



# NSAI

## ECE TYPE-APPROVAL CERTIFICATE



Concerning:<sup>2</sup>

- Approval granted
- Approval extended
- Approval refused
- Approval withdrawn
- Production definitively discontinued

Of a type of ~~vehicle~~/component/~~separate technical unit~~<sup>2</sup> with regard to Regulation No. 10.  
Of a type of electrical/electronic sub-assembly<sup>2</sup> with regard to Regulation No.10.

Approval No: **E24\*10R06/03\*6553\*01**

Reason for extension:

*-Addition of variants*

1. Make (trade name of manufacturer):

**HUAZHAO,**  (Marstech)

2. Type and general commercial description:

**HZ7012**  
*LED Driving Light*

3. Means of identification of type, if marked on the ~~vehicle~~/  
component/~~separate technical unit~~<sup>2</sup>:

*Approval mark*

3.1 Location of that marking:

*Engraved on the lens, See Drawings of the  
ESA.*

4. Category of vehicle:

*N/A*

5. Name and address of manufacturer:

**Foshan Huazhao Electronics Co., LTD**  
**Sixth Floor, No.1, Xinfeng Road, Songgang**  
**Songxia Industrial Park, Shishan Town,**  
**Nanhai District, Foshan City, Guangdong**  
**Province, China/528225**

6. In the case of components and separate technical units,  
location and method of affixing of the approval mark:

*Engraved on the lens, See Drawings of the  
ESA.*


7. Address(es) of assembly plant(s):

**Foshan Huazhao Electronics Co., LTD**  
**Sixth Floor, No.1, Xinfeng Road, Songgang**  
**Songxia Industrial Park, Shishan Town,**  
**Nanhai District, Foshan City, Guangdong**  
**Province, China/528225**



# NSAI

Approval No: E24\*10R06/03\*6553\*01

8. Additional information (where applicable): *See appendix below*
9. Technical service responsible for carrying out the tests: **CETOC TECHNICAL SERVICE S.R.L**  
*Via della Bufalotta, 374*  
*00139 – Roma (RM) Italy*
10. Date of test report: *As before and 30.04.2025*
11. Number of test report: *Current: CN-112-17-430-COM25-29504-IR*  
*Former: CN-112-17-381-COM24-24297-IR*
12. Remarks (if any): *See Appendix below*
13. Place: *Dublin*
14. Date: *2<sup>nd</sup> July, 2025*
15. Signature: 
16. The index to the information package lodged with the approval authority, which may be obtained on Request, is attached.



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1. Distinguishing number of the country which issued/extended/refused or withdrawn approval. (see Regulation, provisions on approval).
  2. Strike out what does not apply.



# NSAI

Approval No: E24\*10R06/03\*6553\*01

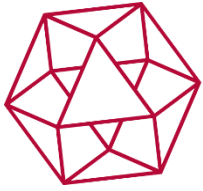
## Appendix

To type-approval communication concerning the type approval of an electrical/electronic sub-assembly under Regulation No.10.

1. Additional information
  - 1.1. Electrical system rated voltage: **DC 12V/24V, negative ground**
  - 1.2. This ESA can be used on any vehicle type with the following restrictions: **See manufacturer's specifications.**
    - 1.2.1 Installation conditions, if any: **See manufacturer's specifications.**
  - 1.3. This ESA can only be used on the following vehicle types: **N/A**
    - 1.3.1 Installation conditions, if any: **N/A**
  - 1.4. The specific test method(s) used and the frequency ranges covered to determine immunity were: **Bulk Current Injection Method:  
Frequency: (20 – 400 MHz)  
Free Field Testing Method:  
Frequency: (400 – 2000 MHz)**
  - 1.5. Laboratory accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests: **CETOC TECHNICAL SERVICE S.R.L.**
2. Remarks: **N/A**

Appendix to type-approval communication concerning the type approval of a vehicle under Regulation No.10.

1. Additional information
2. Electrical system rated voltage: **N/A**
3. Type of bodywork: **N/A**
4. List of electronic systems installed in the tested vehicle(s) not limited to the items in the information document: **N/A**
  - 4.1. Vehicle equipped with 24 GHz short-range radar equipment (yes/no/optional)<sup>2</sup>: **N/A**
5. Laboratory accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests: **N/A**
6. Remarks: **N/A**

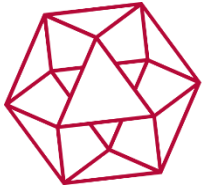


# NSAI

Approval No: E24\*10R06/03\*6553\*01

## Index to the Information Package

Date of issue:	<i>26<sup>th</sup> March, 2025</i>
Date of latest amendment:	<i>2<sup>nd</sup> July, 2025</i>
Reason for extension/revision:	<i>-Addition of variants</i>
1. Additional conditions, and advisory notes on legal alternatives.	
2. Test report(s)	
- numbers(s):	<i>Current: CN-112-17-430-COM25-29504-IR Former: CN-112-17-381-COM24-24297-IR</i>
- date of issue:	<i>26.12.2024</i>
- date of latest amendment:	<i>30.04.2025</i>
3. Information document	
- number(s):	<i>HZ7012 up to -01</i>
- date of issue:	<i>20.12.2024</i>
- date of latest amendment:	<i>01.04.2025</i>
Documentation:	<i>15 pages</i>



# NSAI

Approval No: E24\*10R06/03\*6553\*01

## Appendix: **Additional conditions, and advisory notes on legal alternatives**

### A: Additional conditions:

1. The attached technical report, with any of its attachments, forms part of this Type Approval certificate.
2. Each device from series production shall be to the measurements specified in the attached drawings, and shall be manufactured only from the materials specified in the Approval documents.
3. Changes in the type are permitted only with the explicit permission of NSAI. Breaches of this requirement will lead to a withdrawal of the Type Approval, and in addition may be subject to criminal prosecution.
4. At regular intervals, any tests or associated checks prescribed by the applicable legislation to verify continued conformity with the approved type shall be carried out. The manufacturer shall demonstrate compliance with this by submitting to NSAI evidence of adequate arrangements and documented control plans for each type approved.
5. Any set of samples or test pieces showing evidence of non-conformity shall give rise to further sampling and testing and all steps shall be taken to restore conformity of production.
6. This Type Approval will expire when it is surrendered by the holder, or withdrawn by NSAI, or when the approved type no longer conforms to legal requirements. The recall of the Type Approval can be issued by NSAI when the conditions required for the issuing or continuation of the Type Approval are no longer current, or when the Approval holder is in breach of the duties attached to the Type Approval, or when it is established that the approved type no longer meets the requirements of traffic safety.
7. Changes in the company name, address or manufacturing site, as well as in any of the sales or other agents specified in the issuing of the approval must immediately be notified to NSAI.
8. The duties imposed by the issuing of this certificate are not transferable. The legal protection of third parties is not affected by this certificate.
9. When the manufacture or sale of the system, component or separate technical unit has not been started within one year of the date of issue of this certificate, then NSAI is to be informed. This requirement also applies when the manufacture or sale has been halted for more than one year, or when it ought to have been halted for more than one year. The initial commencement of manufacture or sale, or the resumption of manufacture or sale, shall then be notified to NSAI within one month of commencement or resumption.

### B: Legal Options:

Any objection to the requirements set out in this certificate shall be made within one month of the date of issue. The objection shall be made, in writing, to NSAI in Dublin.

## Electromagnetic Compatibility – ESA

### 0. Legislation:

0.1. Requirements according to : UNECE Regulation 10.06 to Supplement 3

### 1. General

1.1. Reason for Inspection Report : ~~New approval~~ / Extension of approval / ~~Test report only~~ / COP  
 1.1.1. Previous Type Approval Number : E24\*10R06/03\*6553\*00  
 1.2. Manufacturer's Representative(s) : No attendance  
 1.3. CETOC TS Representative(s) : Xiaoli Li  
 1.4. Location of Test : Not applicable  
 1.5. Date of Paperwork : 30/04/2025

### 2. Manufacturer Details

2.1. Make : HUAZHAO,  ( Marstech)  
 2.2. Type : HZ7012  
 2.3. Variant/Version : HZ7012, M720604, HZ8227SC, HZ8227S, HZ8248S, HZ8260S, HZ8227R, HZ8242R, HZ1028S, HZ1032S, HZ6101P, HZ6102, HZ1121, HZ1121S, HZ1126, HZ1126S, HZ1034, HZ9101P, HZ9102P, HZ9103P, HZ1152S, HZ1139S  
 2.4. Commercial Name : LED Driving Light  
 2.5. Category : Component  
 2.6. Name and Address of manufacturer : Foshan Huazhao Electronics Co., LTD.  
 Sixth Floor, No.1, Xinfeng Road, Songgang Songxia Industrial Park,  
 Shishan Town, Nanhai District, Foshan City, Guangdong Province,  
 China/528225

### 3. Conclusion:

3.1. Final conclusion of the inspection: : The above mentioned type was tested in accordance with the above mentioned legislation and was found to comply in all respects. This Inspection report relates only to the items tested.

Signature :		
Name :	Xiaoli Li	Marco Pagliari
Position :	Type Approval Engineer	Tech. Mgr.
Place and date :	Guangzhou, 30/04/2025	Roma, 30/04/2025

### 4. List of annexes:

Appendix Nr.	Page Nr.	Subject
Appendix 1	2	: Test report history
Appendix 2	2	: General specification

This inspection report shall not be reproduced except in full, without written approval of the technical service.

**APPENDIX 1 - TEST REPORT HISTORY**

List this report and previous reports, with extension details.

Inspection Report Number	Reason for Extension	Date of Issue
CN-112-17-381-COM24-24297-IR	N/A	26/12/2024
CN-112-17-430-COM25-29504-IR	Addition of variants	30/04/2025

**APPENDIX 2 – GENERAL SPECIFICATION**

- Worst Case Rationale** : All variants have the same electronic circuit design and the same component list for each PCB, the differences among them are the trade mark, name, appearance and the LED quantity. The previously tested model was HZ7012, which has the highest power among all variants. It's paper extension for this application. The previous test results are still valid.
- Significant Interpretations, Alternative Test Methods, New Technologies** : N/A
- Summary of test results**

	PASS	FAIL	N/A	COVERED BY PREVIOUS EXTENSION	See approval Nr.
Radiated Emissions:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	E24*10R06/03*6553*00
Radiated Immunity:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	E24*10R06/03*6553*00
BCI Immunity:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	E24*10R06/03*6553*00
Free Field Immunity:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	E24*10R06/03*6553*00
150 mm Stripline Immunity:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
800 mm Stripline Immunity:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Transient Testing:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	E24*10R06/03*6553*00

**Remarks**

None

Note: CETOC TS apply measurement uncertainty to calibrated items but not test results.

**Information document no. HZ7012-01 relating to type-approval of an electronic subassembly with respect to electromagnetic compatibility  
(ECE Regulation 10.06 to Supplement 3)**

**Reason(s) for Extension:**

**Addition of variants**

Type : HZ7012  
Manufacturer : Foshan Huazhao Electronics Co., LTD  
Date : 01/04/2025

Information document No. : HZ7012-01  
Manufacturer : Foshan Huazhao Electronics Co., LTD  
Regulation : R10.06 to Supplement 3

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## INDEX

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- 3 General
- 5 Drawings of the ESA
- 12 Electronic block diagram
- 13 List of components constituting the ESA

## GENERAL

1. Make (trade name of manufacturer):

**HUAZHAO,**  **( Marstech)**

2. Type: **HZ7012**

**Type HZ7012 has variants as below:**

**HZ7012, M720604, HZ8227SC, HZ8227S, HZ8248S, HZ8260S, HZ8227R, HZ8242R, HZ1028S, HZ1032S, HZ6101P, HZ6102, HZ1121, HZ1121S, HZ1126, HZ1126S, HZ1034, HZ9101P, HZ9102P, HZ9103P, HZ1152S, HZ1139S**

**Above variants have the same electronic circuit design and the same component list for each PCB, the differences among them are the trade mark, name, appearance and the LED quantity.**

General commercial description(s):

**LED Driving Light**

3. Means of identification of type, if marked on the component/separate technical unit:

**Approval mark**

- 3.1 Location of that marking:

**Engraved on the lens, See Drawings of the ESA.**

4. Name and address of manufacturer:

**Foshan Huazhao Electronics Co., LTD  
Sixth Floor, No.1, Xinfeng Road, Songgang Songxia Industrial Park,  
Shishan Town, Nanhai District, Foshan City, Guangdong Province,  
China/528225**

Name and address of authorised representative, if any:**N/A**

5. In the case of components and separate technical units, location and method of affixing of the approval mark:

**Engraved on the lens, See Drawings of the ESA.**

6. Address(es) of assembly plant(s):

**Foshan Huazhao Electronics Co., LTD  
Sixth Floor, No.1, Xinfeng Road, Songgang Songxia Industrial Park,  
Shishan Town, Nanhai District, Foshan City, Guangdong Province,  
China/528225**

7. This ESA shall be approved as a component.

8. Any restrictions of use and conditions for fitting:

**N/A**

9. Electrical system rated voltage:  
**DC 12V/24V, negative ground.**

Appendix 1: Description of the ESA chosen to represent the type (electronic block diagram and list of main component constituting the ESA (e.g. make and type of microprocessor, crystal, etc.).

**See electronic block diagram and list of main component constituting the ESA for details.**

Appendix 2: Relevant test report(s) supplied by the manufacturer from a test laboratory accredited to ISO 17025 and recognized by the Type Approval Authority for the purpose of drawing up the type approval certificate.

**N/A**

Only applicable for charging systems: **N/A**

10. Charger:  
**N/A**
11. Charging current:  
**N/A**
12. Maximal nominal current (in each mode if necessary):  
**N/A**
13. Nominal charging voltage:  
**N/A**
14. Basic ESA interface functions:  
**N/A**
15. Minimum  $R_{s_{ce}}$  value (see paragraph 7.11. of this Regulation):  
**N/A**

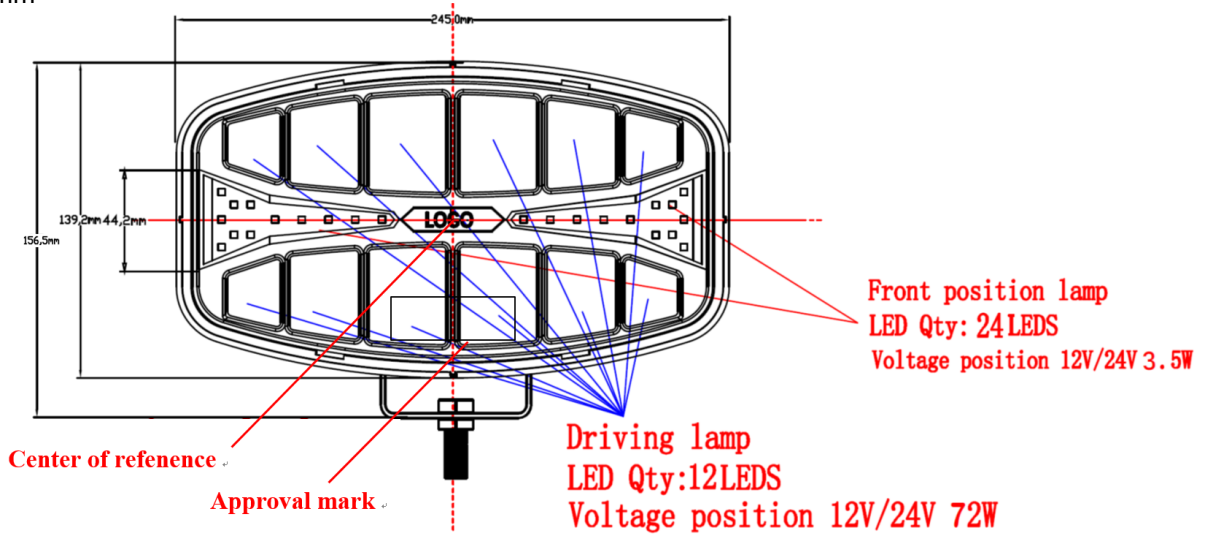
## Drawings of the ESA

### Location of the ECE approval mark

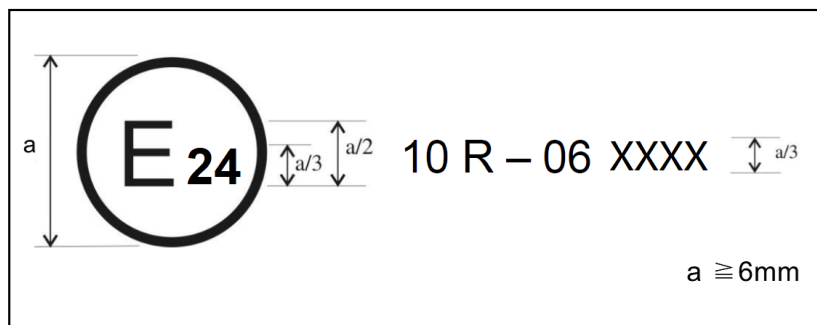
**HZ7012, M720604**



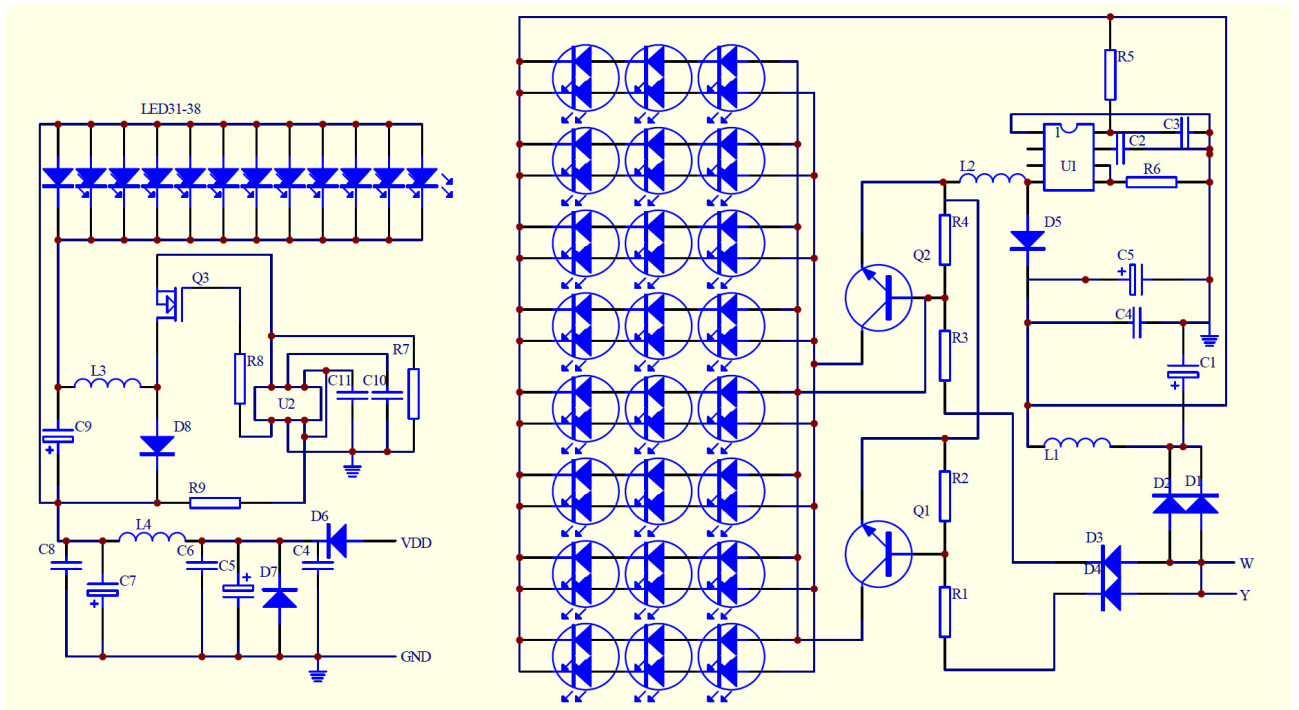
Unit:mm



### Example of approval mark



### Electronic Block Diagram



Information document No. : HZ7012-01  
Manufacturer : Foshan Huazhao Electronics Co., LTD  
Regulation : R10.06 to Supplement 3

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### List of main component constituting the ESA

Name	Specification	Unit	Qty.
IC	OC5021B	pcs	1
MOS tube	50N06 TO252	pcs	1
diode tube	SB1045L	pcs	2
capacitance	Aluminum Electrolytic Capacitors 35V/100UF	pcs	5
capacitance	1206 106 35V	pcs	5
capacitance	0805 105 35V	pcs	2
capacitance	1206 18P 50V	pcs	2
capacitance	0805 18P 50V	pcs	1
capacitance	1206 104 50V	pcs	4
inductance	1265 102 Differential inductance	pcs	1
inductance	1265 33uh Integrated inductor	pcs	1
inductance	1265 22uh Integrated inductor	pcs	1
inductance	7*7*3 33uh Integrated inductor	pcs	1
inductance	7*7*3 22uh Integrated inductor	pcs	1