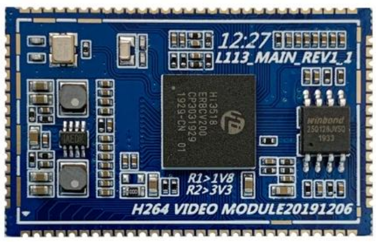
IMS3518E H264 VIDEO Module

Datasheet



Name: IMS3518E H264 VIDEO Module

Model No.: IMS3518E

Revision: v1.1

Manufacturers:Shenzhen BOJINGnet Technology Co., Ltd
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Revision History

Revision	Date	Description	Approved	Remark
REV1.0	20170611	Initial Release	PanyuLu	
REV1.1	20180425	Correction error	PanyuLu	
REV1.1	20191206	Update the appearance	PanyuLu	

Contents

1. Overview

IMS3518E H264 VIDEO Module is based on the HI3518EV200 chipset.Hi3518E V200 is a new-generation SoC designed for the HD IP camera. It has an integrated new-generation ISP and H.264 encoder.It uses the optimized picture processing algorithm before encoding, advanced low-power technology, and low-power architecture design. These designs and functions enable Hi3518E V200 to feature industry-leading low bit rate, high picture quality, and low power consumption. It supports 90°or 270°rotation and lens distortion correction by using hardware, which meets requirements in various surveillance application scenarios. It also supports 3A algorithms, which allow customers to design various types of IP cameras including the movement of the integrated camera. Hi3518E V200 integrates the POR, RTC as well as audio CODEC and supports various sensor levels and clock outputs, which significantly reduces the EBOM costs for the Hi3518E V200 HD IP camera.

2. Features

◆ARM926@540 MHz, 32 KB I-cache, 32 KB D-cach

◆H.264 main/high profile L4.0

◆H.264 baseline encoding

◆MJPEG/JPEG baseline encoding

◆SOC is embedded with DDR2 SDRAM 512Mb

◆Module onboard high speed SPI Flash 16MByte

◆Module on-board dc-dc provides soc consumption

◆Integrated audio CODEC that supports 16-bit audio inputs and outputs

◆POR

◆One integrated high-precision RTC

◆One 4-channel SAR ADC

◆Three UART interfaces

◆IR interfaces, I2C interfaces, SPI master interfaces, and GPIO interfaces

◆Four PWM interfaces

◆Two SDIO interfaces, one of which supports SD 3.0

◆One USB 2.0 interface that supports the host/device mode

◆RMII in 10/100 Mbit/s full-duplex or half-duplex mode, TSO network acceleration, and PHY clock output

