# PPC-A72-215-C

# User Manual

## Release 1.0



# Chipsee Products Naming Rules

CS19108R215P-C111

Horizontal Resolution 80 Means 800 Pixel 10 Means 1024 Pixel 11 Means 1280 Pixel 12 Means 1280 Pixel 14 Means 1440 Pixel 19 Means 1920 Pixel  Vertical Resolution 480 Means 480 Pixel 600 Means 600 Pixel 600 Means 600 Pixel 768 Means 768 Pixel 800 Means 800 Pixel 900 Means 900 Pixel 102 Means 1024 Pixel 108 Means 1080 Pixel 108 Means 1080 Pixel 109 Means 900 Pixel 100 Means 1000 Pixel 101 Means 1000 Pixel 102 Means 1000 Pixel 103 Means 1000 Pixel 104 Means 1000 Pixel 105 Means 7.0 Inch 1070 Means 7.0 Inch 1070 Means 9.7 Inch 1070 Means 10.1 Inch 1070 Means 10.4 Inch 1070 Means 10.4 Inch 1100 Means 10.4 Inch 1100 Means 10.5 Inch 1100 Means 15.0 Inch 1100 Means 15.0 Inch 1100 Means 17.0 Inch 1100				
19	19			
19 12 Means 1280 Pixel 14 Means 1440 Pixel 19 Means 1920 Pixel  Vertical Resolution 480 Means 480 Pixel 600 Means 600 Pixel 768 Means 768 Pixel 800 Means 800 Pixel 900 Means 900 Pixel 102 Means 1024 Pixel 108 Means 1080 Pixel 108 Means 1080 Pixel 109 Means 5.0 Inch 670 Means 7.0 Inch 670 Means 7.0 Inch 697 Means 9.7 Inch 101 Means 10.1 Inch 104 Means 10.4 Inch 120 Means 12.5 Inch 120 Means 15.0 Inch 150 Means 15.0 Inch 156 Means 15.0 Inch 156 Means 15.0 Inch 1570 Means 17.0 Inch 158 Means 19.0 Inch 159 Means 19.0 Inch 150 Means 19.0 Inch 151 Means 19.0 Inch 152 Means 19.0 Inch 153 Means 19.0 Inch 154 Means 19.0 Inch 155 Means 19.0 Inch 156 Means 19.0 Inch 1570 Means 19.0 Inch 158 Means 19.0 Inch 159 Means 19.0 Inch 150 Means 19.0 Inch 1				
12 Means 1280 Pixel 14 Means 1440 Pixel 19 Means 1920 Pixel  Vertical Resolution 480 Means 480 Pixel 600 Means 600 Pixel 768 Means 768 Pixel 800 Means 800 Pixel 900 Means 900 Pixel 102 Means 1024 Pixel 108 Means 1080 Pixel 108 Means 5.0 Inch 070 Means 7.0 Inch 080 Means 8.0 Inch 097 Means 7.0 Inch 101 Means 10.1 Inch 104 Means 10.4 Inch 1104 Means 10.4 Inch 120 Means 12.5 Inch 150 Means 15.0 Inch 150 Means 15.0 Inch 150 Means 17.0 Inch 151 Means 17.0 Inch 152 Means 15.1 Inch 153 Means 15.1 Inch 154 Means 15.1 Inch 155 Means 15.1 Inch 156 Means 15.2 Inch 157 Means 17.0 Inch 158 Means 17.0 Inch 159 Means 17.0 Inch 150 Me				
Vertical Resolution  480 Means 480 Pixel  600 Means 600 Pixel  768 Means 768 Pixel  800 Means 800 Pixel  900 Means 900 Pixel  102 Means 1024 Pixel  108 Means 1080 Pixel  R(T/F) Product based on Rockchip (TI/Freescale) CPU  LCD Dimension  050 Means 5.0 Inch  070 Means 7.0 Inch  080 Means 8.0 Inch  097 Means 9.7 Inch  101 Means 10.1 Inch  104 Means 10.4 Inch  120 Means 12.0 Inch  125 Means 12.5 Inch  150 Means 15.0 Inch  156 Means 15.6 Inch  170 Means 17.0 Inch  190 Means 19.0 Inch  215 Means 21.5 Inch  Means Embedded PC or Panel PC  E Means Embedded PC without Case  P Means Panel PC with Case  Means Touch Type  R Means Resistive Touch		12 Means 1280 Pixel		
Vertical Resolution  480 Means 480 Pixel  600 Means 600 Pixel  768 Means 768 Pixel  800 Means 800 Pixel  900 Means 900 Pixel  102 Means 1024 Pixel  108 Means 1080 Pixel  R(T/F) Product based on Rockchip (TI/Freescale) CPU  LCD Dimension  050 Means 5.0 Inch  070 Means 7.0 Inch  080 Means 8.0 Inch  097 Means 9.7 Inch  101 Means 10.1 Inch  104 Means 10.1 Inch  120 Means 12.0 Inch  125 Means 12.5 Inch  156 Means 15.6 Inch  170 Means 15.0 Inch  156 Means 15.6 Inch  170 Means 17.0 Inch  190 Means 19.0 Inch  215 Means 21.5 Inch  Means Embedded PC or Panel PC  E Means Embedded PC without Case  P Means Panel PC with Case  Means Touch Type  R Means Resistive Touch				
