request 27 input pin (Port 1)	—	○

(Continued)

MB91635A Series

Pin no.		Pin name	I/O circuit type*3	Function	CMOS level input	CMOS level hysteresis input
LQFP-144*1	PFBGA-144*2					
81	K10	P52	C	General-purpose I/O port	—	○
		$\overline{\text{CS2}}$		External bus interface chip select 2 output pin	—	—
		SCK10 (SCL10)		Multifunction serial interface ch.10 clock I/O pin. This pin operates as SCK10 when it is used in a UART/CSIO (operation modes 0 to 2) and as SCL10 when it is used in an I ² C (operation mode 4).	—	○
		ZIN0_1		Up/Down counter ch.0 ZIN input pin (Port 1)	—	○
82	J12	P53	C	General-purpose I/O port	—	○
		$\overline{\text{CS3}}$		External bus interface chip select 3 output pin	—	—
		FRCK1		32-bit free-run timer ch.1 external clock input pin	—	○
		INT21_2		External interrupt request 21 input pin (Port 2)	—	○
83	J13	P54	C	General-purpose I/O port	—	○
		$\overline{\text{AS}}$		External bus interface address strobe output pin	—	—
		SOUT11 (SDA11)		Multifunction serial interface ch.11 output pin. This pin operates as SOUT11 when it is used in a UART/CSIO (operation modes 0 to 2) and as SDA11 when it is used in an I ² C (operation mode 4).	—	○
		AIN1_1		Up/Down counter ch.1 AIN input pin (Port 1)	—	○
84	J11	P55	C	General-purpose I/O port	—	○
		$\overline{\text{RD}}$		External bus interface read strobe output pin	—	—
		SIN11		Multifunction serial interface ch.11 input pin	—	○
		BIN1_1		Up/Down counter ch.1 BIN input pin (Port 1)	—	○
		ADTRG0		10-bit A/D converter external trigger input pin	—	○

(Continued)

Pin no.		Pin name	I/O circuit type*3	Function	CMOS level input	CMOS level hysteresis input
LQFP-144*1	PFBGA-144*2					
105	C13	P12	B	General-purpose I/O port	—	○
		D10		External bus interface data bus bit10	○	—
		TIOA5		Base timer ch.5 TIOA pin	—	○
		SCK2 (SCL2)		Multifunction serial interface ch.2 clock I/O pin. This pin operates as SCK2 when it is used in a UART/CSIO (operation modes 0 to 2) and as SCL2 when it is used in an I ² C (operation mode 4).	—	○
		ZIN0		Up/Down counter ch.0 ZIN input pin	—	○
		INT2		External interrupt request 2 input pin	—	○
106	C12	P13	B	General-purpose I/O port	—	○
		D11		External bus interface data bus bit11	○	—
		TIOB5		Base timer ch.5 TIOB pin	—	○
		INT3		External interrupt request 3 input pin	—	○
107	B13	P14	B	General-purpose I/O port	—	○
		D12		External bus interface data bus bit12	○	—
		TIOA6		Base timer ch.6 TIOA pin	—	—
		SOUT3 (SDA3)		Multifunction serial interface ch.3 output pin. This pin operates as SOUT3 when the product is used in a UART/CSIO (operation modes 0 to 2) and as SDA3 when it is used in an I ² C (operation mode 4).	—	○
		AIN1		Up/Down counter ch.1 AIN input pin	—	○
		INT4		External interrupt request 4 input pin	—	○
108	A13	V _{SS}	—	GND pin	—	—
109	A12	V _{CC}	—	Power pin	—	—
110	B12	P15	B	General-purpose I/O port	—	○
		D13		External bus interface data bus bit13	○	—
		TIOB6		Base timer ch.6 TIOB pin	—	○
		SIN3		Multifunction serial interface ch.3 input pin	—	○
		BIN1		Up/Down counter ch.1 BIN input pin	—	○
		INT5		External interrupt request 5 input pin	—	○

(Continued)

