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What is "[Embedded - Microcontrollers](#)"?

"[Embedded - Microcontrollers](#)" refer to small, integrated circuits designed to perform specific tasks within larger systems. These microcontrollers are essentially compact computers on a single chip, containing a processor core, memory, and programmable input/output peripherals. They are called "embedded" because they are embedded within electronic devices to control various functions, rather than serving as standalone computers. Microcontrollers are crucial in modern electronics, providing the intelligence and control needed for a wide range of applications.

Applications of "[Embedded - Microcontrollers](#)"

Details

Product Status	Obsolete
Core Processor	ARM® Cortex®-M0+
Core Size	32-Bit Single-Core
Speed	40MHz
Connectivity	CSIO, I ² C, LINbus, SmartCard, UART/USART, USB
Peripherals	I ² S, LCD, LVD, POR, PWM, WDT
Number of I/O	102
Program Memory Size	560KB (560K x 8)
Program Memory Type	FLASH
EEPROM Size	-
RAM Size	64K x 8
Voltage - Supply (Vcc/Vdd)	1.65V ~ 3.6V
Data Converters	A/D 24x12b
Oscillator Type	Internal
Operating Temperature	-40°C ~ 105°C (TA)
Mounting Type	Surface Mount
Package / Case	120-LQFP
Supplier Device Package	120-LQFP (16x16)
Purchase URL	https://www.e-xfl.com/product-detail/infineon-technologies/s6e1b86g0agv20000

Peripheral Clock Gating

The system can reduce the current consumption of the total system with gating the operation clocks of peripheral functions not used.

VBAT

The consumption power during the RTC operation can be reduced by supplying the power supply independent VBAT pin. RTC (calendar circuit) / 32 kHz oscillation circuit. The following circuit can also be used.

- RTC
- 32 kHz oscillation circuit
- Power-on circuit
- Back up register: 32 bytes
- Port circuit

Debug

- Serial Wire Debug Port (SW-DP)
- Micro Trace Buffer (MTB)

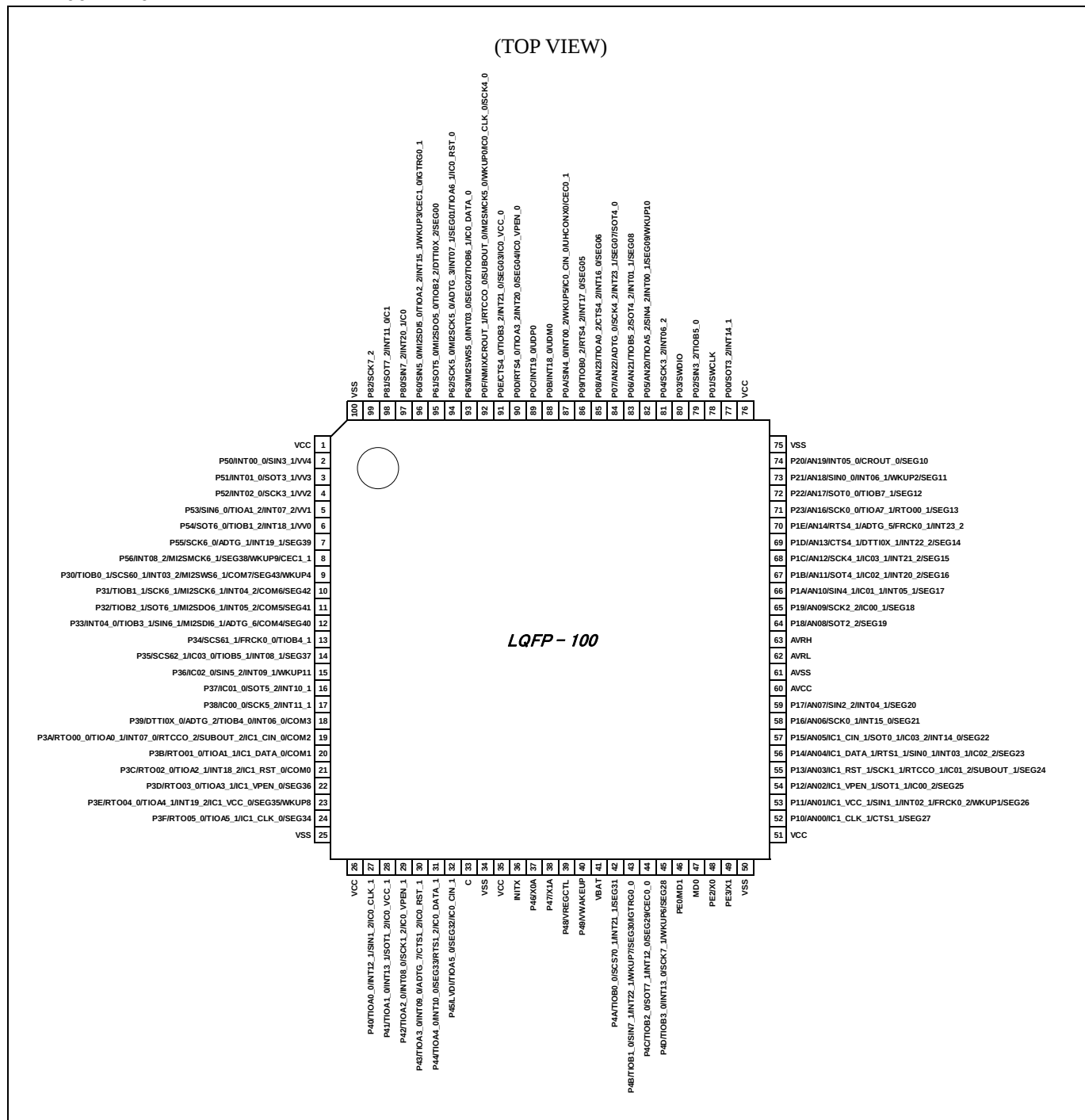
Unique ID

A 41-bit unique value of the device has been set.

Power Supply

- Wide voltage range:
 - VCC = 1.65V to 3.6 V
 - VCC = 3.0V to 3.6V (when USB is used)
 - VCC = 2.2V to 3.6V (when LCDC is used)
- Power supply for VBAT: VBAT = 1.65 V to 3.6 V