108  480 Means 480 Pixel 600 Means 600 Pixel 768 Means 768 Pixel 800 Means 800 Pixel 900 Means 900 Pixel 102 Means 1024 Pixel 108 Means 1080 Pixel  R(T/F)  Product based on Rockchip (TI/Freescale) CPU  LCD Dimension 050 Means 5.0 Inch 070 Means 7.0 Inch 080 Means 8.0 Inch 097 Means 9.7 Inch 101 Means 10.1 Inch 104 Means 10.4 Inch 120 Means 12.0 Inch 125 Means 12.5 Inch 150 Means 15.6 Inch 150 Means 15.6 Inch 170 Means 17.0 Inch 190 Means 19.0 Inch 215 Means 19.0 Inch 215 Means 21.5 Inch  Means Embedded PC or Panel PC E Means Embedded PC without Case P Means Panel PC with Case  P Means Touch Type R Means Resistive Touch		19 Means 1920 Pixel		
108  600 Means 600 Pixel 768 Means 768 Pixel 800 Means 800 Pixel 900 Means 900 Pixel 102 Means 1024 Pixel 108 Means 1080 Pixel 108 Means 1080 Pixel  CC D Dimension  650 Means 5.0 Inch 670 Means 7.0 Inch 680 Means 8.0 Inch 697 Means 9.7 Inch 101 Means 10.1 Inch 104 Means 10.4 Inch 120 Means 12.0 Inch 125 Means 12.5 Inch 150 Means 15.6 Inch 170 Means 15.6 Inch 170 Means 17.0 Inch 190 Means 19.0 Inch 215 Means 21.5 Inch 190 Means 21.5 Inch 190 Means 19.0 Inch 215 Means 21.5 Inch 216 Means Embedded PC or Panel PC E Means Embedded PC without Case P Means Panel PC with Case  R Means Resistive Touch		Vertical Resolution		
108  768 Means 768 Pixel 800 Means 800 Pixel 900 Means 900 Pixel 102 Means 1024 Pixel 108 Means 1080 Pixel  R(T/F)  Product based on Rockchip (TI/Freescale) CPU  LCD Dimension 050 Means 5.0 Inch 070 Means 7.0 Inch 080 Means 8.0 Inch 097 Means 9.7 Inch 101 Means 10.1 Inch 104 Means 10.4 Inch 1104 Means 12.0 Inch 1105 Means 12.5 Inch 1106 Means 15.0 Inch 1107 Means 15.0 Inch 1108 Means 17.0 Inch 1109 Means 19.0 Inch 1109 Means		480 Means 480 Pixel		
800 Means 800 Pixel 900 Means 900 Pixel 102 Means 1024 Pixel 108 Means 1080 Pixel  R(T/F) Product based on Rockchip (TI/Freescale) CPU  LCD Dimension 050 Means 5.0 Inch 070 Means 7.0 Inch 080 Means 8.0 Inch 097 Means 9.7 Inch 101 Means 10.1 Inch 104 Means 10.4 Inch 115 Means 12.0 Inch 125 Means 12.5 Inch 150 Means 15.0 Inch 156 Means 15.6 Inch 170 Means 17.0 Inch 190 Means 19.0 Inch 215 Means 21.5 Inch  Means Embedded PC or Panel PC E Means Embedded PC without Case P Means Panel PC with Case  Reans Touch Type R Means Resistive Touch		600 Means 600 Pixel		
800 Means 800 Pixel 900 Means 900 Pixel 102 Means 1024 Pixel 108 Means 1080 Pixel  R(T/F) Product based on Rockchip (TI/Freescale) CPU  LCD Dimension 050 Means 5.0 Inch 070 Means 7.0 Inch 080 Means 8.0 Inch 097 Means 9.7 Inch 101 Means 10.1 Inch 104 Means 10.4 Inch 120 Means 12.0 Inch 125 Means 12.5 Inch 150 Means 15.0 Inch 156 Means 15.6 Inch 170 Means 17.0 Inch 190 Means 19.0 Inch 215 Means 21.5 Inch P E Means Embedded PC or Panel PC E Means Embedded PC without Case P Means Panel PC with Case  Reans Touch Type R Means Resistive Touch	102	768 Means 768 Pixel		