MB91635A Series

Pin no.		Pin name	I/O circuit type*3	Function	CMOS level input	CMOS level hysteresis input
LQFP-144*1	PFBGA-144*2					
119	A9	P26	D*4	General-purpose I/O port	—	○
		A06		External bus interface address bus bit6	—	—
		TIOA11		Base timer ch.11 TIOA pin	—	○
		SCK5 (SCL5)		Multifunction serial interface ch.5 clock I/O pin. This pin operates as SCK5 when it is used in a UART/CSIO (operation modes 0 to 2) and as SCL5 when it is used in an I ² C (operation mode 4).	—	○
		ZIN3		Up/Down counter ch.3 ZIN input pin	—	○
		OUT2		32-bit output compare ch.2 output pin	—	—
120	C9	P27	D*4	General-purpose I/O port	—	○
		A07		External bus interface address bus bit7	—	—
		TIOB11		Base timer ch.11 TIOB pin	—	○
		OUT3		32-bit output compare ch.3 output pin	—	—
121	D9	P30	D*4	General-purpose I/O port	—	○
		A08		External bus interface address bus bit8	—	—
		TIOA12		Base timer ch.12 TIOA pin	—	—
		SOUT6 (SDA6)		Multifunction serial interface ch.6 output pin. This pin operates as SOUT6 when it is used in a UART/CSIO (operation modes 0 to 2) and as SDA6 when it is used in an I ² C (operation mode 4).	—	○
		INT8		External interrupt request 8 input pin	—	○
122	B8	P31	D*4	General-purpose I/O port	—	○
		A09		External bus interface address bus bit9	—	—
		TIOB12		Base timer ch.12 TIOB pin	—	○
		SIN6		Multifunction serial interface ch.6 input pin	—	○
		INT9		External interrupt request 9 input pin	—	○

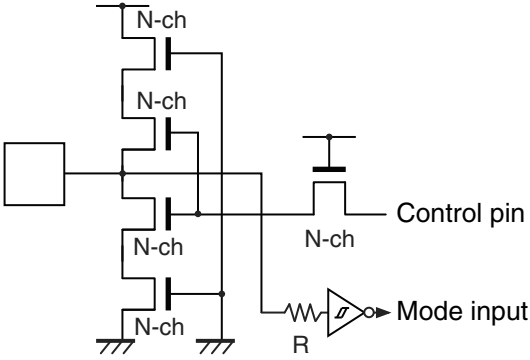
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I/O CIRCUIT TYPE

Type	Circuit	Remarks
A		• Oscillation feedback resistance approx. 1 MΩ • With standby control
B		• CMOS level output • CMOS level input • CMOS level hysteresis input • With pull-up control • With standby control Notes: • CMOS level input when input data, RDY pin of external bus interface. Input other than above situations, CMOS level hysteresis input. • When this pin is used as an I²C pin, the digital output P-ch transistor is always off.

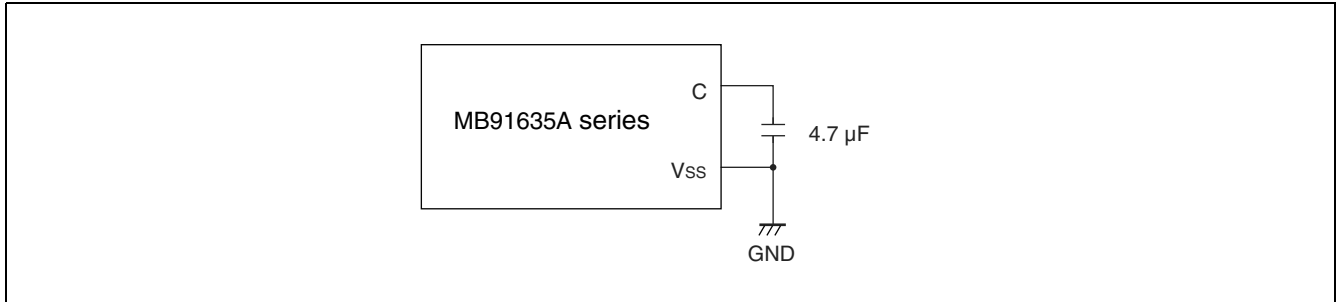
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Type	Circuit	Remarks
P		• Flash memory product only • CMOS level hysteresis input • High voltage control for testing Flash memory

- C Pin

As MB91635A series includes an internal regulator, always connect a bypass capacitor of approximately 4.7 μF to the C pin for use by the regulator.



- Mode pins (MD0, MD1)

Connect the MD pin (MD0, MD1) directly to V_{CC} or V_{SS} pins. Design the printed circuit board such that the pull-up/down resistance stays low, as well as the distance between the mode pins and V_{CC} pins or V_{SS} pins is as short as possible and the connection impedance is low, when the pins are pulled-up/down such as for switching the pin level and rewriting the Flash memory data. It is because of preventing the device erroneously switching to test mode due to noise.

- Notes on power-on

- To ensure that the internal regulator and the oscillator have stabilized immediately after the power is turned on, keep an "L" level input connected to the $\overline{\text{INIT}}$ pin for the duration of the regulator voltage stabilization wait time + the oscillator start time of the oscillator + the main oscillator stabilization wait time.
- Turn power on/off in the following order
Turning on : $V_{CC} \rightarrow AV_{CC} \rightarrow AVR_H$
Turning off : $AVR_H \rightarrow AV_{CC} \rightarrow V_{CC}$

Release the reset ($\overline{\text{INIT}}$ pin "L" level to "H" level) after the power supply has stabilized.