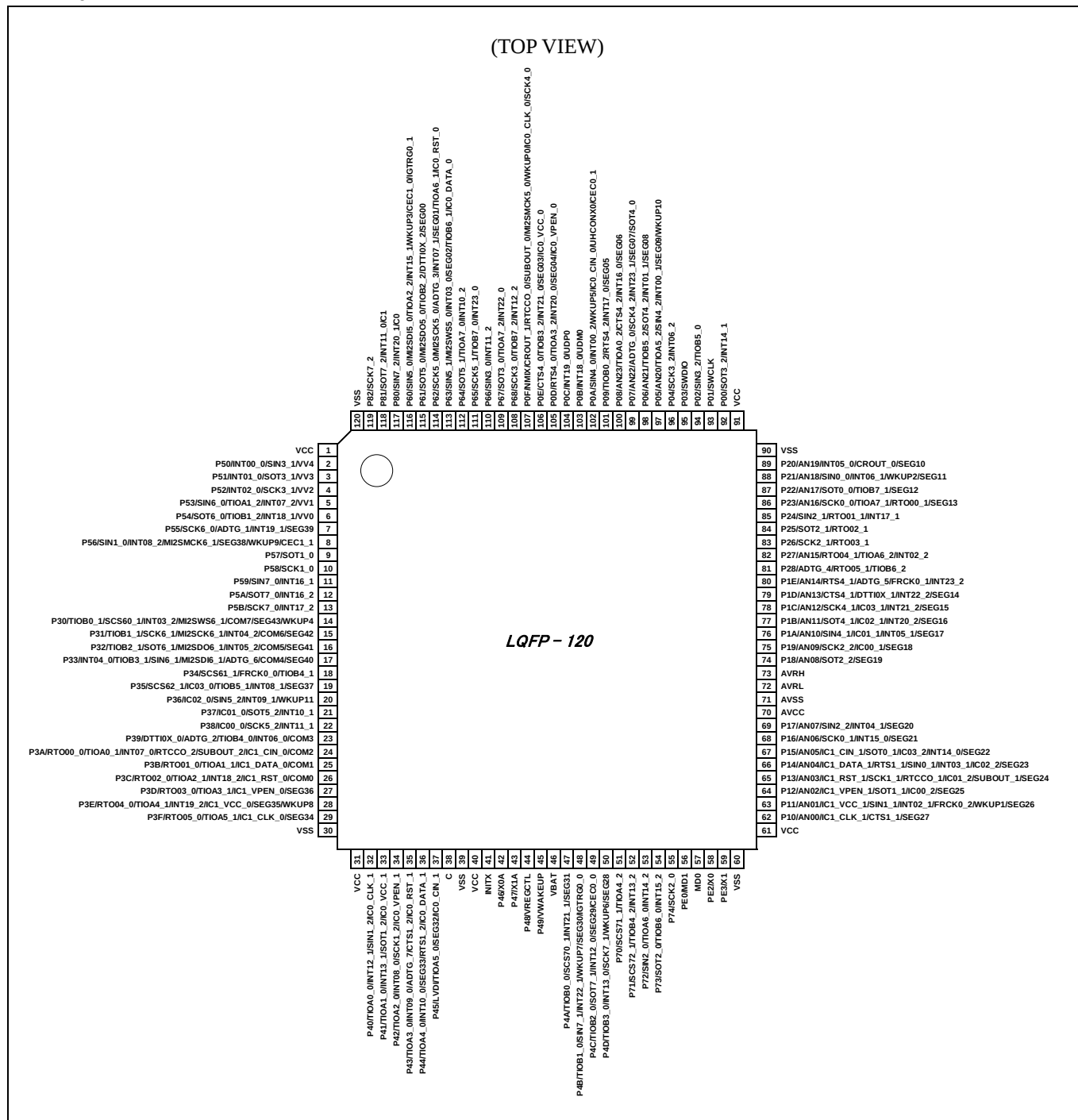
FPT-100P-M20



Note:

- The number after the underscore ("_") in a pin name such as XXX_1 and XXX_2 indicates the relocated port number. The channel on such pin has multiple functions, each of which has its own pin name. Use the Extended Port Function Register (EPFR) to select the pin to be used.

FPT-120P-M21



Note:

- The number after the underscore ("_") in a pin name such as XXX_1 and XXX_2 indicates the relocated port number. The channel on such pin has multiple functions, each of which has its own pin name. Use the Extended Port Function Register (EPFR) to select the pin to be used.

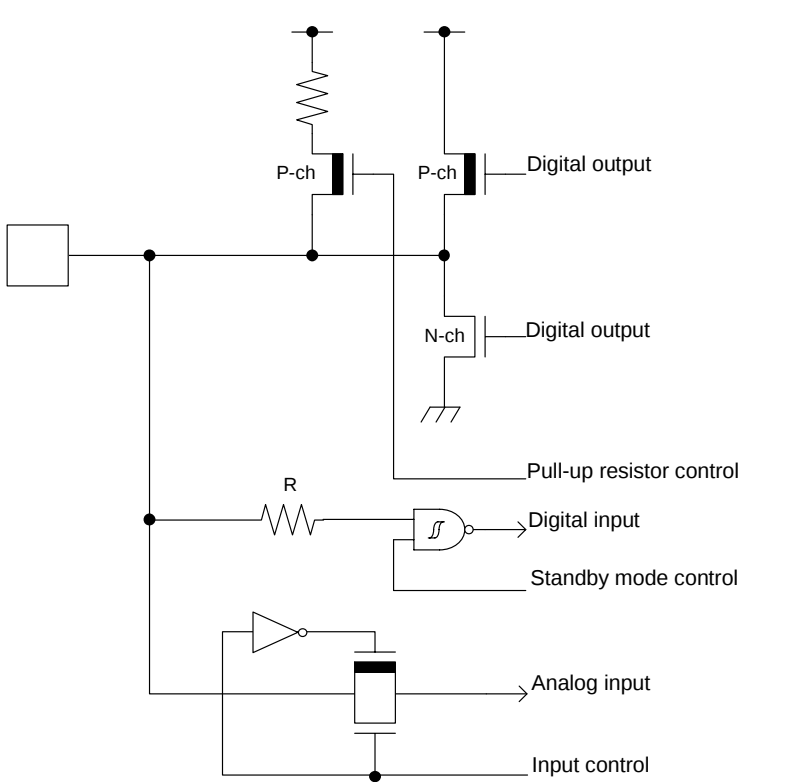
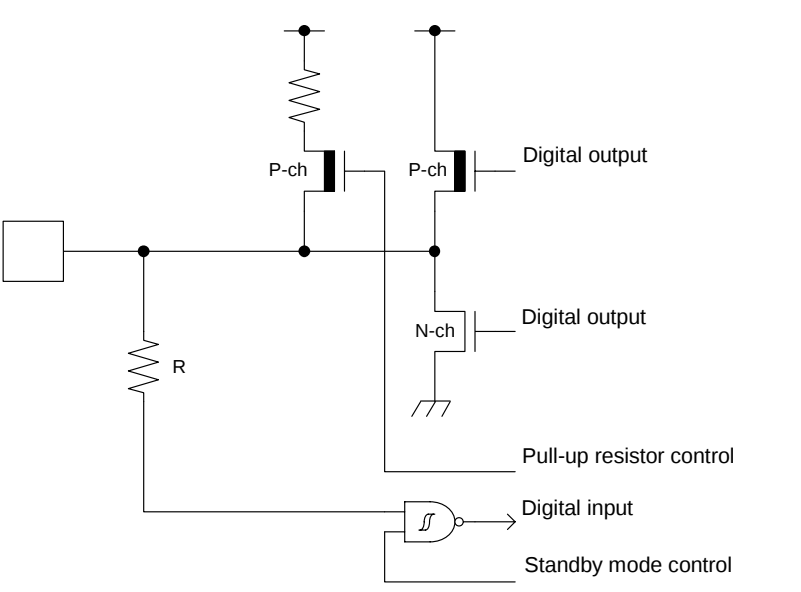
List of Pin Functions

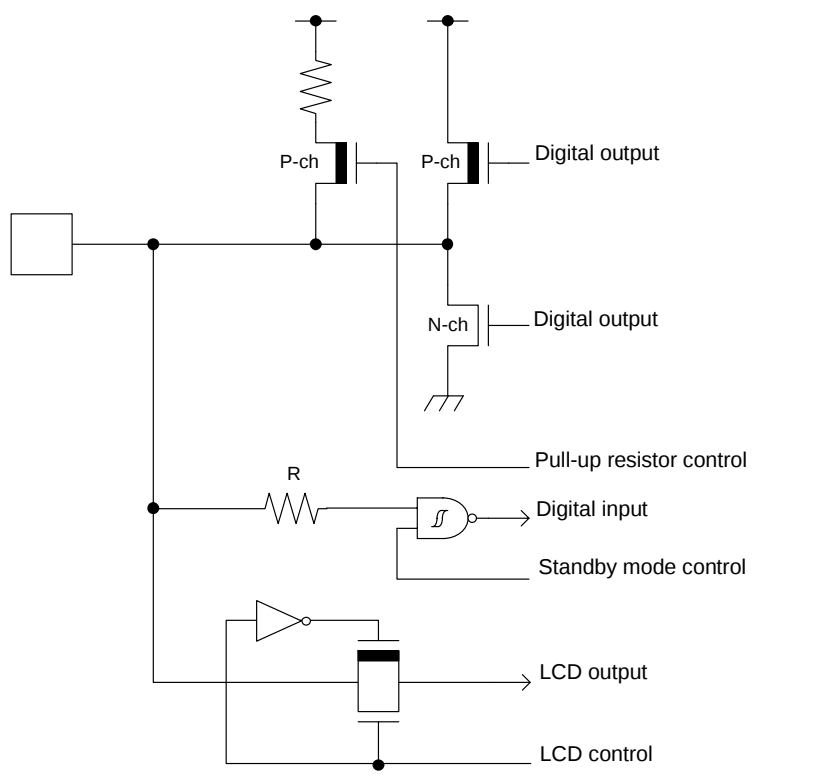
The number after the underscore ("_") in a pin name such as XXX_1 and XXX_2 indicates the relocated port number. The channel on such pin has multiple functions, each of which has its own pin name. Use the Extended Port Function Register (EPFR) to select the pin to be used.

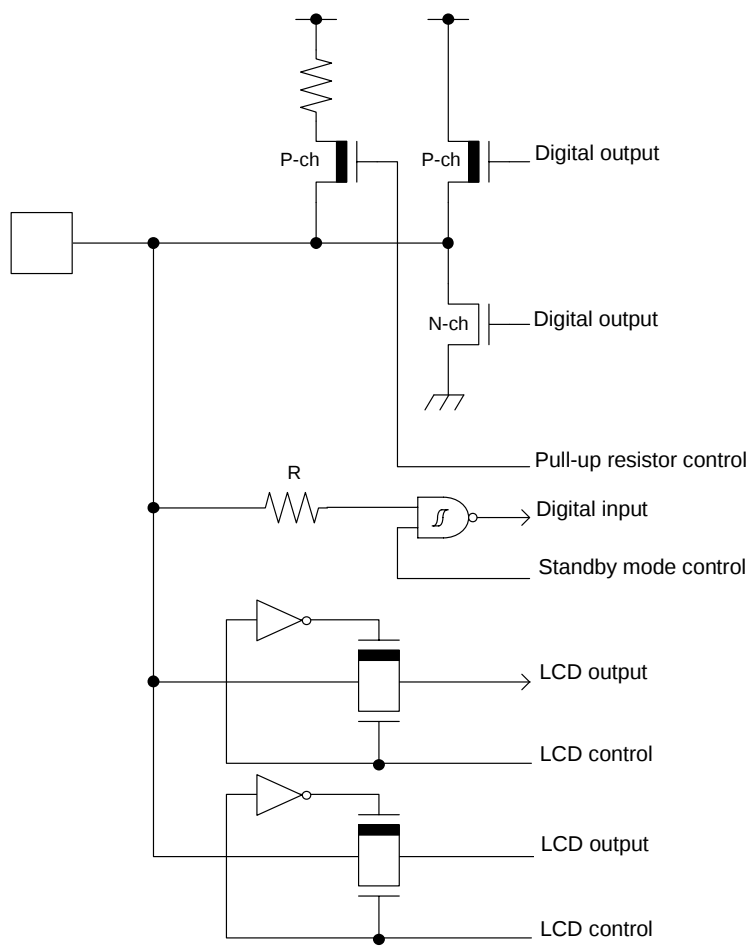
Pin Function	Pin Name	Function Description	Pin No.		
			LQFP-120	LQFP-100	LQFP-80
ADC	ADTG_0	A/D converter external trigger input pin	99	84	66
	ADTG_1		7	7	7
	ADTG_2		23	18	13
	ADTG_3		114	94	74
	ADTG_4		81	-	-
	ADTG_5		80	70	-
	ADTG_6		17	12	12
	ADTG_7		35	30	-
	AN00	A/D converter analog input pin. ANxx describes ADC ch.xx.	62	52	42
	AN01		63	53	43
	AN02		64	54	44
	AN03		65	55	45
	AN04		66	56	46
	AN05		67	57	47
	AN06		68	58	48
	AN07		69	59	49
	AN08		74	64	54
	AN09		75	65	55
	AN10		76	66	56
	AN11		77	67	57
	AN12		78	68	-
	AN13		79	69	-
	AN14		80	70	-
	AN15		82	-	-
	AN16		86	71	58
	AN17		87	72	59
	AN18		88	73	60
	AN19		89	74	-
	AN20		97	82	-
	AN21		98	83	-
	AN22		99	84	66
	AN23		100	85	-
Base Timer 0	TIOA0_0	Base timer ch.0 TIOA pin	32	27	-
	TIOA0_1		24	19	14
	TIOA0_2		100	85	-
	TIOB0_0	Base timer ch.0 TIOB pin	47	42	32
	TIOB0_1		14	9	9
	TIOB0_2		101	86	-

Pin Function	Pin Name	Function Description	Pin No.		
			LQFP-120	LQFP-100	LQFP-80
External Interrupt	INT00_0	External interrupt request 00 input pin	2	2	2
	INT00_1		97	82	-
	INT00_2		102	87	67
	INT01_0	External interrupt request 01 input pin	3	3	3
	INT01_1		98	83	-
	INT02_0	External interrupt request 02 input pin	4	4	4
	INT02_1		63	53	43
	INT02_2		82	-	-
	INT03_0	External interrupt request 03 input pin	113	93	73
	INT03_1		66	56	46
	INT03_2		14	9	9
	INT04_0	External interrupt request 04 input pin	17	12	12
	INT04_1		69	59	49
	INT04_2		15	10	10
	INT05_0	External interrupt request 05 input pin	89	74	-
	INT05_1		76	66	56
	INT05_2		16	11	11
	INT06_0	External interrupt request 06 input pin	23	18	13
	INT06_1		88	73	60
	INT06_2		96	81	65
	INT07_0	External interrupt request 07 input pin	24	19	14
	INT07_1		114	94	74
	INT07_2		5	5	5
	INT08_0	External interrupt request 08 input pin	34	29	-
	INT08_1		19	14	-
	INT08_2		8	8	8
	INT09_0	External interrupt request 09 input pin	35	30	-
	INT09_1		20	15	-
	INT10_0	External interrupt request 10 input pin	36	31	21
	INT10_1		21	16	-
	INT10_2		112	-	-
	INT11_0	External interrupt request 11 input pin	118	98	78
	INT11_1		22	17	-
	INT11_2		110	-	-
	INT12_0	External interrupt request 12 input pin	49	44	34
	INT12_1		32	27	-
	INT12_2		108	-	-
	INT13_0	External interrupt request 13 input pin	50	45	35
	INT13_1		33	28	-
	INT13_2		52	-	-
	INT14_0	External interrupt request 14 input pin	67	57	47
	INT14_1		92	77	61
	INT14_2		53	-	-

Pin Function	Pin Name	Function Description	Pin No.		
			LQFP-120	LQFP-100	LQFP-80
Multi-function Timer 0	DTTI0X_0	Input signal of waveform generator controlling RTO00 to RTO05 outputs of Multi-function Timer 0.	23	18	13
	DTTI0X_1		79	69	-
	DTTI0X_2		115	95	75
	FRCK0_0	16-bit free-run timer ch.0 external clock input pin.	18	13	-
	FRCK0_1		80	70	-
	FRCK0_2		63	53	43
	IC00_0	16-bit input capture input pin of Multi-function timer 0. ICxx describes channel number.	22	17	-
	IC00_1		75	65	55
	IC00_2		64	54	44
	IC01_0		21	16	-
	IC01_1		76	66	56
	IC01_2		65	55	45
	IC02_0		20	15	-
	IC02_1		77	67	57
	IC02_2		66	56	46
	IC03_0		19	14	-
	IC03_1		78	68	-
	IC03_2		67	57	47
	RTO00_0 (PPG00_0)	Waveform generator output pin of Multi-function timer 0.	24	19	14
	RTO00_1 (PPG00_1)	This pin operates as PPG00 when it is used in PPG0 output mode.	86	71	58
	RTO01_0 (PPG00_0)	Waveform generator output pin of Multi-function timer 0.	25	20	15
	RTO01_1 (PPG00_1)	This pin operates as PPG00 when it is used in PPG0 output mode.	85	-	-
	RTO02_0 (PPG02_0)	Waveform generator output pin of Multi-function timer 0.	26	21	16
	RTO02_1 (PPG02_1)	This pin operates as PPG02 when it is used in PPG0 output mode.	84	-	-
	RTO03_0 (PPG02_0)	Waveform generator output pin of Multi-function timer 0.	27	22	17
	RTO03_1 (PPG02_1)	This pin operates as PPG02 when it is used in PPG0 output mode.	83	-	-
	RTO04_0 (PPG04_0)	Waveform generator output pin of Multi-function timer 0.	28	23	18
	RTO04_1 (PPG04_1)	This pin operates as PPG04 when it is used in PPG0 output mode.	82	-	-
	RTO05_0 (PPG04_0)	Waveform generator output pin of Multi-function timer 0.	29	24	19
	RTO05_1 (PPG04_1)	This pin operates as PPG04 when it is used in PPG0 output mode.	81	-	-
	IGTRG0_0	PPG IGBT mode external trigger input pin	48	43	33
	IGTRG0_1		116	96	76

Type	Circuit	Remarks
H		• CMOS level output • CMOS level hysteresis input • With input control • Analog input • 5 V tolerant • With pull-up resistor control • With standby mode control • Pull-up resistor : Approximately 33 kΩ • $I_{OH} = -4 \text{ mA}$, $I_{OL} = 4 \text{ mA}$ • Available to control of PZR registers. • When this pin is used as an I²C pin, the digital output P-ch transistor is always off
I		• CMOS level output • CMOS level hysteresis input • 5 V tolerant • With pull-up resistor control • With standby mode control • Pull-up resistor : Approximately 33 kΩ • $I_{OH} = -4 \text{ mA}$, $I_{OL} = 4 \text{ mA}$ • Available to control PZR registers • When this pin is used as an I²C pin, the digital output P-ch transistor is always off

Type	Circuit	Remarks
L	 P-ch Digital output N-ch Digital output Pull-up resistor control R Digital input Standby mode control LCD output LCD control	• CMOS level output • CMOS level hysteresis input • With input control • 5 V tolerant • LCD segment output • With pull-up resistor control • With standby mode control • Pull-up resistor : Approximately 33 kΩ • $I_{OH} = -4\text{ mA}$, $I_{OL} = 4\text{ mA}$ • Available to control of PZR registers. • When this pin is used as an I²C pin, the digital output P-ch transistor is always off

Type	Circuit	Remarks
M	 P-ch Digital output N-ch Digital output Pull-up resistor control R Digital input Standby mode control LCD output LCD control LCD output LCD control	• CMOS level output • CMOS level hysteresis input • With input control • 5 V tolerant • LCD common output • LCD segment output • With pull-up resistor control • With standby mode control • Pull-up resistor : Approximately 33 kΩ • $I_{OH} = -4 \text{ mA}$, $I_{OL} = 4 \text{ mA}$ • Available to control of PZR registers. • When this pin is used as an I²C pin, the digital output P-ch transistor is always off

6. Handling Precautions

Any semiconductor devices have inherently a certain rate of failure. The possibility of failure is greatly affected by the conditions in which they are used (circuit conditions, environmental conditions, etc.). This page describes precautions that must be observed to minimize the chance of failure and to obtain higher reliability from your Spansion semiconductor devices.

6.1 Precautions for Product Design

This section describes precautions when designing electronic equipment using semiconductor devices.

Absolute Maximum Ratings

Semiconductor devices can be permanently damaged by application of stress (voltage, current, temperature, etc.) in excess of certain established limits, called absolute maximum ratings. Do not exceed these ratings.

Recommended Operating Conditions

Recommended operating conditions are normal operating ranges for the semiconductor device. All the device's electrical characteristics are warranted when operated within these ranges.

Always use semiconductor devices within the recommended operating conditions. Operation outside these ranges may adversely affect reliability and could result in device failure.

No warranty is made with respect to uses, operating conditions, or combinations not represented on the data sheet. Users considering application outside the listed conditions are advised to contact their sales representative beforehand.

Processing and Protection of Pins

These precautions must be followed when handling the pins which connect semiconductor devices to power supply and input/output functions.

(1) Preventing Over-Voltage and Over-Current Conditions

Exposure to voltage or current levels in excess of maximum ratings at any pin is likely to cause deterioration within the device, and in extreme cases leads to permanent damage of the device. Try to prevent such overvoltage or over-current conditions at the design stage.

(2) Protection of Output Pins

Shorting of output pins to supply pins or other output pins, or connection to large capacitance can cause large current flows. Such conditions if present for extended periods of time can damage the device.