102 Means 1024 Pixel 108 Means 1080 Pixel  R(T/F) Product based on Rockchip (TI/Freescale) CPU  LCD Dimension 050 Means 5.0 Inch 070 Means 7.0 Inch 080 Means 8.0 Inch 097 Means 9.7 Inch 101 Means 10.1 Inch 104 Means 10.4 Inch 120 Means 12.0 Inch 125 Means 12.5 Inch 150 Means 15.0 Inch 156 Means 15.6 Inch 170 Means 17.0 Inch 190 Means 19.0 Inch 215 Means 21.5 Inch Means Embedded PC or Panel PC P E Means Embedded PC without Case P Means Panel PC with Case  P Means Touch Type R Means Resistive Touch	100	800 Means 800 Pixel		
R(T/F) Product based on Rockchip (TI/Freescale) CPU  LCD Dimension  050 Means 5.0 Inch  070 Means 7.0 Inch  080 Means 8.0 Inch  097 Means 9.7 Inch  101 Means 10.1 Inch  104 Means 10.4 Inch  125 Means 12.0 Inch  125 Means 12.5 Inch  150 Means 15.0 Inch  150 Means 15.0 Inch  170 Means 17.0 Inch  190 Means 19.0 Inch  215 Means 21.5 Inch  P Means Embedded PC or Panel PC  E Means Embedded PC without Case  P Means Panel PC with Case  R Means Touch Type  R Means Resistive Touch		900 Means 900 Pixel		
LCD Dimension  050 Means 5.0 Inch 070 Means 7.0 Inch 080 Means 8.0 Inch 097 Means 9.7 Inch 101 Means 10.1 Inch 104 Means 10.4 Inch 125 Means 12.0 Inch 156 Means 15.0 Inch 156 Means 15.0 Inch 170 Means 17.0 Inch 190 Means 19.0 Inch 215 Means 21.5 Inch 215 Means 21.5 Inch 216 Means 19.0 Inch 217 Means 19.0 Inch 218 Means 21.5 Inch 219 Means 21.5 Inch 210 Means 21.5 Inch 2110 Means 21.5 Inch 2120 Means 21.5 Inch 2130 Means 21.5 Inch 214 Means Embedded PC or Panel PC 215 Means Embedded PC without Case 216 Means Touch Type 217 Means Touch Type 218 Means Resistive Touch		102 Means 1024 Pixel		
LCD Dimension  050 Means 5.0 Inch  070 Means 7.0 Inch  080 Means 8.0 Inch  097 Means 9.7 Inch  101 Means 10.1 Inch  104 Means 10.4 Inch  125 Means 12.0 Inch  125 Means 12.5 Inch  156 Means 15.6 Inch  170 Means 17.0 Inch  190 Means 19.0 Inch  215 Means 21.5 Inch  Means Embedded PC or Panel PC  P Means Embedded PC without Case  P Means Panel PC with Case  P Means Touch Type  R Means Resistive Touch		108 Means 1080 Pixel		
215  O50 Means 5.0 Inch O70 Means 7.0 Inch O80 Means 8.0 Inch O97 Means 9.7 Inch 101 Means 10.1 Inch 104 Means 10.4 Inch 120 Means 12.0 Inch 125 Means 12.5 Inch 150 Means 15.0 Inch 156 Means 15.6 Inch 170 Means 17.0 Inch 190 Means 19.0 Inch 215 Means 21.5 Inch  Means Embedded PC or Panel PC E Means Embedded PC without Case P Means Panel PC with Case  Means Touch Type R Means Resistive Touch	R(T/F)	Product based on Rockchip (TI/Freescale) CPU		
O70 Means 7.0 Inch O80 Means 8.0 Inch O97 Means 9.7 Inch 101 Means 10.1 Inch 104 Means 10.4 Inch 120 Means 12.0 Inch 125 Means 12.5 Inch 150 Means 15.0 Inch 156 Means 15.6 Inch 170 Means 17.0 Inch 190 Means 19.0 Inch 215 Means 21.5 Inch P Means Embedded PC or Panel PC E Means Embedded PC without Case P Means Panel PC with Case  Means Touch Type C R Means Resistive Touch		LCD Dimension		
215  080 Means 8.0 Inch 097 Means 9.7 Inch 101 Means 10.1 Inch 104 Means 10.4 Inch 120 Means 12.0 Inch 125 Means 12.5 Inch 150 Means 15.0 Inch 156 Means 15.6 Inch 170 Means 17.0 Inch 190 Means 19.0 Inch 215 Means 21.5 Inch  Means Embedded PC or Panel PC E Means Embedded PC without Case P Means Panel PC with Case  Means Touch Type R Means Resistive Touch		050 Means 5.0 Inch		