MB91635A Series

Address	Register				Block
	+0	+1	+2	+3	
0000 00C0 _H	RDRM0 [R]/ TDRM0 [W] B,H,W 00000000	RDRM1 [R]/ TDRM1 [W] B,H,W 00000000	RDRM2 [R]/ TDRM2 [W] B,H,W 00000000	RDRM3 [R]/ TDRM3 [W] B,H,W 00000000	Multi-function serial interface data register (mirror)
0000 00C4 _H	RDRM4 [R]/ TDRM4 [W] B,H,W 00000000	RDRM5 [R]/ TDRM5 [W] B,H,W 00000000	RDRM6 [R]/ TDRM6 [W] B,H,W 00000000	RDRM7 [R]/ TDRM7 [W] B,H,W 00000000	
0000 00C8 _H	SSEL0123 [R/W] B -----00	—	SSEL4567 [R/W] B -----00	—	Multi-function serial interface serial clock selection
0000 00CC _H	—				Reserved
0000 00D0 _H	SCR8 [R/W]/IBCR8 [R,R/W] B,H,W*2 0--00000	SMR8 [R/W] B,H,W 000-0000	SSR8 [R,R/W] B,H,W 0-000011	ESCR8 [R/W]/ IBSR8 [R,R/W] B,H,W*2 -0000000	Multi-function serial interface ch.8 (FIFO)
0000 00D4 _H	RDR8[R]/TDR8[W] B,H,W*1 -----0 00000000		BGR18 [R/W] H,W 00000000	BGR08 [R/W] H,W 00000000	
0000 00D8 _H	ISMK8 [R/W] B,H*2 -----	ISBA8 [R/W] B,H*2 -----	—		
0000 00DC _H	FCR18 [R/W] B,H,W ---00100	FCR08 [R,R/W] B,H,W -0000000	FBYTE28 [R/W] B,H,W 00000000	FBYTE18 [R/W] B,H,W 00000000	
0000 00E0 _H	SCR9 [R/W]/IBCR9 [R,R/W] B,H,W*2 0--00000	SMR9 [R/W] B,H,W 000-0000	SSR9 [R,R/W] B,H,W 0-000011	ESCR9 [R/W]/ IBSR9 [R,R/W] B,H,W*2 -0000000	Multi-function serial interface ch.9 (FIFO)
0000 00E4 _H	RDR9[R]/TDR9[W] B,H,W*1 -----0 00000000		BGR19 [R/W] H,W 00000000	BGR09 [R/W] H,W 00000000	
0000 00E8 _H	ISMK9 [R/W] B,H*2 -----	ISBA9 [R/W] B,H*2 -----	—		
0000 00EC _H	FCR19 [R/W] B,H,W ---00100	FCR09 [R,R/W] B,H,W -0000000	FBYTE29 [R/W] B,H,W 00000000	FBYTE19 [R/W] B,H,W 00000000	

(Continued)

Address	Register				Block
	+0	+1	+2	+3	
0000 0C24 _H	DCSR2 [R,R/W] H 0-----000		DTCR2 [R/W] H 00000000 00000000		DMAC
0000 0C28 _H	DSAR2 [R/W] W XXXXXXXX XXXXXXXX XXXXXXXX XXXXXXXX				
0000 0C2C _H	DDAR2 [R/W] W XXXXXXXX XXXXXXXX XXXXXXXX XXXXXXXX				
0000 0C30 _H	DCCR3 [R/W] W 0---000 --00--00 00000000 0-000000				
0000 0C34 _H	DCSR3 [R,R/W] H 0-----000		DTCR3 [R/W] H 00000000 00000000		
0000 0C38 _H	DSAR3 [R/W] W XXXXXXXX XXXXXXXX XXXXXXXX XXXXXXXX				
0000 0C3C _H	DDAR3 [R/W] W XXXXXXXX XXXXXXXX XXXXXXXX XXXXXXXX				
0000 0C40 _H	DCCR4 [R/W] W 0---000 --00--00 00000000 0-000000				
0000 0C44 _H	DCSR4 [R,R/W] H 0-----000		DTCR4 [R/W] H 00000000 00000000		
0000 0C48 _H	DSAR4 [R/W] W XXXXXXXX XXXXXXXX XXXXXXXX XXXXXXXX				
0000 0C4C _H	DDAR4 [R/W] W XXXXXXXX XXXXXXXX XXXXXXXX XXXXXXXX				
0000 0C50 _H	DCCR5 [R/W] W 0---000 --00--00 00000000 0-000000				
0000 0C54 _H	DCSR5 [R,R/W] H 0-----000		DTCR5 [R/W] H 00000000 00000000		
0000 0C58 _H	DSAR5 [R/W] W XXXXXXXX XXXXXXXX XXXXXXXX XXXXXXXX				
0000 0C5C _H	DDAR5 [R/W] W XXXXXXXX XXXXXXXX XXXXXXXX XXXXXXXX				
0000 0C60 _H	DCCR6 [R/W] W 0---000 --00--00 00000000 0-000000				
0000 0C64 _H	DCSR6 [R,R/W] H 0-----000		DTCR6 [R/W] H 00000000 00000000		
0000 0C68 _H	DSAR6 [R/W] W XXXXXXXX XXXXXXXX XXXXXXXX XXXXXXXX				
0000 0C6C _H	DDAR6 [R/W] W XXXXXXXX XXXXXXXX XXXXXXXX XXXXXXXX				
0000 0C70 _H	DCCR7 [R/W] W 0---000 --00--00 00000000 0-000000				