◆VO interfaces– One BT.656 VO interface supporting 8-bit serial LCD outputs

◆40mm(L) x 25mm(W) x 3.0mm(H)dimension LCC88 pin

3. Applications

Internet Of Things

IPcam

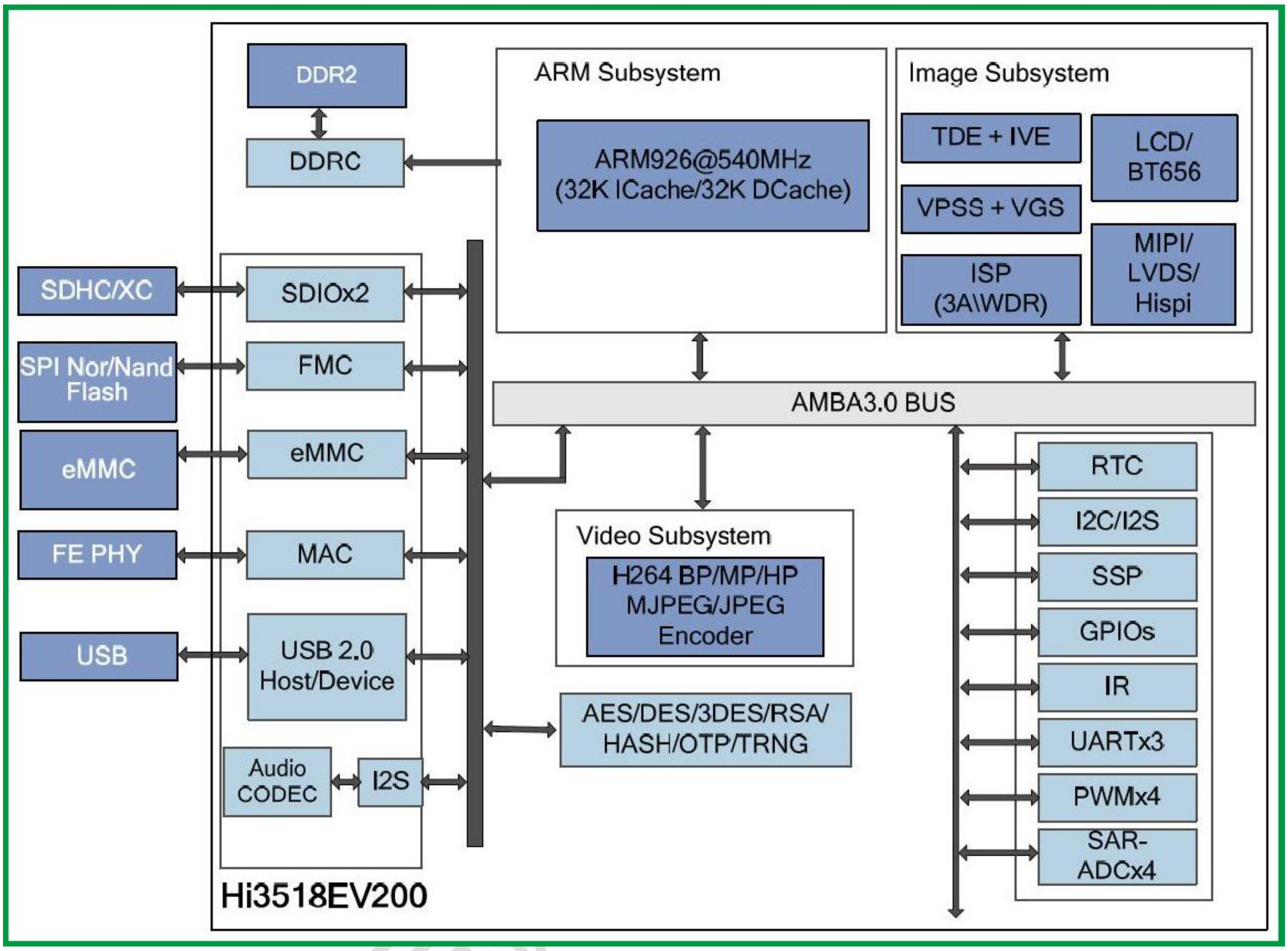
Video door bell

Image recognition

3G/4G Cam

Smart Home Gateway

4. Fuctional Block Diagram

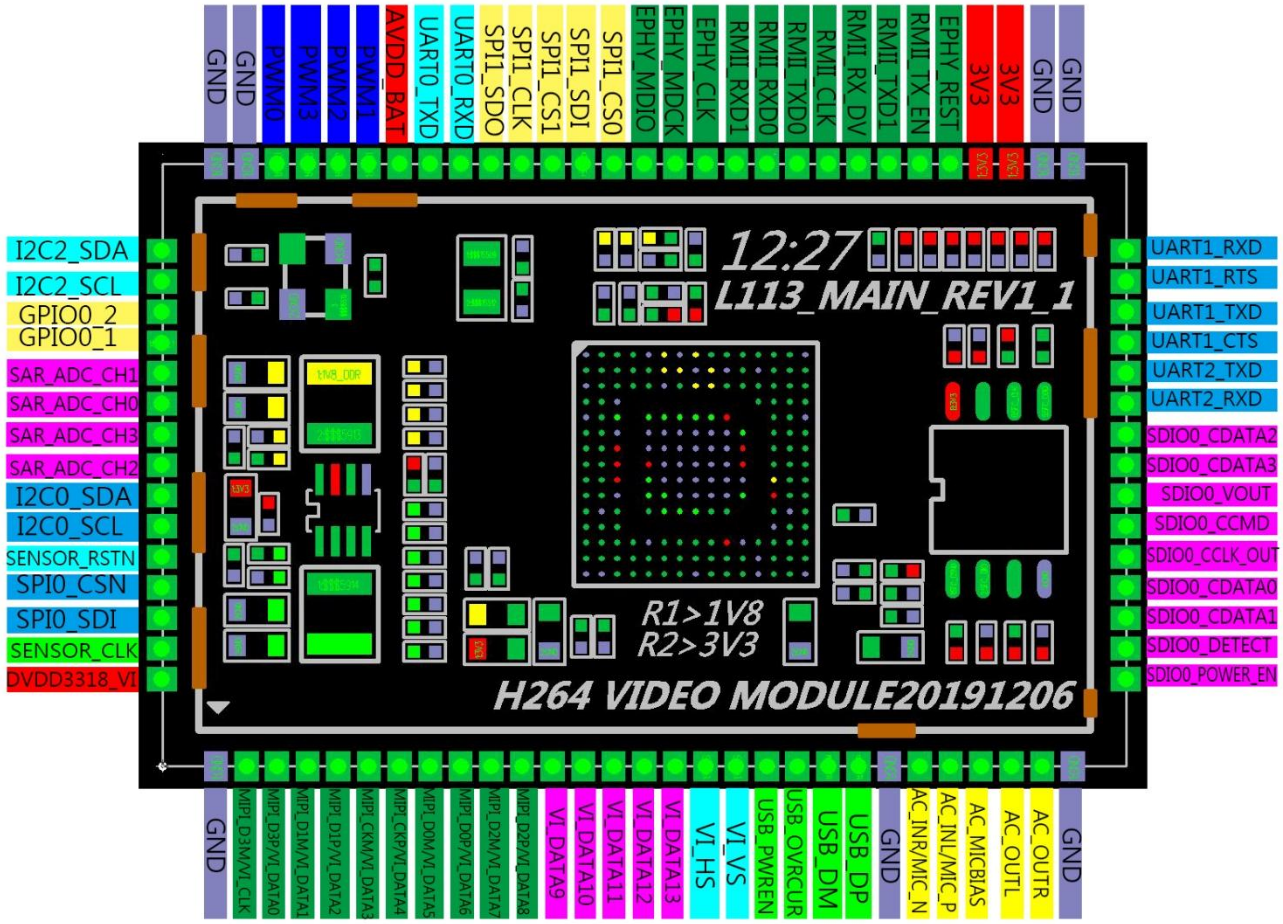