O97 Means 9.7 Inch 101 Means 10.1 Inch 104 Means 10.4 Inch 120 Means 12.0 Inch 125 Means 12.5 Inch 150 Means 15.0 Inch 156 Means 15.6 Inch 170 Means 17.0 Inch 190 Means 19.0 Inch 215 Means 21.5 Inch  Means Embedded PC or Panel PC P E Means Embedded PC without Case P Means Panel PC with Case  Means Touch Type R Means Resistive Touch		070 Means 7.0 Inch		
101 Means 10.1 Inch 104 Means 10.4 Inch 120 Means 12.0 Inch 125 Means 12.5 Inch 150 Means 15.0 Inch 156 Means 15.6 Inch 170 Means 17.0 Inch 190 Means 19.0 Inch 215 Means 21.5 Inch  Means Embedded PC or Panel PC P E Means Embedded PC without Case P Means Panel PC with Case  Means Touch Type R Means Resistive Touch		080 Means 8.0 Inch		
104 Means 10.4 Inch 120 Means 12.0 Inch 125 Means 12.5 Inch 150 Means 15.0 Inch 156 Means 15.6 Inch 170 Means 17.0 Inch 190 Means 19.0 Inch 215 Means 21.5 Inch  Means Embedded PC or Panel PC E Means Embedded PC without Case P Means Panel PC with Case  Means Touch Type R Means Resistive Touch		097 Means 9.7 Inch		
120 Means 12.0 Inch 125 Means 12.5 Inch 150 Means 15.0 Inch 156 Means 15.6 Inch 170 Means 17.0 Inch 190 Means 19.0 Inch 215 Means 21.5 Inch  Means Embedded PC or Panel PC E Means Embedded PC without Case P Means Panel PC with Case  Means Touch Type R Means Resistive Touch		<b>101</b> Means 10.1 Inch		
120 Means 12.0 Inch 125 Means 12.5 Inch 150 Means 15.0 Inch 156 Means 15.6 Inch 170 Means 17.0 Inch 190 Means 19.0 Inch 215 Means 21.5 Inch  Means Embedded PC or Panel PC P E Means Embedded PC without Case P Means Panel PC with Case  Means Touch Type R Means Resistive Touch	215	<b>104</b> Means 10.4 Inch		
150 Means 15.0 Inch 156 Means 15.6 Inch 170 Means 17.0 Inch 190 Means 19.0 Inch 215 Means 21.5 Inch  Means Embedded PC or Panel PC P E Means Embedded PC without Case P Means Panel PC with Case  Means Touch Type R Means Resistive Touch	215	<b>120</b> Means 12.0 Inch		
156 Means 15.6 Inch 170 Means 17.0 Inch 190 Means 19.0 Inch 215 Means 21.5 Inch  Means Embedded PC or Panel PC  E Means Embedded PC without Case P Means Panel PC with Case  Means Touch Type C R Means Resistive Touch		<b>125</b> Means 12.5 Inch		
170 Means 17.0 Inch 190 Means 19.0 Inch 215 Means 21.5 Inch  Means Embedded PC or Panel PC  E Means Embedded PC without Case P Means Panel PC with Case  Means Touch Type C R Means Resistive Touch		<b>150</b> Means 15.0 Inch		
190 Means 19.0 Inch 215 Means 21.5 Inch  Means Embedded PC or Panel PC  E Means Embedded PC without Case P Means Panel PC with Case  Means Touch Type  C R Means Resistive Touch		<b>156</b> Means 15.6 Inch		
215 Means 21.5 Inch  Means Embedded PC or Panel PC  E Means Embedded PC without Case  P Means Panel PC with Case  Means Touch Type  C R Means Resistive Touch		<b>170</b> Means 17.0 Inch		
Means Embedded PC or Panel PC E Means Embedded PC without Case P Means Panel PC with Case  Means Touch Type C R Means Resistive Touch		<b>190</b> Means 19.0 Inch		
P E Means Embedded PC without Case P Means Panel PC with Case  Means Touch Type C R Means Resistive Touch		<b>215</b> Means 21.5 Inch		
P Means Panel PC with Case  Means Touch Type  C R Means Resistive Touch		Means Embedded PC or Panel PC		
Means Touch Type C R Means Resistive Touch	P	E Means Embedded PC without Case		
C R Means Resistive Touch		P Means Panel PC with Case		
		Means Touch Type		
C Means Capacitive Touch	С	R Means Resistive Touch		
		C Means Capacitive Touch		