(Continued)

MB91635A Series

Address	Register				Block
	+0	+1	+2	+3	
0000 0C74 _H	DCSR7 [R,R/W] H 0----- 000		DTCR7 [R/W] H 00000000 00000000		DMAC
0000 0C78 _H	DSAR7 [R/W] W XXXXXXXX XXXXXXXX XXXXXXXX XXXXXXXX				
0000 0C7C _H	DDAR7 [R/W] W XXXXXXXX XXXXXXXX XXXXXXXX XXXXXXXX				
0000 0C80 _H to 0000 0DF0 _H	—				
0000 0DF4 _H	—			DILVR [R,R/W] B ---11111	
0000 0DF8 _H	DMACR [R/W] W 0----- 0-----				
0000 0DFC _H to 0000 0F3C _H	—				Reserved
0000 0F40 _H	BT4TMR[R]H 00000000 00000000		BT4TMCR[R/W] B,H -0000000 00000000		Base timer ch.4
0000 0F44 _H	—	BT4STC[R/W]B 0000-000	—		
0000 0F48 _H	BT4PCSR/BT4PRL[R/W]H XXXXXXXX XXXXXXXX		BT4PDUT/BT4PRLH/BT4DTBF [R/W]H XXXXXXXX XXXXXXXX		
0000 0F4C _H	—				
0000 0F50 _H	BT5TMR[R]H 00000000 00000000		BT5TMCR[R/W] B,H -0000000 00000000		Base timer ch.5
0000 0F54 _H	—	BT5STC[R/W]B 0000-000	—		
0000 0F58 _H	BT5PCSR/BT5PRL[R/W]H XXXXXXXX XXXXXXXX		BT5PDUT/BT5PRLH/BT5DTBF [R/W]H XXXXXXXX XXXXXXXX		
0000 0F5C _H	—				
0000 0F60 _H	BT6TMR[R]H 00000000 00000000		BT6TMCR[R/W] B,H -0000000 00000000		Base timer ch.6
0000 0F64 _H	—	BT6STC[R/W]B 0000-000	—		
0000 0F68 _H	BT6PCSR/BT6PRL[R/W]H XXXXXXXX XXXXXXXX		BT6PDUT/BT6PRLH/BT6DTBF [R/W]H XXXXXXXX XXXXXXXX		
0000 0F6C _H	—				

(Continued)

Pin Name	Function Name	Initial Value		Sleep Mode	Standby Mode	
		$\overline{\text{INIT}} = \text{"L"}$ Period	$\overline{\text{INIT}} = \text{"H"}$ Period		SLVL1 = 0	SLVL1 = 1
PB0	PB0/AN24/INT24_1	Output Hi-Z	Output Hi-Z/Input disabled	Last state maintained	Last state maintained	Output Hi-Z/ Internal input "0" fixed Input enabled when the selection of interrupt function is enabled
PB1	PB1/AN25/INT25_1					
PB2	PB2/AN26/INT26_1					
PB3	PB3/AN27/INT27_1					
PB4	PB4/AN28/INT28_1					
PB5	PB5/AN29/INT29_1					
PB6	PB6/AN30/INT30_1					
PC0	PC0/TIOA12_1/SOUT6_1/ INT8_1	Output Hi-Z	Output Hi-Z/Input enabled	Last state maintained	Last state maintained	Output Hi-Z/ Internal input "0" fixed Input enabled when the selection of interrupt function is enabled
PC1	PC1/TIOB12_1/SIN6_1/INT9_1					
PC2	PC2/TIOA13_1/SCK6_1/ INT10_1					
PC3	PC3/TIOB13_1/INT11_1					
PC4	PC4/TIOA14_1/SOUT7_1/ OUT4_2/INT12_1					
PC5	PC5/TIOB14_1/SIN7_1/OUT5_2/ INT13_1					
PC6	PC6/TIOA15_1/SCK7_1/ OUT6_2/INT14_1					
PG0	PG0/DREQ2/TIOA0_1/ SOUT0_2/IN0_2	Output Hi-Z	Output Hi-Z/Input enabled	Last state maintained	Last state maintained	Output Hi-Z/ Internal input "0" fixed
PG1	PG1/DACK2/TIOB0_1/SIN0_2/ IN1_2					
PG2	PG2/DEOP2/TIOA1_1/SCK0_2/ IN2_2					
PG3	PG3/DREQ3/TIOB1_1/IN3_2					
PG4	PG4/DACK3/TIOA2_1/ SOUT1_1/IN4_2					
PG5	PG5/DEOP3/TIOB2_1/SIN1_1/ IN5_2					
PG6	PG6/TIOA3_1/SCK1_1/IN6_2					
PG7	PG7/TIOB3_1/IN7_2					