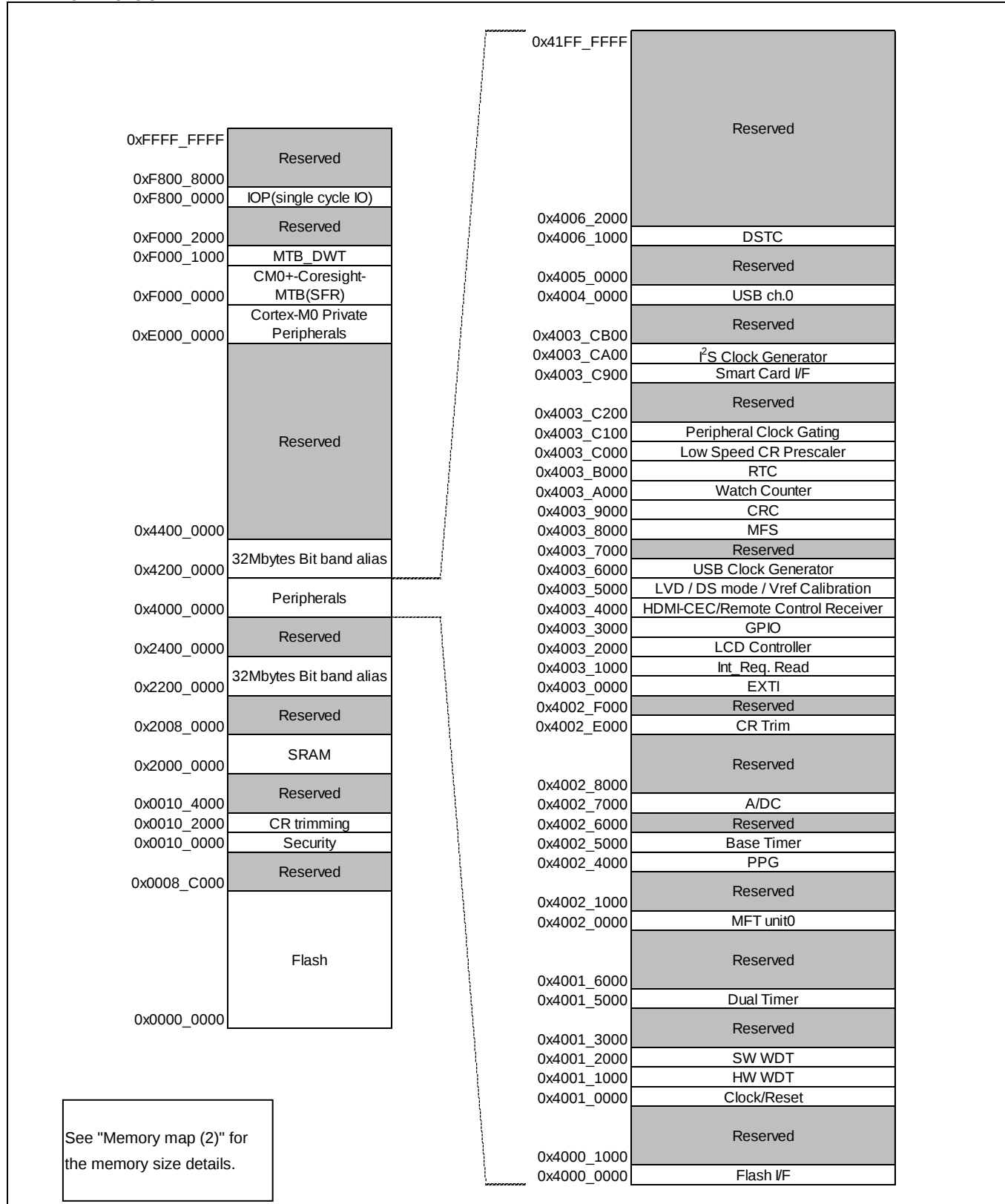
Therefore, avoid this type of connection.

(3) Handling of Unused Input Pins

Unconnected input pins with very high impedance levels can adversely affect stability of operation. Such pins should be connected through an appropriate resistance to a power supply pin or ground pin.

9. Memory Map

Memory Map (1)



List of Pin Status

Pin Status Type	Function Group	State Upon Power-on Reset or Low-Voltage Detection	State at INITX Input	State Upon Device Internal Reset	State in Run Mode or Sleep Mode	State in Timer Mode, RTC Mode, or Stop Mode		State in Deep Standby RTC Mode or Deep Standby Stop Mode State		State when Return from Deep Standby Mode State
		Power Supply Unstable	Power Supply Stable	Power Supply Stable	Power Supply Stable	Power Supply Stable		Power Supply Stable		Power Supply Stable
		-	INITX=0	INITX=1	INITX=1	INITX=1		INITX=1		INITX=1
		-	-	-	-	SPL=0	SPL=1	SPL=0	SPL=1	-
A	GPIO selected	Setting disabled	Setting disabled	Setting disabled	Maintain previous state	Maintain previous state	Hi-Z / Internal input fixed at 0	GPIO selected / Internal input fixed at 0	Hi-Z / Internal input fixed at 0	GPIO selected
	Main crystal oscillator input pin/ External main clock input selected	Input enabled	Input enabled	Input enabled	Input enabled	Input enabled	Input enabled	Input enabled	Input enabled	Input enabled
B	GPIO selected	Setting disabled	Setting disabled	Setting disabled	Maintain previous state	Maintain previous state	Hi-Z / Internal input fixed at 0	GPIO selected / Internal input fixed at 0	Hi-Z / Internal input fixed at 0	GPIO selected
	External main clock input selected	Setting disabled	Setting disabled	Setting disabled	Maintain previous state	Maintain previous state	Hi-Z / Internal input fixed at 0	Maintain previous state	Hi-Z / Internal input fixed at 0	Maintain previous state
	Main crystal oscillator output pin	Hi-Z / Internal input fixed at 0/ Input enabled	Hi-Z / Internal input fixed at 0	Hi-Z / Internal input fixed at 0	Maintain previous state/When oscillation stops* ¹ , Hi-Z / Internal input fixed at 0	Maintain previous state/When oscillation stops* ¹ , Hi-Z / Internal input fixed at 0	Maintain previous state/When oscillation stops* ¹ , Hi-Z / Internal input fixed at 0	Maintain previous state / When oscillation stops* ¹ , Hi-Z / Internal input fixed at 0	Maintain previous state / When oscillation stops* ¹ , Hi-Z / Internal input fixed at 0	Maintain previous state / When oscillation stops* ¹ , Hi-Z / Internal input fixed at 0
C	INITX input pin	Pull-up / Input enabled	Pull-up / Input enabled	Pull-up / Input enabled	Pull-up / Input enabled	Pull-up / Input enabled	Pull-up / Input enabled	Pull-up / Input enabled	Pull-up / Input enabled	Pull-up / Input enabled
D	Mode input pin	Input enabled	Input enabled	Input enabled	Input enabled	Input enabled	Input enabled	Input enabled	Input enabled	Input enabled