5. Module Specifications

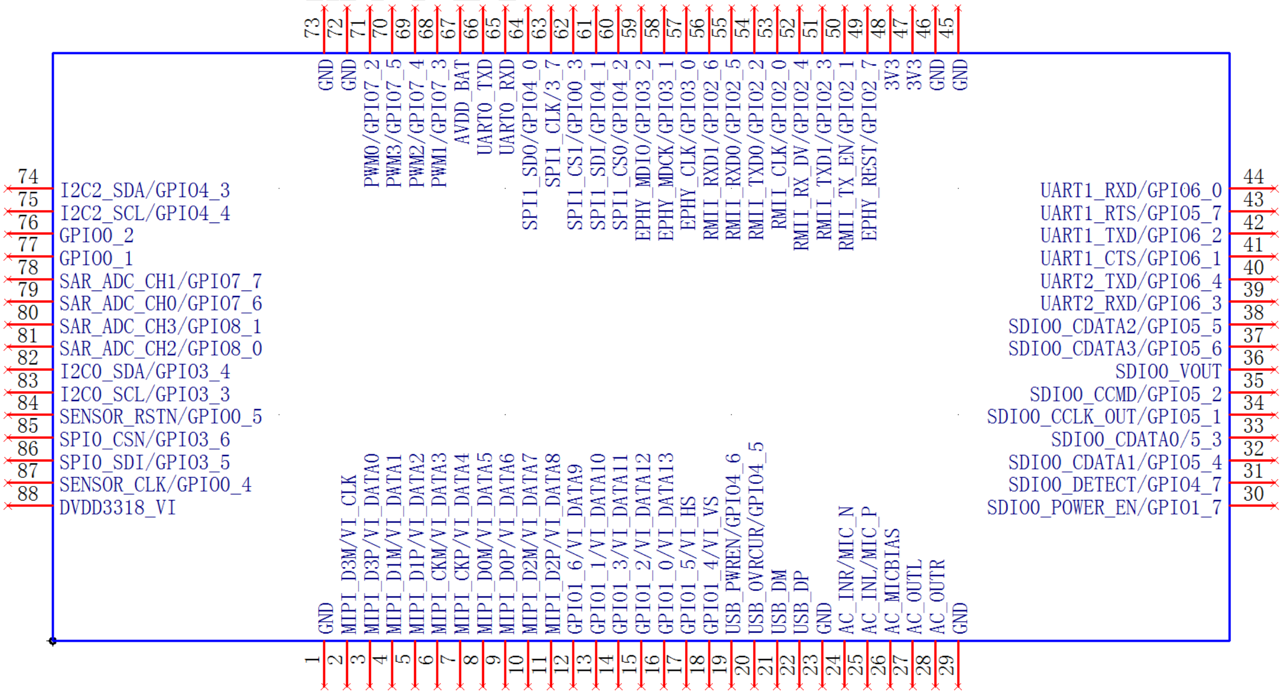
Hardware Features	
Model No	IMS3518E
Chipset solution	HI3518EV200
Voltage Input	3v3 ±5%
Dimension(L×W×H)	40mm*25.0mm*3.0mm LCC 88PIN
Others	
Environment	Operating Temperature: -20℃~55℃
	Storage Temperature: -40℃~125℃
	Operating Humidity: 10%~90% non-condensing
	Storage Humidity: 5%~90% non-condensing

