



EXC7200 Controller IC

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1. INTRODUCTION

The EXC7200 is a MCU based integrated system controller chip for capacitive touchscreen. Working with EETI's EX5404 for Projected Capacitive Touchscreen (PCAP/PCT) touch technology; it is specified for 3.3V operation over the industrial temperature range (-40°C to +80°C). EXC7200 provides 48 pins LQFP package. It works with EETI's extension slave ASIC for Projected capacitive touchscreen. This chip design is scalable for different size, numbers of sensing channels of projected capacitive sensors. This main chip can work with multiple slave ASICs to support bigger size of sensor.

EETI's vision is to be effective responses to the changing demands and driving market leadership. Through a combination of reliable product, cost efficiency and enhanced quality of service, we establish long-term strategic partnership with our customer and maximize the potential of profitable growth together.

Delivering a most satisfying product and service to customers is an essential business value that EETI holds. Every day, thousands of people benefits from the convenience brought by communication technology and HMI / touch technology from our video and touch panel divisions.



2. DESCRIPTION

2.1 HARDWARE OVERVIEW

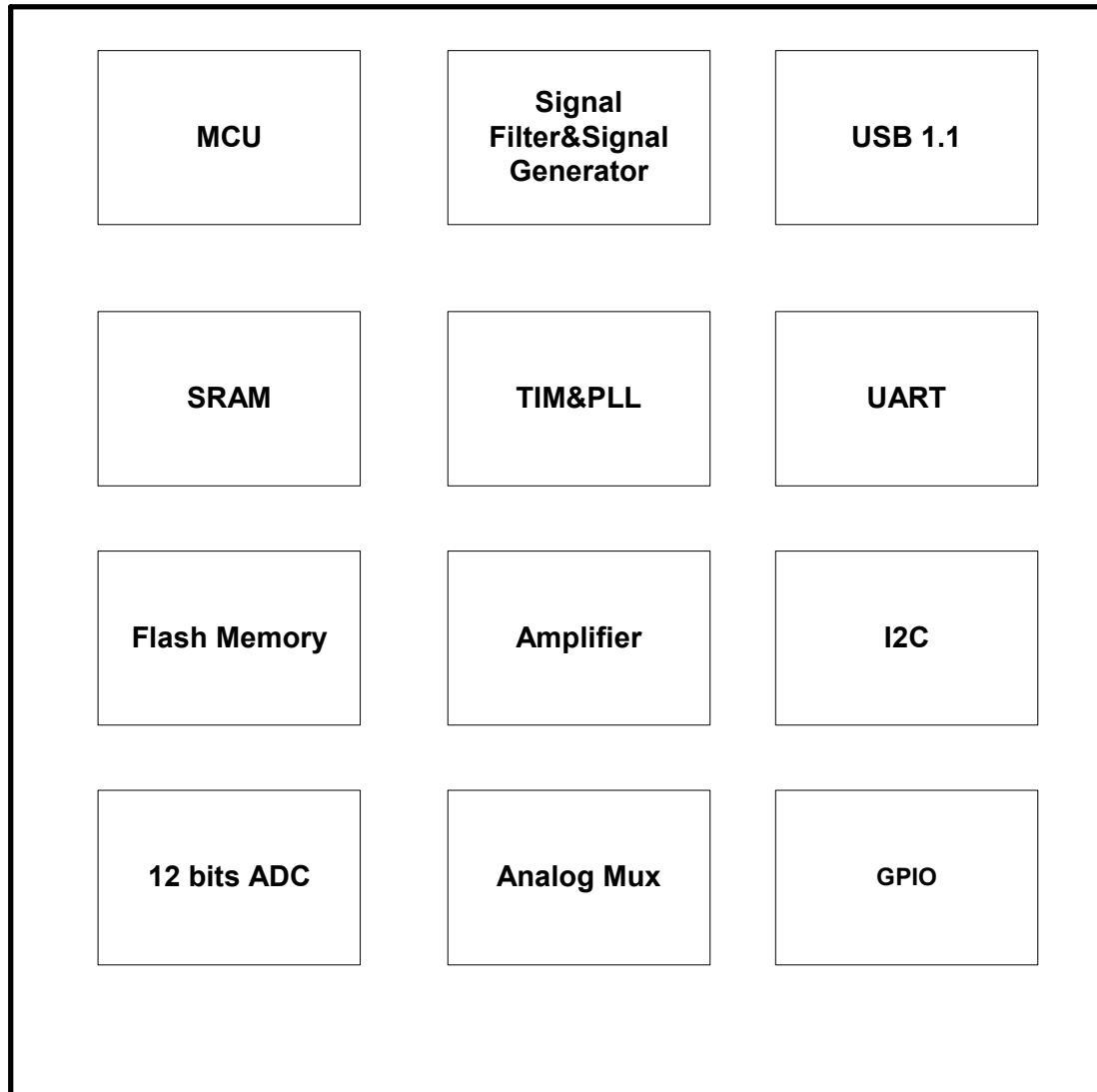
- Package : LQFP48
- Operating Temperature: -40 to 80°C
- Storage Temperature: -65 to 150 °C
- Relative Humidity: 95% at 60 °C
- Supplied Voltage: Regulated 3.3 VDC, 50 mVpp maximum ripple
- Power consumption: typical 50 mA
- Oscillator frequency: 12MHz
- Interface to Host: USB: 1.1 Full Speed
- Interface to slave ASIC: I2C
- Electrostatic discharge: 2000V(HBM), 500V(CDM)