Pin Status Type	Function Group	State Upon Power-on Reset or Low-Voltage Detection	State at INITX Input	State Upon Device Internal Reset	State in Run Mode or Sleep Mode	State in Timer Mode, RTC Mode, or Stop Mode		State in Deep Standby RTC Mode or Deep Standby Stop Mode State		State when Return from Deep Standby Mode State
		Power Supply Unstable	Power Supply Stable	Power Supply Stable	Power Supply Stable	Power Supply Stable		Power Supply Stable		Power Supply Stable
		-	INITX=0	INITX=1	INITX=1	INITX=1		INITX=1		INITX=1
		-	-	-	-	SPL=0	SPL=1	SPL=0	SPL=1	-
E	GPIO selected	Setting disabled	Setting disabled	Setting disabled	Maintain previous state	Maintain previous state	Hi-Z / Internal input fixed at 0	Input enabled	Input enabled	Input enabled
	Sub crystal oscillator input pin / External sub clock input selected	Input enabled	Input enabled	Input enabled	Input enabled	Input enabled	Input enabled	GPIO selected	Hi-Z / Input enabled	GPIO selected
F	GPIO selected	Setting disabled	Setting disabled	Setting disabled	Maintain previous state	Maintain previous state	Hi-Z / Internal input fixed at 0	GPIO selected / Internal input fixed at 0	Hi-Z / Internal input fixed at 0	GPIO selected
	External sub clock input selected	Setting disabled	Setting disabled	Setting disabled	Maintain previous state	Maintain previous state	Hi-Z / Internal input fixed at 0	Maintain previous state	Hi-Z / Internal input fixed at 0	Maintain previous state
	Sub crystal oscillator output pin	Hi-Z / Internal input fixed at 0/ Input enabled	Hi-Z / Internal input fixed at 0	Hi-Z / Internal input fixed at 0	Maintain previous state	Maintain previous state/When oscillation stops*2, Hi-Z / Internal input fixed at 0	Maintain previous state/When oscillation stops*2, Hi-Z / Internal input fixed at 0	Maintain previous state / When oscillation stops*2, Hi-Z/ Internal input fixed at 0	Maintain previous state / When oscillation stops*2, Hi-Z/ Internal input fixed at 0	Maintain previous state / When oscillation stops*2, Hi-Z/ Internal input fixed at 0
G	NMIX selected	Setting disabled	Setting disabled	Setting disabled	Maintain previous state	Maintain previous state	Maintain previous state	WKUP input enabled	Hi-Z / WKUP input enabled	GPIO selected
	Resource other than the above selected	Hi-Z	Hi-Z / Input enabled	Hi-Z / Internal input fixed at 0						
	GPIO selected									

Pin Status Type	Function Group	State Upon Power-on Reset or Low-Voltage Detection	State at INITX Input	State Upon Device Internal Reset	State in Run Mode or Sleep Mode	State in Timer Mode, RTC Mode, or Stop Mode		State in Deep Standby RTC Mode or Deep Standby Stop Mode State		State when Return from Deep Standby Mode State
		Power Supply Unstable	Power Supply Stable	Power Supply Stable	Power Supply Stable	Power Supply Stable		Power Supply Stable		Power Supply Stable
		-	INITX=0	INITX=1	INITX=1	INITX=1		INITX=1		INITX=1
		-	-	-	-	SPL=0	SPL=1	SPL=0	SPL=1	-
L	Analog input selected	Hi-Z	Hi-Z / Internal input fixed at 0 / Analog input enabled	Hi-Z / Internal input fixed at 0 / Analog input enabled	Hi-Z / Internal input fixed at 0 / Analog input enabled	Hi-Z / Internal input fixed at 0 / Analog input enabled	Hi-Z / Internal input fixed at 0 / Analog input enabled	Hi-Z / Internal input fixed at 0 / Analog input enabled	Hi-Z / Internal input fixed at 0 / Analog input enabled	Hi-Z / Internal input fixed at 0 / Analog input enabled
	External interrupt enabled selected	Setting disabled	Setting disabled	Setting disabled	Maintain previous state	Maintain previous state	Maintain previous state	GPIO selected / Internal input fixed at 0	Hi-Z / Internal input fixed at 0	GPIO selected / Internal input fixed at 0
	Resource other than the above selected						Hi-Z / Internal input fixed at 0			
	GPIO selected									
M	Mode input pin	Input enabled	Input enabled	Input enabled	Input enabled	Input enabled	Input enabled	Input enabled	Input enabled	Input enabled
	GPIO selected	Setting disabled	Setting disabled	Setting disabled	Maintain previous state	Maintain previous state	Hi-Z / Input enabled	GPIO selected	Hi-Z / Input enabled	GPIO selected
N	WKUP enabled	Setting disabled	Setting disabled	Setting disabled	Maintain previous state	Maintain previous state	Maintain previous state	WKUP input enabled	Hi-Z / WKUP input enabled	GPIO selected / Internal input fixed at 0
	External interrupt enabled selected						GPIO selected / Internal input fixed at 0	Hi-Z / Internal input fixed at 0		
	Resource other than above selected	Hi-Z	Hi-Z / Input enabled	Hi-Z / Internal input fixed at 0						
	GPIO selected									

11. Electrical Characteristics

11.1 Absolute Maximum Ratings

Parameter	Symbol	Rating		Unit	Remarks
		Min	Max		
Power supply voltage ^{*1, *2}	V_{CC}	$V_{SS} - 0.5$	$V_{SS} + 4.6$	V	
Analog power supply voltage ^{*1, *3}	AV_{CC}	$V_{SS} - 0.5$	$V_{SS} + 4.6$	V	
Analog reference voltage ^{*1, *3}	$AVRH$	$V_{SS} - 0.5$	$V_{SS} + 4.6$	V	
Input voltage ^{*1}	V_I	$V_{SS} - 0.5$	$V_{CC} + 0.5$ (≤ 4.6 V)	V	
		$V_{SS} - 0.5$	$V_{SS} + 6.5$	V	5 V tolerant
Analog pin input voltage ^{*1}	V_{IA}	$V_{SS} - 0.5$	$V_{CC} + 0.5$ (≤ 4.6 V)	V	
Output voltage ^{*1}	V_O	$V_{SS} - 0.5$	$V_{CC} + 0.5$ (≤ 4.6 V)	V	
L level maximum output current ^{*4}	I_{OL}	-	10	mA	
			39	mA	P0B / P0C
L level average output current ^{*5}	I_{OLAV}	-	4	mA	
L level total maximum output current	$\sum I_{OL}$	-	100	mA	
L level total average output current ^{*6}	$\sum I_{OLAV}$	-	50	mA	
H level maximum output current ^{*4}	I_{OH}	-	- 10	mA	
			- 39	mA	P0B / P0C
H level average output current ^{*5}	I_{OHAV}	-	- 4	mA	
H level total maximum output current	$\sum I_{OH}$	-	- 100	mA	
H level total average output current ^{*6}	$\sum I_{OHAV}$	-	- 50	mA	
Power consumption	P_D	-	250	mW	
Storage temperature	T_{STG}	- 55	+ 150	°C	

*1: These parameters are based on the condition that $V_{SS}=AV_{SS}=0$ V.