6. Module Pinout and Pin Description

6.1 Module Layout:



6.2 Module Logic:



6.3 Pin Description:

Pin No.	Function 1	Function 2	Function 3	Function 4	GPIO#	Remark
1	GND					
2	MIPI_D3M/VI_CLK					
3	MIPI_D3P/VI_DATA0					
4	MIPI_D1M/VI_DATA1					
5	MIPI_D1P/VI_DATA2					
6	MIPI_CKM/VI_DATA3					
7	MIPI_CKP/VI_DATA4					
8	MIPI_D0M/VI_DATA5					
9	MIPI_D0P/VI_DATA6					
10	MIPI_D2M/VI_DATA7					
11	MIPI_D2P/VI_DATA8					
12	VI_DATA9	I2S_SD_RX	UART2_TXD		GPIO1_6	
13	VI_DATA10	I2S_SD_TX	UART1_TXD		GPIO1_1	
14	VI_DATA11	I2S_WS_TX	UART2_RXD		GPIO1_3	
15	VI_DATA12	I2S_MCLK	UART1_CTSN		GPIO1_2	
16	VI_DATA13	I2S_BCLK_TX	PWM0		GPIO1_0	
17	VI_HS	I2S_BCLK_RX	UART1_RTSN	VI_DATA14	GPIO1_5	
18	VI_VS	I2S_WS_RX	UART1_RXD	VI_DATA15	GPIO1_4	
19	USB_PWREN				GPIO4_6	
20	USB_OVRCUR				GPIO4_5	
21	USB_DM					
22	USB_DP					
23	GND					
24	AC_INR/MIC_N					
25	AC_INL/MIC_P					
26	AC_MICBIAS					
27	AC_OUTL					
28	AC_OUTR					
29	GND					
30	SDIO0_POWER_EN				GPIO1_7	
31	SDIO0_DETECT				GPIO4_7	
32	SDIO0_CDATA1				GPIO5_4	
33	SDIO0_CDATA0				GPIO5_3	
34	SDIO0_CCLK_OUT				GPIO5_1	
35	SDIO0_CCMD				GPIO5_2	
36	SDIO0_VOUT					
37	SDIO0_CDATA3				GPIO5_6	
38	SDIO0_CDATA2				GPIO5_5	
39	UART2_RXD				GPIO6_3	
40	UART2_TXD	I2S_BCLK_TX			GPIO6_4	
41	UART1_CTS	I2S_MCLK			GPIO6_1	
42	UART1_TXD	I2S_SD_RX			GPIO6_2	
43	UART1_RTS	I2S_SD_TX			GPIO5_7	
44	UART1_RXD	I2S_WS_TX			GPIO6_0	
45	GND					
46	GND					
47	3V3					
48	3V3					
49	EPHY_REST	VO_HS	SDIO1_CARD_POWER_EN		GPIO2_7	
50	RMII_TX_EN	VO_VS	SDIO1_CARD_DETECT		GPIO2_1	
51	RMII_TXD1	VO_DE	SDIO1_CDATA1		GPIO2_3	
52	RMII_RX_DV	VO_DATA7	SDIO1_CDATA0		GPIO2_4	
53	RMII_CLK	VO_CLK	SDIO1_CCLK_OUT		GPIO2_0	
54	RMII_TXD0	VO_DATA5	SDIO1_CWPR		GPIO2_2	
55	RMII_RXD0	VO_DATA2	SDIO1_CDATA3		GPIO2_5	
56	RMII_RXD1	VO_DATA3	SDIO1_CCMD		GPIO2_6	
57	EPHY_CLK	VO_DATA1	SDIO1_CDATA2		GPIO3_0	
58	EPHY_MDCK	VO_DATA6			GPIO3_1	
59	EPHY_MDIO	VO_DATA4			GPIO3_2	

60	SPI1_CS0				GPIO4_2	
61	SPI1_SDI				GPIO4_1	
62	SPI1_CS1	VO_DATA0			GPIO0_3	
63	SPI1_CLK	I2C1_SCL			GPIO3_7	
64	SPI1_SDO	I2C1_SDA			GPIO4_0	
65	UART0_RXD					Debug
66	UART0_TXD					Debug
67	AVDD_BAT					
68	PWM1				GPIO7_3	
69	PWM2				GPIO7_4	
70	PWM3				GPIO7_5	
71	PWM0				GPIO7_2	
72	GND					
73	GND					
74	I2C2_SDA				GPIO4_3	
75	I2C2_SCL				GPIO4_4	
76	GPIO0_2				GPIO0_2	
77	GPIO0_1				GPIO0_1	
78	SAR_ADC_CH1				GPIO7_7	
79	SAR_ADC_CH0				GPIO7_6	
80	SAR_ADC_CH3				GPIO8_1	
81	SAR_ADC_CH2				GPIO8_0	
82	I2C0_SDA	SPI0_SDO			GPIO3_4	
83	I2C0_SCL	SPI0_SCLK			GPIO3_3	
84	SENSOR_RSTN				GPIO0_5	
85	SPI0_CSN				GPIO3_6	
86	SPI0_SDI				GPIO3_5	
87	SENSOR_CLK				GPIO0_4	
88	DVDD3318_VI					

Note: Serial port 0 debugging is recommended ; All pin descriptions of the module are consistent with the HISILICON user manual.

7. Electrical Characteristics

7.1 Recommended Operation Ratings

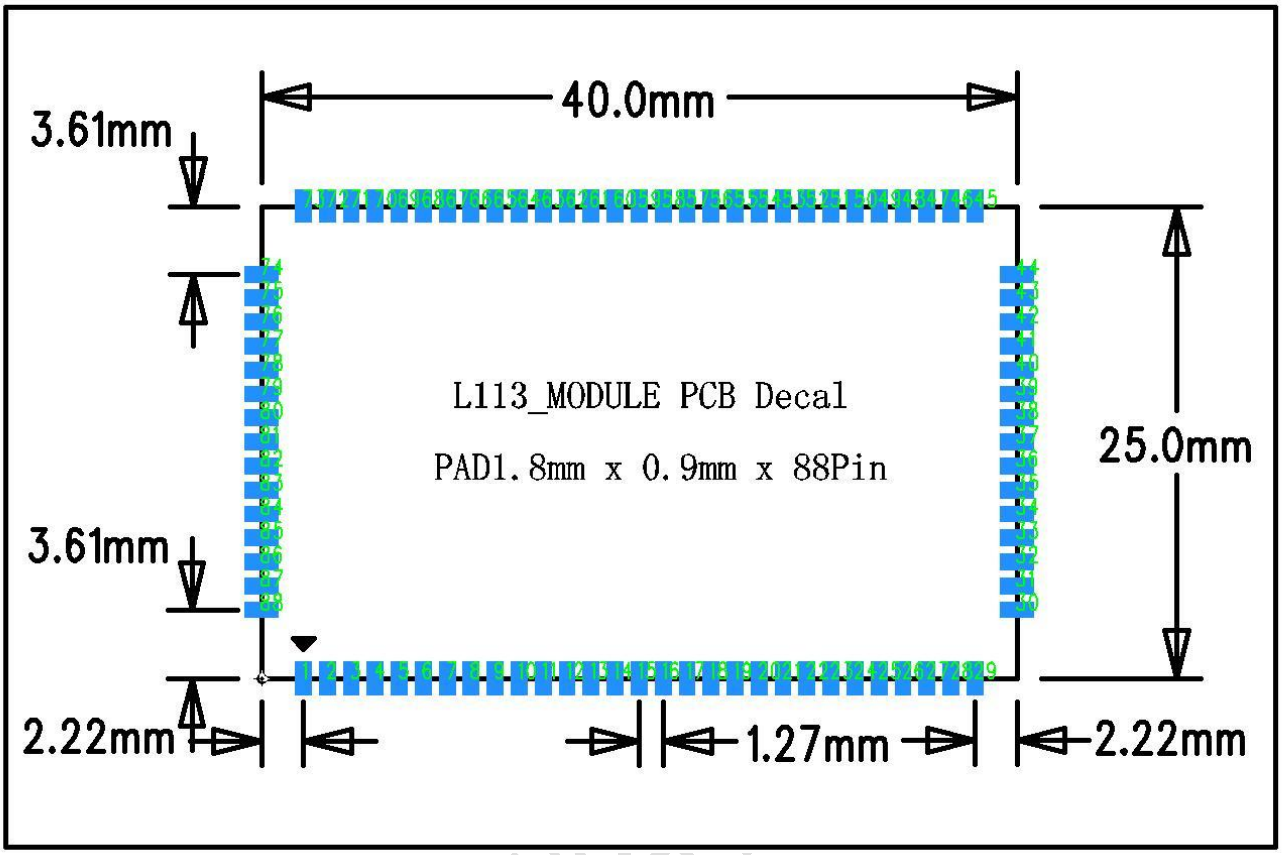
Parameter	Symbol	Minimum	Typical	Maximum	Unit
Extended temp	Ta	-20	26	55	℃
Power Supply	3V3	3.15	3.3	3.5	v
Input Low Voltage	VIL	-0.3		0.8	v
Input High Voltage	VIH	2		3.6	v

