

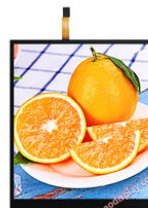
3.92 Inch 1080x1240 AMOLED Display Module with MIPI Interface & Capacitive Touch

Our Product Introduction

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Basic Information

- Place of Origin: China
- Brand Name: chenghao optoelectronic
- Certification: RoHS & CE & FCC
- Model Number: CH400OL02A-CT
- Minimum Order Quantity: 100 pcs
- Price: Negotiable
- Packaging Details: Standard export packaging
- Delivery Time: 7-15 work days
- Payment Terms: T/T
- Supply Ability: 300,000 pieces/month

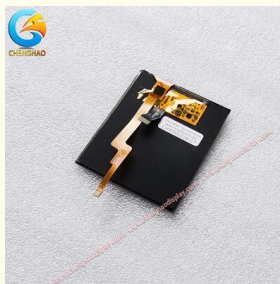


Product Specification

- Module No: CH400OL02A-CT
- Display Mode: AMOLED / Self-Emissive
- Screen Size: 3.92 Inch
- Resolution: 1080x1240
- Viewing Direction: 80/80/80/80 (U/D/L/R @ CR>10)
- Screen Brightness: 700 Cd/m² (typ.)
- Module Interface: MIPI DSI (4-Lane)
- FPC Pin Numbers: 24-pin (AMOLED) + 6-pin (CTP)
- Operating Temperature: -20°C ~ +70°C
- Storage Temperature: -30°C ~ +80°C
- Module Size: 69.8x83.5 Mm (Lens Outline)
- Active Area Size: 65.448x75.144 Mm



More Images



Product Description

The CH400OL02A-CT is a 3.92-inch AMOLED display module featuring 1080x1240 resolution, self-emissive AMOLED technology, and a high brightness of 700cd/m² for vivid image quality. Equipped with a MIPI DSI 4-lane interface and a projective capacitive touch panel with GFF structure, this module delivers crisp visuals with 80/80/80/80 wide viewing angles. The integrated cover glass features 6H hardness and ≥87% transmittance for durability and clarity. Operating at 1.8V IO voltage and supporting a wide temperature range of -20°C to +70°C, this compact AMOLED module is ideal for high-end portable instruments, medical handheld devices, wearable diagnostic tools, and premium smart control panels demanding deep blacks and high contrast.

Product Features

1. 3.92-Inch AMOLED Self-Emissive Panel with True Blacks

AMOLED technology delivers individually lit pixels for infinite contrast ratio and true blacks, providing superior image quality compared to traditional TFT LCDs for premium instrumentation and medical displays.

2. Ultra-High 1080x1240 Resolution at 700cd/m² Brightness

With over 1.3 million pixels packed into a compact 3.92-inch display and 700cd/m² luminance, this module renders ultra-sharp text, detailed graphics, and vivid colors even under bright ambient lighting.

3. MIPI DSI 4-Lane Interface for High-Speed Data Transfer

The MIPI interface supports high-bandwidth video streaming ideal for real-time imaging applications, oscilloscope displays, and graphical user interfaces requiring smooth frame rates.

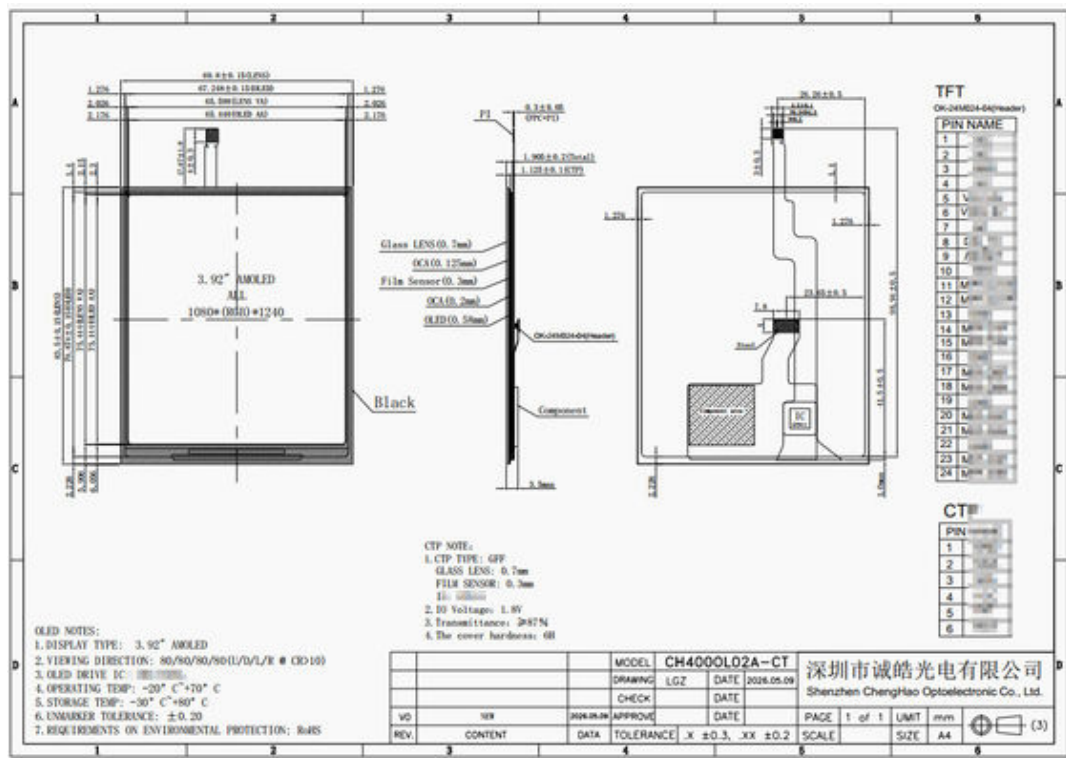
4. GFF Capacitive Touch with 6H Tempered Cover Glass