2.2 FEATURES

- Support OS: Windows 7
- Support points: Dual points.
- Response time: max. 35 ms
- Resolution: 2048x2048
- Max. report rate: 75 points/ sec(Dual points on Windows 7)



3. BLOCK DIAGARAM





4. ELECTRICAL CHARACTERISTIC

Voltage characteristics

symbol	ratings	min	max	unit
VDD-VSS	External 3.3V supply voltage	-0.3	4	V
$ \Delta VDD $	Variations between different power pins	50	50	mV
$ VSSx-VSS $	Variations between all the different ground pins	50	50	mV

ESD absolute maximum ratings

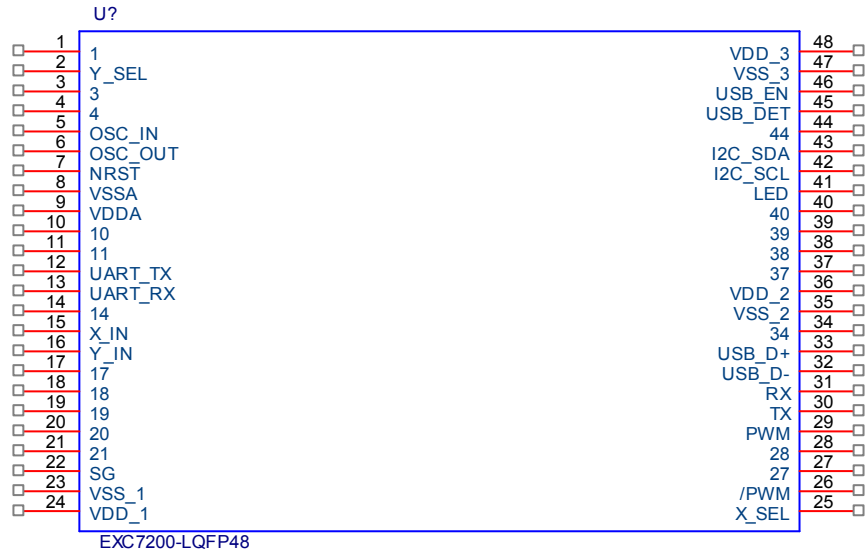
symbol	Ratings	Conditions	Class	Maximum value	unit
Vesd(HBM)	Electrostatic discharge voltage(human body model)	TA = +25 OC conforming to JESD22-A114	2	2000	V
Vesd(CDM)	Electrostatic discharge voltage(charge device model)	TA = +25 OC conforming to JESD22-A114	II	500	V

General operating conditions

symbol	parameter	min	max	unit
VDD	Standard operating voltage	3	3.6	V
TA	Ambient temperature range	-40	105	°C



5. PIN DESCRIPTION



Pin definitions

PINS	Pin Name	Pin Description
1	P1	GPIO
2	Y_SEL	GPIO/Y axis Selection
3	P3	GPIO
4	P4	
5	OSC_IN	Oscillation/Crystal Input
6	OSC_OUT	Oscillator/Crystal Output
7	NRST	External reset
8	VSSA	Analog Ground
9	VDDA	Analog Power
10	P10	GPIO
11	P11	GPIO
12	UART_TX	Uart Tx Pin
13	UART_RX	Uart Rx Pin
14	P14	GPIO
15	X_IN	X Signal Input
16	Y_IN	Y Signal Input



17	P17	GPIO
18	P18	GPIO
19	P19	GPIO
20	P20	GPIO
21	P21	GPIO
22	SG	Signal generator output
23	VSS	Digital Ground
24	VDD	Digital Power
25	X_SEL	X axis Selection
26	/PWM	Inverted PWM signal
27	P27	GPIO
28	P28	GPIO
29	PWM	PWM Signal Output
30	GPIO/TX	GPIO/SCI TX
31	GPIO/RX	GPIO/SCI RX
32	USB_D-	USB D-
33	USB_D+	USB D+
34	P34	GPIO
35	VSS	Digital Power
36	VDD	Digital Ground
37	P37	GPIO
38	P38	GPIO
39	P39	GPIO
40	P40	GPIO
41	P41/LED	GPIO/LED drive
42	I2C_SCL	I2C Clock
43	I2C_SDA	I2C Data
44	P44	GPIO
45	USB_DET	USB Detection
46	USB_EN	USB Enable
47	VSS	Digital Ground
48	VDD	Digital Power



Symbol	millimeters			inches ⁽¹⁾		
	Typ	Min	Max	Typ	Min	Max
A			1.600			0.0630
A1		0.050	0.150		0.0020	0.0059
A2	1.400	1.350	1.450	0.0551	0.0531	0.0571
b	0.220	0.170	0.270	0.0087	0.0067	0.0106
c		0.090	0.200		0.0035	0.0079
D	9.000	8.800	9.200	0.3543	0.3465	0.3622
D1	7.000	6.800	7.200	0.2756	0.2677	0.2835
D3	5.500			0.2165		
E	9.000	8.800	9.200	0.3543	0.3465	0.3622
E1	7.000	6.800	7.200	0.2756	0.2677	0.2835
E3	5.500			0.2165		
e	0.500			0.0197		
L	0.600	0.450	0.750	0.0236	0.0177	0.0295
L1	1.000			0.0394		
k	3.5°	0°	7°	3.5°	0°	7°
coc	0.080			0.0031		

1. Values in inches are converted from mm and rounded to 4 decimal digits.

7. Reference schematic:

