

Dalang

DL18Z6A





Dalang Communication Technology Co., Ltd Product Specification

Product Name:	GMOUSE
Product Model:	DL18Z6A
Version Number:	V 1.0
Revision Date:	2024.05.24

Confidentiality Statement

This document and the information contained within are the property of **"Dalang Communication Technology Co., Ltd"**, and are for use only by authorized individuals for specific purposes. This document contains confidential information. Without explicit written permission from **"Dalang Communication Technology Co., Ltd"**, no person or group may copy, distribute, disseminate, display, or disclose this document or any part of it to a third party in any form. Recipients must strictly adhere to confidentiality obligations, protect the information in the document from being disclosed or misused, and ensure that all relevant personnel follow the same confidentiality rules. Individuals or organizations violating this statement will face legal prosecution and/or contractual penalties.

Thank you for your support and cooperation in protecting the confidential information of **"Dalang Communication Technology Co., Ltd"**.

Contents

1 Product Application Scenarios	1
Figure 1 Product Application Scenarios	1
2 Features	2
3 Structural Characteristic	3
Figure 2 Product Structure Diagram	3
Table 1 PIN Function and Power Indicator	3
4 Specifications	4
Table 2 Product Specifications	4
5 Product Photos	5
Figure 4 Product Images	5

Shenzhen Dalang Communication Technology Co., Ltd

1 Product Application Scenarios

The DL18Z6A is a highly integrated, high-performance SOC chip for BDS/GNSS multimodal satellite navigation receivers. This chip not only integrates an advanced RF front-end module but also includes a powerful digital baseband processing unit and a 32-bit RISC architecture CPU, ensuring high-speed and efficient computing capabilities. Additionally, the DL18Z6A features comprehensive power management capabilities that effectively reduce power consumption and enhance device battery life. It supports various global satellite navigation systems, including China's BeiDou Navigation Satellite System (BDS), the United States' Global Positioning System (GPS), and Russia's Global Navigation Satellite System (GLONASS). By supporting multi-system joint positioning, the DL18Z6A offers higher positioning accuracy and reliability, suitable for various complex environments and applications such as intelligent transportation, precision agriculture, drone navigation, and Geographic Information Systems (GIS). Moreover, the design of the DL18Z6A focuses on compatibility and scalability, enabling seamless integration with other sensors and systems to further enhance overall performance and functionality. See Figure 1 for details.



Figure 1 Product Application Scenarios

2 Features

In this chapter, we will delve into and comprehensively elaborate on the functionalities and operating principles of the DL18Z6A, detailing how it plays a pivotal role in various applications as follows:

1. **High Integration:** Incorporates an RF front-end module, digital baseband processing unit, and a 32-bit RISC architecture CPU.
2. **High Performance:** Features high-speed and efficient computing capabilities, suitable for complex environments and application scenarios.
3. **Low Power Consumption:** Equipped with comprehensive power management features, effectively reducing power usage and enhancing device battery life.
4. **Multi-System Support:** Supports China's BeiDou Navigation Satellite System (BDS), the United States' Global Positioning System (GPS), and Russia's Global Navigation Satellite System (GLONASS).
5. **Multi-System Joint Positioning:** Offers higher positioning accuracy and reliability through multi-system joint positioning.
6. **Broad Applications:** Suitable for fields such as intelligent transportation, precision agriculture, drone navigation, and Geographic Information Systems (GIS).
7. **Compatibility and Scalability:** Designed with a focus on seamless integration with other sensors and systems, further enhancing overall performance and functionality.
8. **Advanced Architecture:** Possesses an advanced architecture that provides stable, precise, and efficient positioning services.

3 Structural Characteristic

In this section, we will conduct an in-depth analysis of the product's design details, presenting its aesthetic features and precise interface specifications through detailed structural diagrams. This perspective aims to provide a comprehensive framework, thereby enhancing the understanding and perception of the product's architecture. Refer to Figure 2, Table 1, Figure 3 for further details.