*2: V_{CC} must not drop below $V_{SS} - 0.5$ V.

*3: Ensure that the voltage does not to exceed $V_{CC} + 0.5$ V at power-on.

*4: The maximum output current is the peak value for a single pin.

*5: The average output is the average current for a single pin over a period of 100 ms.

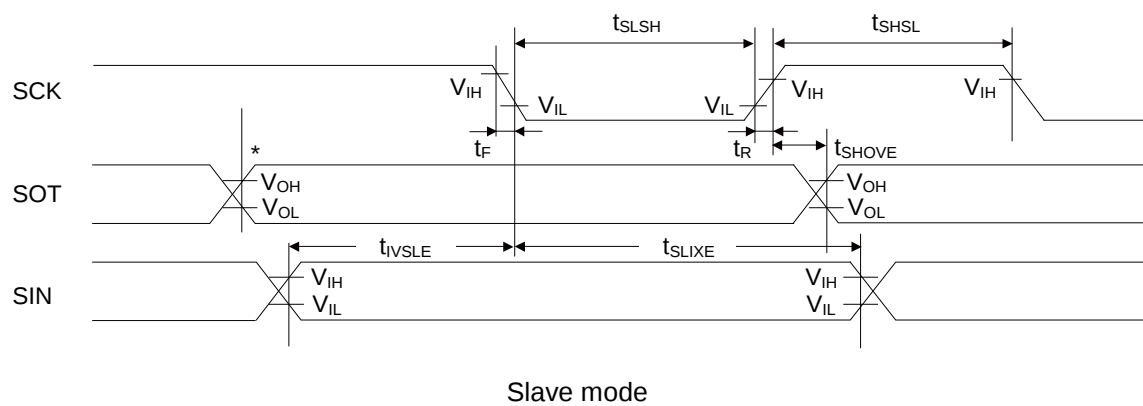
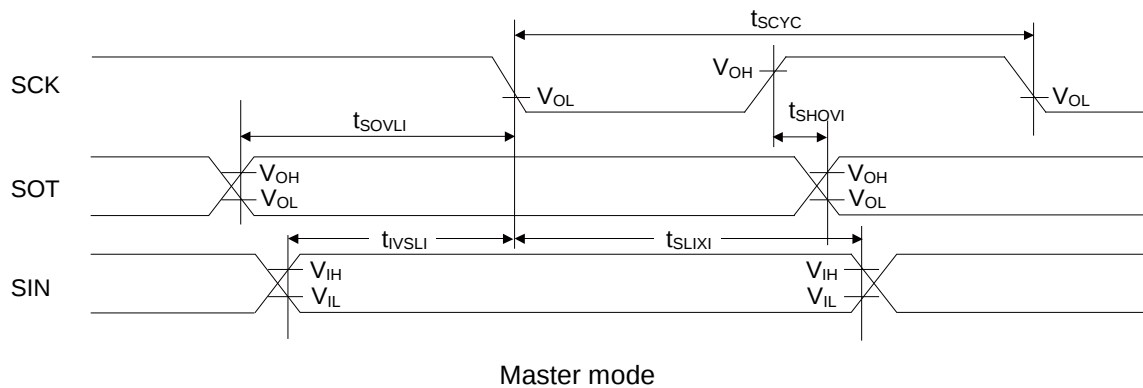
*6: The total average output current is the average current for all pins over a period of 100 ms.

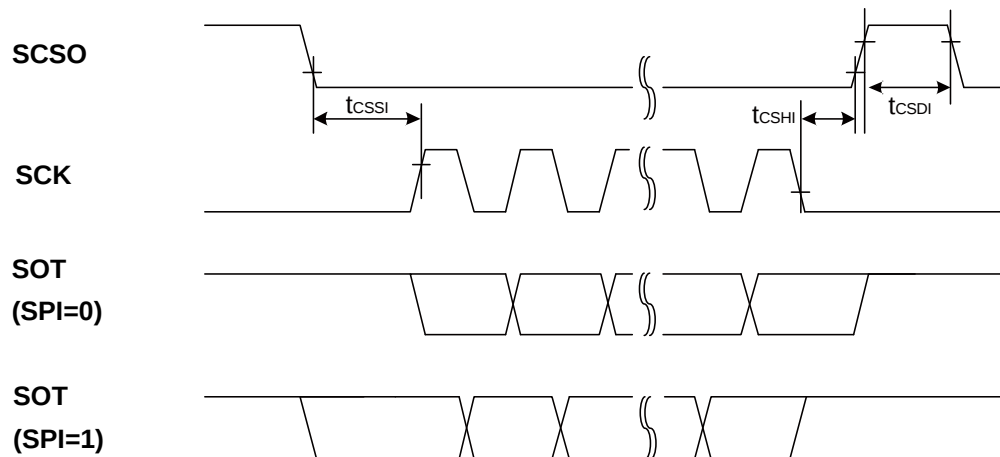
*7: When P0C/UDP0 and P0B/UDM0 pins are used as GPIO (P0C, P0B).

*8: When P0C/UDP0 and P0B/UDM0 pins are used as USB (UDP0, UDM0).

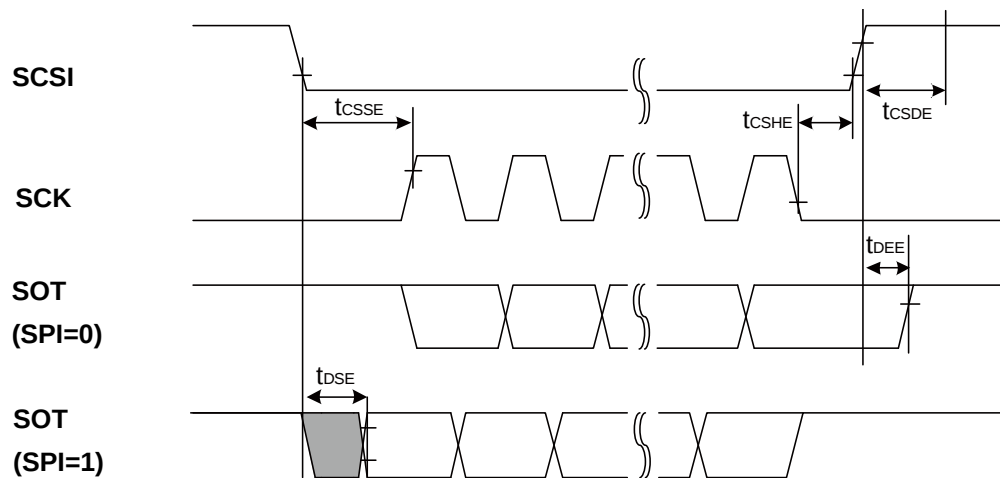
<WARNING>

- Semiconductor devices can be permanently damaged by application of stress (voltage, current, temperature, etc.) in excess of absolute maximum ratings. Do not exceed these ratings.