(Continued)

MB91635A Series

($V_{CC} = AV_{CC} = 2.7 \text{ V}$ to 3.6 V , $V_{SS} = AV_{SS} = 0 \text{ V}$, $T_a = -40 \text{ }^{\circ}\text{C}$ to $+85 \text{ }^{\circ}\text{C}$)

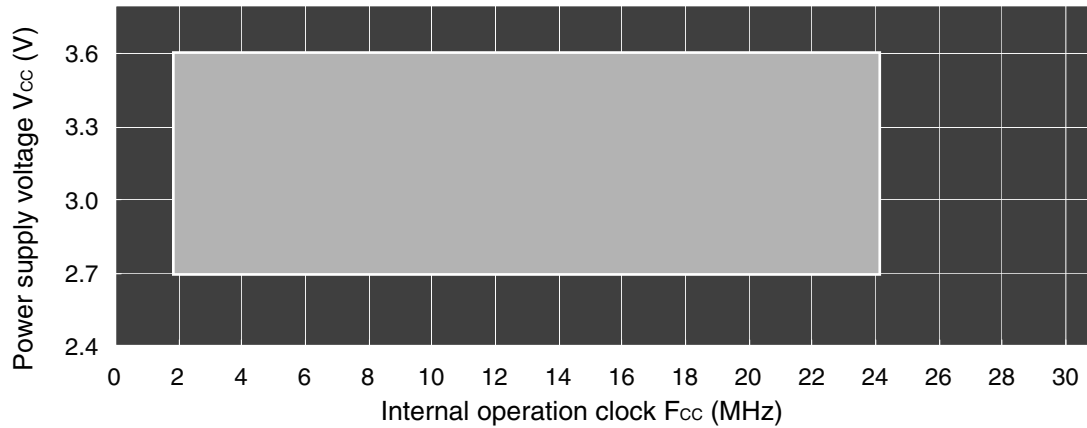
Parameter	Symbol	Pin name	Conditions	Value			Unit	Remarks
				Min	Typ	Max		
"L" level input voltage (hysteresis input)	V_{ILS}	P00 to P07* ⁸ , P10 to P17* ⁹ , P20 to P27, P30 to P37, P40 to P47, P50 to P57, P60* ¹⁰ , P61 to P67, P70 to P77, P80 to P87, P90 to P92, PA0 to PA7, PB0 to PB6, PC0 to PC7, PG0 to PG7, PH0 to PH7, PI0 to PI7, PK0 to PK3, $\overline{INIT}$, MD0, MD1	—	$V_{SS} - 0.3$	—	$V_{CC} \times 0.2$	V	
"H" level output voltage	V_{OH}	P00 to P07, P10 to P17, P20 to P27, P30 to P37, P40 to P47, P50 to P57, P60 to P67, P70 to P77, P80 to P87, P90 to P92, PA0 to PA7, PB0 to PB6, PC0 to PC7, PG0 to PG7, PH0 to PH7, PI0 to PI7, PK0 to PK3	$V_{CC} = 2.7 \text{ V}$ $I_{OH} = -4 \text{ mA}$	$V_{CC} - 0.5$	—	V_{CC}	V	
"L" level output voltage	V_{OL}	P00 to P07, P10 to P17, P20 to P27, P30 to P37, P40 to P47, P50 to P57, P60 to P67, P70 to P77, P80 to P87, P90 to P92, PA0 to PA7, PB0 to PB6, PC0 to PC7, PG0 to PG7, PH0 to PH7, PI0 to PI7, PK0 to PK3	$V_{CC} = 2.7 \text{ V}$ $I_{OL} = 4 \text{ mA}$	V_{SS}	—	0.4	V	
Input leak current	I_{IL}	—	—	-5	—	+5	μA	Digital pin
				-10	—	+10	μA	Analog pin
Pull-up resistance value	R_{PU}	Pull-up pin	—	16.6	33	66	$\text{k}\Omega$	

(Continued)