The GFF-structured projective capacitive touch panel combines ≥87% optical transmittance with 6H scratch-resistant cover glass, enabling responsive multi-touch interaction with exceptional durability for field-deployed handheld devices.

5. Wide Temperature Range (-20°C to +70°C) and Low 1.8V IO Voltage

Designed for battery-powered and outdoor applications, the wide operating temperature range and low-voltage operation ensure reliable performance in portable instruments and environmental monitoring equipment.

Product Drawing



Detailed Specifications

Item	Value
Module Name	3.92" AMOLED Display Module with Capacitive Touch
Module No	CH4000L02A-CT
Display Mode	AMOLED / Self-Emissive
Screen Size	3.92 inch
Resolution	1080x1240
Viewing Direction	80/80/80/80 (U/D/L/R @ CR>10)
Screen Brightness	700 cd/m ² (typ.)
Module Interface	MIPI DSI (4-Lane)
FPC Pin numbers	24-pin (AMOLED) + 6-pin (CTP)
Operating Temperature	-20°C ~ +70°C
Storage Temperature	-30°C ~ +80°C
Module Size	69.8x83.5 mm (Lens outline)
Active Area Size	65.448x75.144 mm
Touch Type	Capacitive Touch (CTP, GFF structure, I2C)
Cover Glass Hardness	6H
Transmittance	≥87%
IO Voltage	1.8V

Customized Introduction

Chenghao delivers professional customization across TFT LCD modules, mono LCD displays, color OLED modules, and mono OLED modules. We offer:

FPC Tailoring: Custom FPC outline, length, and pin count to match your enclosure and connector layout.

Interface Adaptation: SPI, MCU, RGB, MIPI, LVDS, EDP, and HDMI interface options available to suit your host platform.

Brightness Tuning: From standard 200-300 cd/m² to high-brightness 500+ cd/m², calibrated for indoor or sunlight-readable applications.

Touch Integration: Capacitive touch, resistive touch, or no-touch configurations based on your product requirements.

Anti-Glare Coating: AG surface treatment to reduce ambient reflections for outdoor and high-glare environments.

Cover Glass Customization: Tailored glass thickness, shape, color, and silk-screen printing to match your brand and industrial design.

Contact our engineering team with your specifications for a tailored solution.

Application Cases

High-End Handheld Medical Devices: The ultra-sharp 1080x1240 AMOLED resolution with true blacks and 700cd/m² brightness enables crisp visualization of vital signs and diagnostic imagery on portable patient monitors and handheld ultrasound devices.

Premium Wearable Diagnostic Instruments: Compact 3.92-inch size, 1.8V low-power operation, and capacitive touch make it suitable for advanced pulse oximeters, portable ECG readers, and wearable health trackers requiring vivid display output.

Industrial Oscilloscopes and Test Equipment: MIPI DSI high-bandwidth interface supports real-time waveform rendering at high resolution, ideal for portable oscilloscopes, spectrum analyzers, and field-test instruments where waveform clarity is critical.

Outdoor Handheld Data Terminals: 700cd/m² brightness, 6H scratch-resistant glass, and wide -20°C to +70°C temperature range ensure reliable operation for logistics scanners, cold-chain trackers, and outdoor industrial PDAs.

FAQ

Q1: What is the interface protocol for this AMOLED display?

This module uses MIPI DSI 4-lane interface for the AMOLED panel and I2C for the capacitive touch controller, providing high-speed video transmission and touch data communication.

Q2: How does AMOLED compare to traditional TFT LCD for this application?

AMOLED technology offers self-emissive pixels for true blacks, infinite contrast ratio, wider color gamut, and thinner profile compared to TFT LCD, making it ideal for premium portable devices.

Q3: What touch gestures are supported?

The GFF capacitive touch panel supports multi-touch gestures (up to 5 points), including tap, swipe, and pinch-to-zoom, configurable through the I2C touch controller.

Q4: Can the display brightness be adjusted?

Yes, AMOLED brightness can be dynamically adjusted via the MIPI DSI command interface, enabling automatic brightness control based on ambient light sensor feedback for power optimization.

Q5: Is the cover glass replaceable or customizable?

Yes. Chenghao provides custom cover glass options including thickness, shape, color, silk-screen printing, and surface treatments to match your product's industrial design requirements.



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