	Means LCD Brightness
1	<ul> <li>Means Common Brightness</li> </ul>
	• Means High Brightness
1	PCB Version
	Baseboard PCB Version Number
1	PCB Version
	SOM Module PCB Version Number
1	

# **Hardware Features**

	Key Features:				
CPU	Rokchip RK3399, Dual-core Cortex-A72 (1.8GHz), Quad-core Cortex-A53 (1.4GHz)				
RAM	4GB DDR3				
eMMC	16GB				
Storage	TF card supports up to 32GB SDHC				
Display	21.5 Inch LCD, 1920*1080 Pixel Resolution				
Touch	Ten-Point Capacitive Touch				
USB	4 x USB 2.0 Host, 1x USB 3.0 Host, 1x Type-C				
LAN	1 Channel 1000M LAN				
Audio	3.5mm Audio In/Out Connector, 2W Speaker Internal				
Buzzer	1				
RTC	Yes				
RS232+RS485	7 Channels (4 x RS485 at most, 1 debug port)				
GPI0	Optional				
WiFi/BT	On-Board WIFI/BT				

HDMI	1 Channel
4G/LTE	Optional
Power Input	15~36V DC
Current @ 15V	1A max
Power Consumption	15W Typical
Working Temperature	0°C to +70°C
0\$	Android 7.1, Android 9.0
Dimension	530*322*45mm
Weight	6000g

# CS19108R215P-C111



Figure 1: Front View



Figure 2: Back View

# **Power Input Connector**

The product CS19108R215P uses a wide-range power input DC 15~36V. The total power consumption is normally about 15W. The power input connector is a 3 pin 3.81mm screw terminal connector, as shown in Figure 3.

A detailed description of the power input connector pins is provided in Table 1.

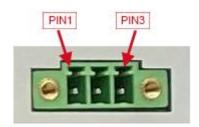


Figure 3: Power Input Connector

#### Table 1

Power Input Pin Definition:					
Pin Number	Definition	Description			
Pin 1	Positive Input	Connect to DC Power <b>Positive Terminal</b>			
Pin 2	Negative Input	Connect to DC Power <b>Negative Terminal</b>			
Pin 3	Ground	Connect to <b>Power System Ground</b>			

#### **ATTENTION:**

The system ground "G" has been connected to power negative "" on board.

# Capacitive Touch

The product uses a ten-point capacitive touch screen.

#### **ATTENTION:**

Capacitive touch screens are very sensitive to power noise. Ripple voltage/current from the power adapter can cause the LCD ripples, as well as the capacitive touch malfunction. If you use the APK Multi-Touch under Android to test it, you can find the touchpoint float. There are several ways to solve this problem:

- 1) Use a high-quality power adapter. Or a battery to provide power like a cell phone or tablet PC.
- 2) If the power adapter isn't good enough, make sure the power input connector Pin 3 is connected to the Ground. This method can eliminate the problem totally. You can test it by touching the GND with one hand, while the other hand operates on the capacitive touch screen. In this case, the user's body acts as the Power System Ground.