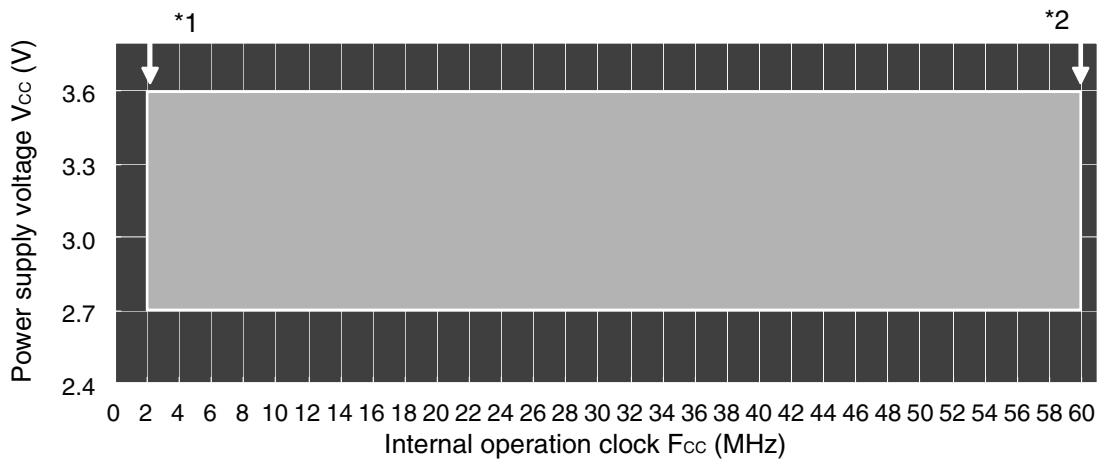
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- Operation guaranteed range

- When the main clock is selected (DIVB = 000)



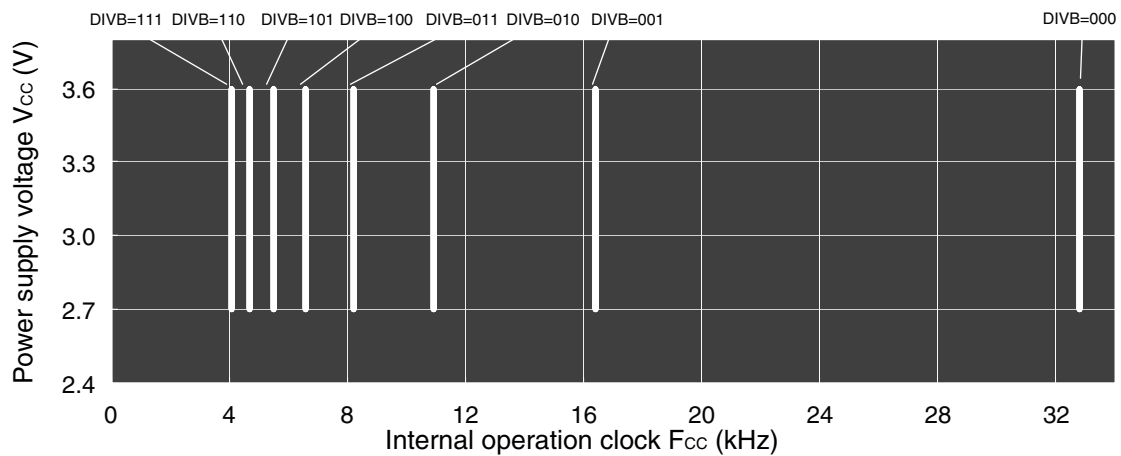
- When the PLL clock is selected



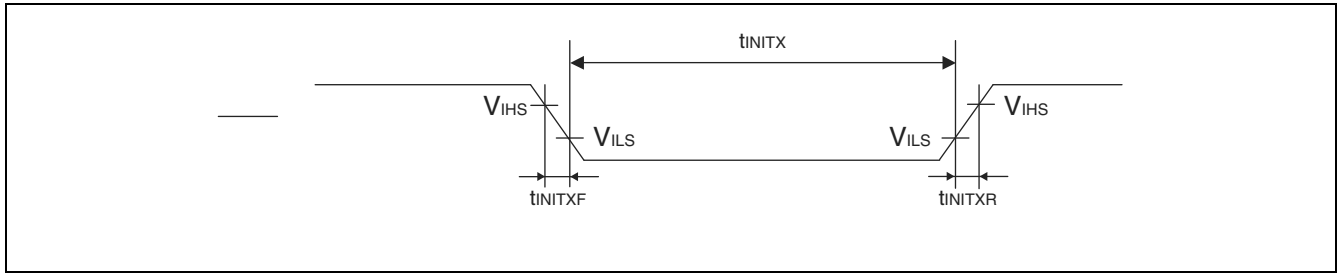
*1: DIVB = 111, ODS = 11, and PLL macro oscillation frequency = 80 MHz

*2: DIVB = 000, ODS = 01, and PLL macro oscillation frequency = 120 MHz

- When the sub clock is selected ($F_{CL} = 32.768$ kHz)