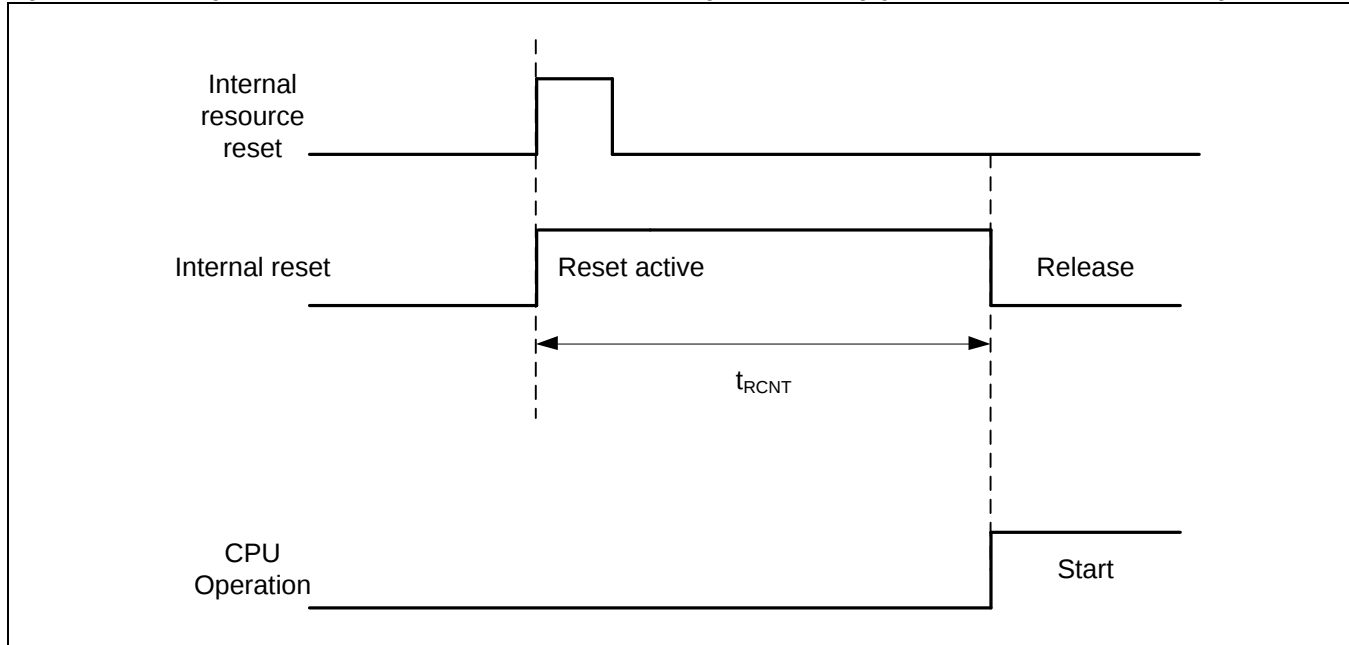


Master mode



Slave mode

Operation Example of Return from Low Power Consumption Mode (by Internal Resource Reset*)

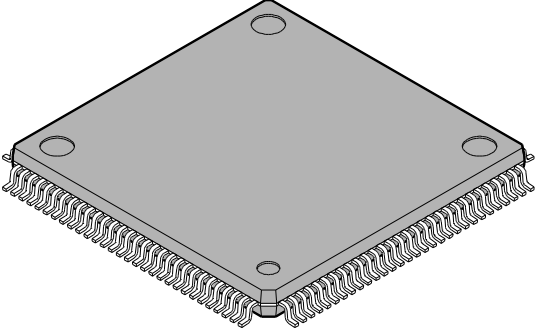


*: Internal resource reset is not included in return factor by the kind of Low-Power consumption mode.

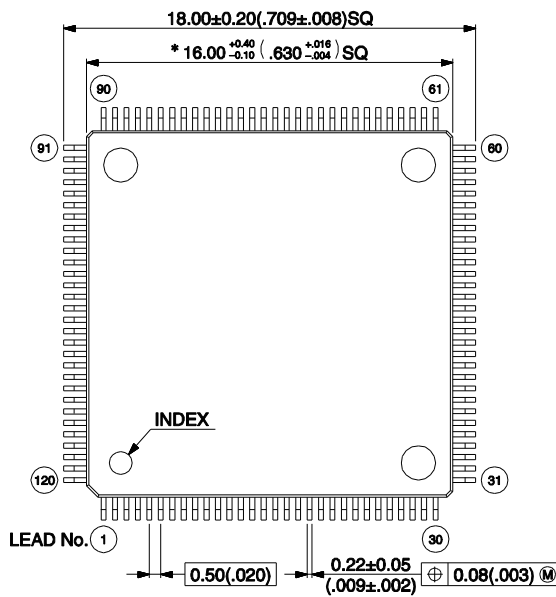
Notes:

- The return factor is different in each Low-Power consumption modes. See "Chapter: Low Power Consumption Mode" and "Operations of Standby Modes" in FM0+ Family Peripheral Manual.
- When interrupt recovers, the operation mode that CPU recovers depends on the state before the Low-Power consumption mode transition. See "Chapter: Low Power Consumption Mode" in "FM0+ Family Peripheral Manual".
- The time during the power-on reset/low-voltage detection reset is excluded. See "11.4.7 Power-on Reset Timing in 11.4 AC Characteristics in 11. Electrical Characteristics" for the detail on the time during the power-on reset/low-voltage detection reset.
- When in recovery from reset, CPU changes to the high-speed CR run mode. When using the main clock or the PLL clock, it is necessary to add the main clock oscillation stabilization wait time or the main PLL clock stabilization wait time.
- The internal resource reset means the watchdog reset and the CSV reset.

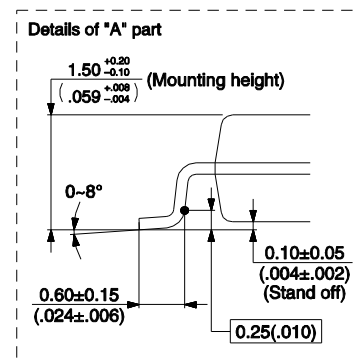
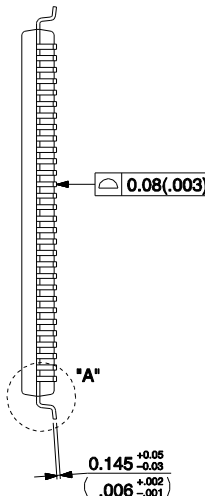
13. Package Dimensions

 120-pin plastic LQFP (FPT-120P-M21)	Lead pitch	0.50 mm
	Package width × package length	16.0 × 16.0 mm
	Lead shape	Gullwing
	Sealing method	Plastic mold
	Mounting height	1.70 mm MAX
	Weight	0.88 g
	Code (Reference)	P-LFQFP120-16×16-0.50

120-pin plastic LQFP
(FPT-120P-M21)



- Note 1) * : These dimensions do not include resin protrusion.
Resin protrusion is +0.25(.010) MAX(each side).
Note 2) Pins width and pins thickness include plating thickness.
Note 3) Pins width do not include tie bar cutting remainder.



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