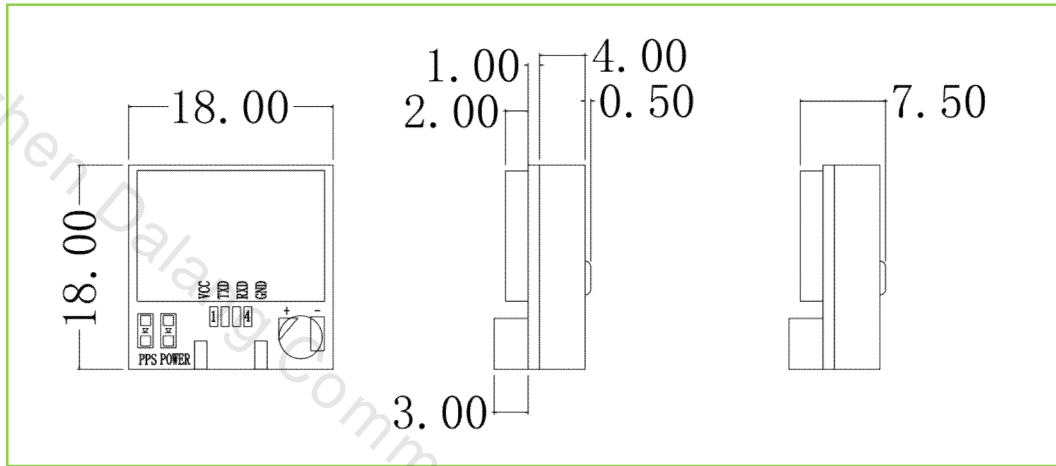


Figure 2 Product Structure Diagram

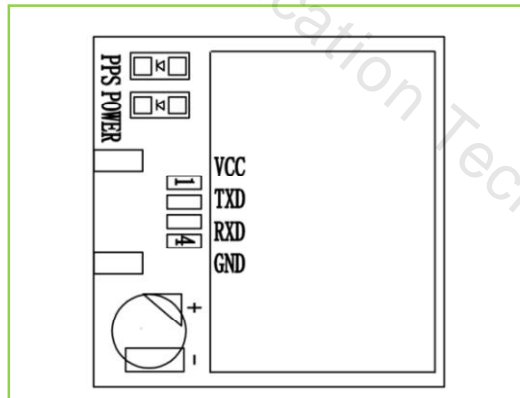


Table 1 PIN Function and Power Indicator

Pin Number	Signal Name	Signal Description
1	VCC	Main power input, +3.3V
2	TXD	Transmit Data
3	RXD	Receive Data
4	GND	Ground
Power Indicator		
5	PPS	Pulse Per Second (timing pulse)
6	POWER	Power supply

4 Specifications

In this section, we will provide a detailed list and explanation of the product's chip features, sensitivity, accuracy, operating principles, and other technical details, as detailed in Table 2.

Table 2 Product Specifications

Specification parameters				
Chip characteristics	1	chip	Zhongke Micro AT6558R	
	2	Signal channel	99-CH	
	3	Signal reception	BDS/GPS/GLONASS parallel reception and joint positioning	
	4	cold boot	$\leq 32s$	
	5	Hot start	$\leq 1s$	
	8	Re capture	$\leq 1s$	
	9	Cold start capture sensitivity	-148dBm	
	10	Hot start capture sensitivity	-156dBm	
	11	Re capture sensitivity	-160dBm	
	12	Tracking sensitivity	-162dBm	
	13	positioning accuracy	$< 2m (1\sigma)$	
	14	Speed measurement accuracy	$< 0.1m/s (1\sigma)$	
	15	Timing accuracy	$< 30ns (1\sigma)$	
	16	Positioning update rate	1Hz (maximum 5Hz)	
	17	Baud rate	4800bps~115200bps, Default is 9600bps	
	18	Output Protocol	NMEA	
	19	RF input gain	18~35dB	
	20	Low noise amplifier LNA	Gain=21.5dB, NF=0.8dB	
	Working characteristics	1	working voltage	3.3 DC
		2	power waste	$< 100mW @5V$
3		size	18*18*7mm	
4		weight	7.4g	
5		Connector	SH1.0mm 4pin	
6		working temperature	-35°C-75°C	
7		Storage temperature	-40°C-85°C	

5 Product Photos

In this chapter, we will showcase real-life images of the product, as shown in Figure 4. These images provide a detailed view of our product from various angles and perspectives. We believe that through authentic representation, we can better convey the value and concept of the product, thereby enhancing your trust and satisfaction.

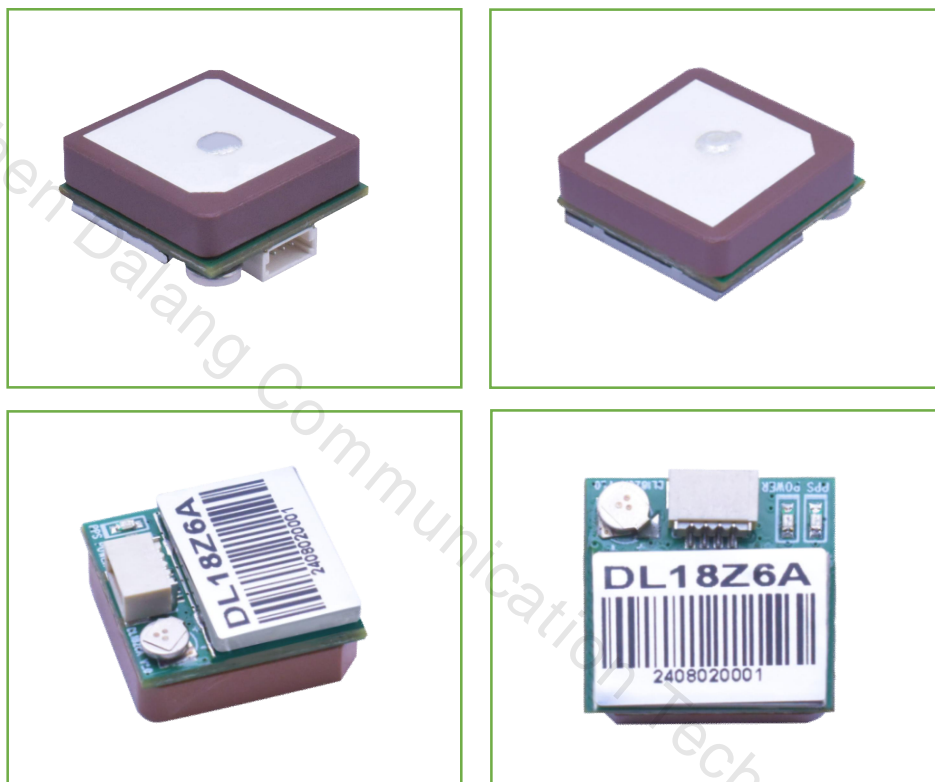


Figure 4 Product Images