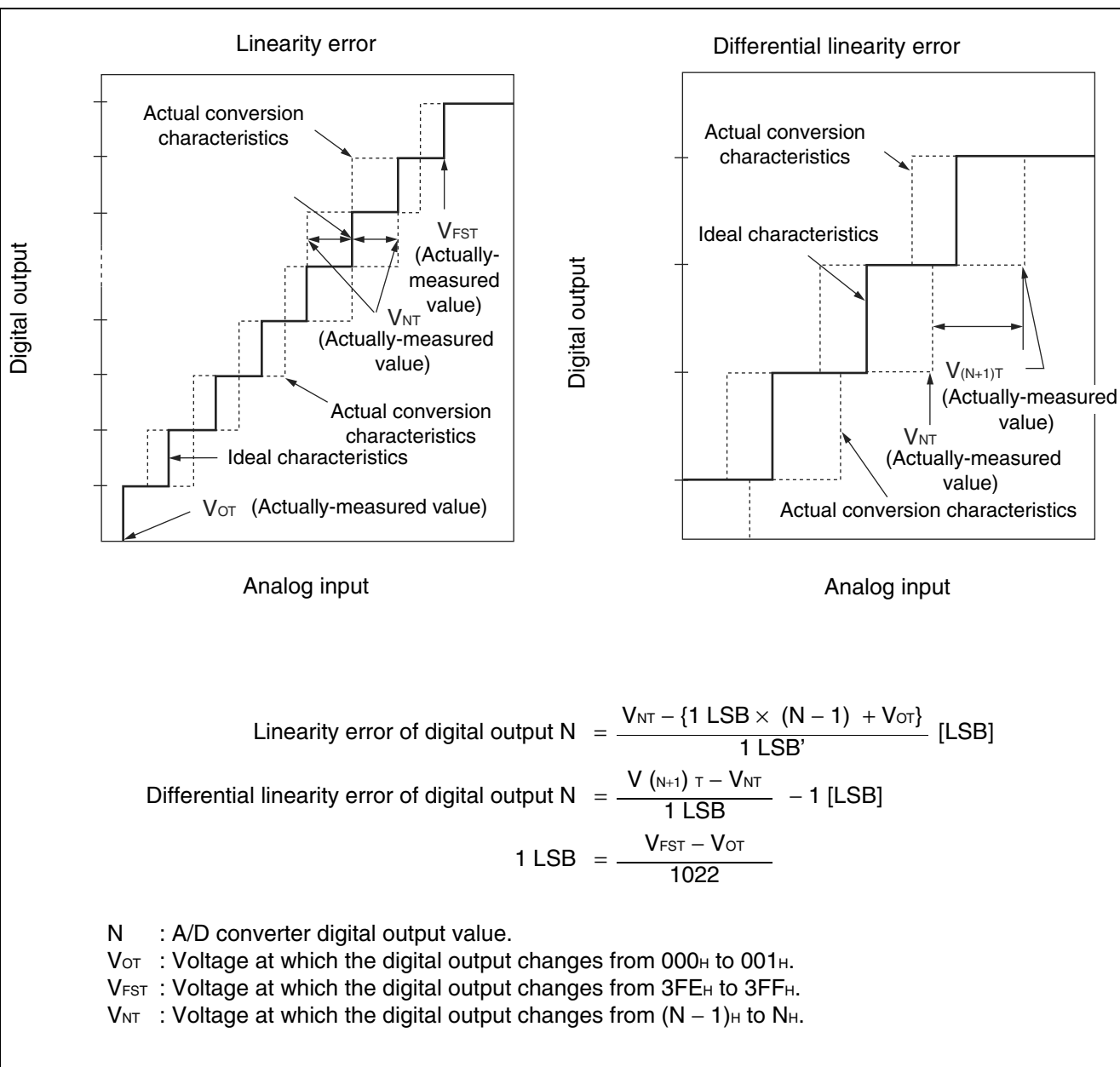
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•Definition of 10-bit A/D Converter Terms

- Resolution : Analog variation that is recognized by an A/D converter.
- Linearity error : Deviation of the line between the zero-transition point (0000000000 $\longleftrightarrow$ 0000000001) and the full-scale transition point (1111111110 $\longleftrightarrow$ 1111111111) from the actual conversion characteristics.
- Differential linearity error : Deviation from the ideal value of the input voltage that is required to change the output code by 1 LSB.
- Total error : Difference between the actual value and the theoretical value. The total error includes zero transition error, full-scale transition error, and linear error.