7.2 Measurement Conditions

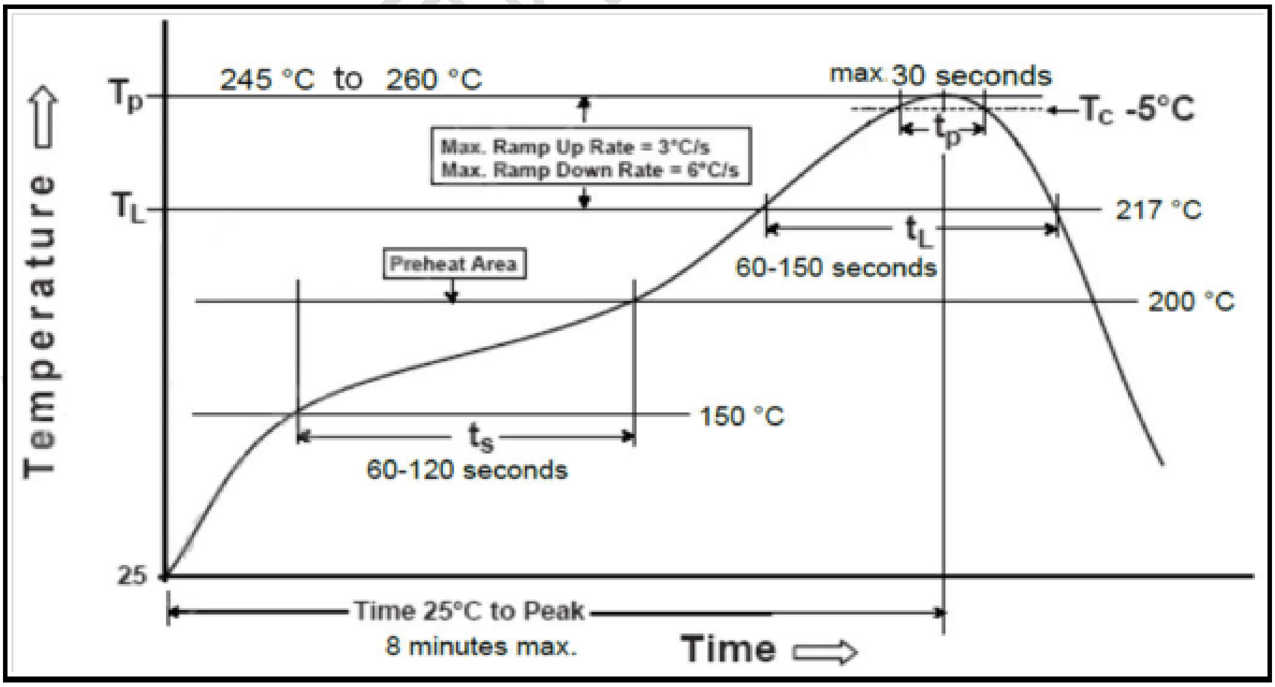
System state	Current （Typ） 3.3V	Current （Max） 3.3V
Standby	120 mA	150 mA
Full load operation	300 mA	500 mA

Note: Dc-dc shall adopt a design larger than 1A

8. PCB Footprint and Dimensions



9. Manufacturing Process Recommendations



Note：The final soldering temperature chosen at the factory depends on additional external factors like choice of soldering paste，size，thickness and properties of the baseboard，etc. Exceeding the maximum soldering temperature in the recommended soldering profile may permanently damage the module.

10. Ordering Information

Module Name	Module No.	SPI Flash Size	DDR2 Size
HI3518EV200_MODULE	IMS3518E-1664	16MByte	64MByte