#### **DB9 Connector**

There are six serial ports available with DB9 connector, all configured in RS232 mode by default (COM1 to COM6). You can set COM3 to COM6 in RS485 mode. If you need a different configuration, please contact us.



Figure 4: DB9 Connector

# **USB 2.0 Connector**

There are four USB 2.0 connectors, as Figure 5 shows. Each can provide 500mA of current.



Figure 5: USB 2.0 Connector

## USB 3.0 Connector

And one USB 3.0 connector, as shown in Figure.



Figure 6: USB 3.0 Connector

# **USB Type-C**

As well as one USB Type-C connector, as shown in Figure 7.



Figure 7: USB Type-C Connector

## LAN Connector

The product has one channel 1000Mbit Ethernet connector, as shown in Figure 8.



Figure 8: LAN Connector

## TF Card

The product has one TF (uSD) card connector, as shown in Figure 9, that supports a TF (uSD) card up to 32GB.



Figure 9 TF Card Connector

#### **ATTENTION:**

A TF card does not come with the product.

#### SIM Card Holder

There is one SIM card holder, as shown in Figure 10. To read the SIM card data, you need a 4G/LTE module. The product has a mini-PCIe connector inside that enables a 4G/LTE module to be mounted. Otherwise, the holder has no usage.



Figure 10: SIM Card Holder

#### **ATTENTION:**

The 4G/LTE module is not provided by default, but can be ordered along with the product.

#### **Audio Connector**

The CS19108R215P-C111 has one audio connector, as Figure 11 shows, as well as an internal 2W speaker.



Figure 11: Audio Connector

## WiFi+BT

There is one WiFi+BT module, based on the Realtech RTL8723BU,

which integrates WiFi and BT. There is a connector on the backside of the case that is used to connect an external WiFi and BT antenna, as shown in Figure 12.

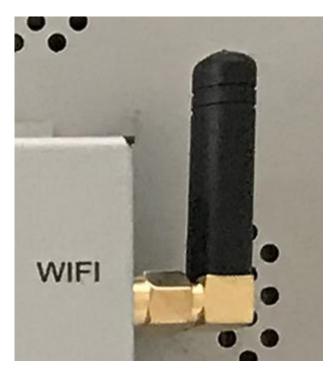


Figure 12: WiFi+BT Antenna Connector

## **HDMI** Connector

The product has one HDMI connector, as shown in Figure 13. The HDMI output resolution can be configured by software.



Figure 13: HDMI Connector

#### **Power Button**

You can see the power button in Figure 14.



Figure 14: Power Button

# **Dimensions and Mounting**

The dimensions of CS19108R215P-C111 are 530\*322\*45mm.



Figure 15: Dimensions

# **Mounting Method**

This product CS19108R215P-C111 can be mounted by screw holes (Vesa mount) on the back or the side (rear mount). Please make

sure the display is not exposed to high pressure when mounting into an enclosure.

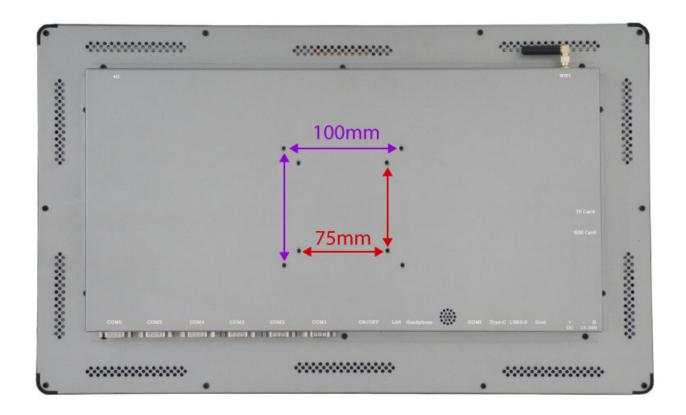


Figure 16: Vesa Mounting

# How to Get Support

Please feel free to contact us with any questions, queries or suggestions.

If your question is about technical support or troubleshooting for one of our products, we kindly ask you to first check our documentation for a possible solution.

If you cannot find the solution you are looking for then please write to service@chipsee.com providing all possible details.

#### **Mouser Electronics**

**Authorized Distributor** 

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Chipsee:

CS19108R215P