(Continued)

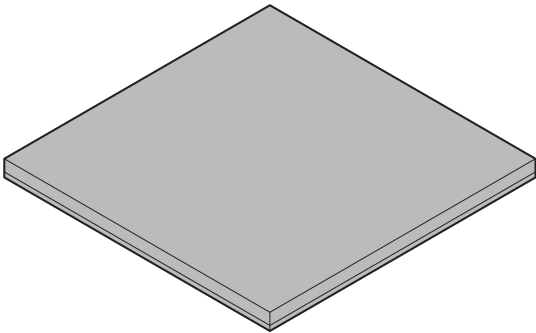
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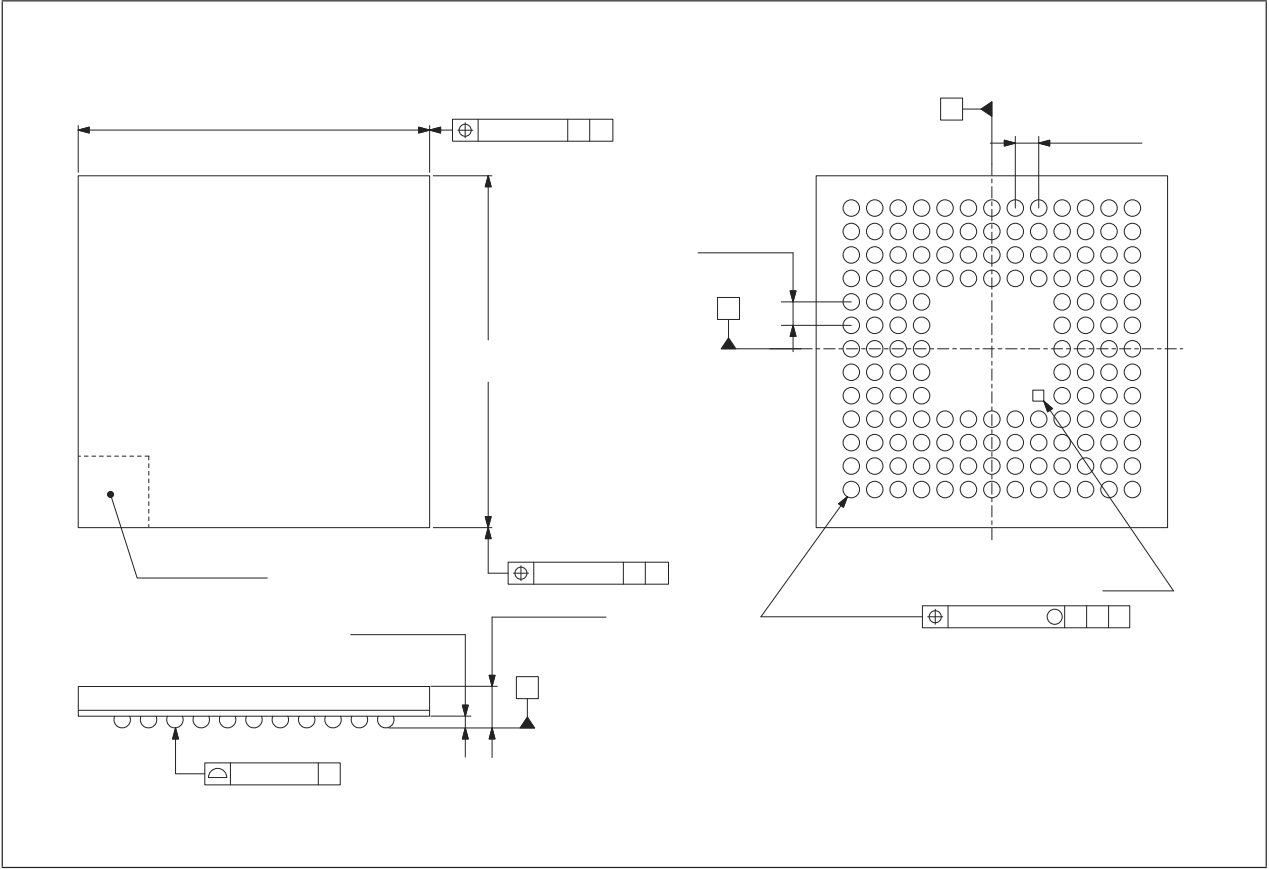
■ ORDERING INFORMATION

Part number	Package
MB91637APMC	144-pin plastic LQFP (FPT-144P-M08)
MB91637ABGL	144-pin plastic PFBGA (BGA-144P-M06)
MB91F639APMC	144-pin plastic LQFP (FPT-144P-M08)
MB91F639ABGL	144-pin plastic PFBGA (BGA-144P-M06)
MB91F637APMC	144-pin plastic LQFP (FPT-144P-M08)
MB91F637ABGL	144-pin plastic PFBGA (BGA-144P-M06)
MB91F635APMC	144-pin plastic LQFP (FPT-144P-M08)
MB91F635ABGL	144-pin plastic PFBGA (BGA-144P-M06)

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(Continued)



Please check the latest Package dimension at the following URL.
<http://edevicе.fujitsu.com/package/en-search/>

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