

NSAI

ECE TYPE-APPROVAL CERTIFICATE



Communication concerning:²

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~~Approval withdrawn~~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

of a type of headlamp pursuant to Regulation No. 113

Approval No: **E24*113R03/00*0577*00**



1. Trade name or mark of the lamp:
2. Manufacturer's name for the type of lamp: **MS-F800HA**
3. Manufacturer's name and address: **Guangzhou MorSun Technology co.,Ltd
Room 201, 2/F, No.10 Rongxi Industrial
Street, Baiyun Lake Street, Baiyun District,
Guangzhou City, Guangdong Province
510000 P.R. China**
4. If applicable, name and address of manufacturer's representative: **N/A**
5. Submitted for approval on: **19.05.2021**
6. Technical service responsible for conducting approval tests: **ISOQA Technical Service Co., Ltd
60, Yong Long Road,
41257 Da-Li, Taichung
Taiwan**
7. Date of test report issued by that service: **19.05.2021**
8. Number of report issued by that service: **ISOQA-21-0234-R113**



NSAI

Approval No: E24*113R03/00*0577*00

9. Brief description:

Category as described by the relevant marking³:

CR-BS PL
↔

Number and category(ies) of filament lamp(s), if any

N/A

Number and category (ies) of gas-discharge light source, if any

N/A

Number and specific identification code(s) of LED modules and for each LED module a statement whether it is replaceable or not: **yes/no**²

Passing Beam: 1 non-replaceabl LED Module (MD E24 0577-1, 1 LED), 12 V, 20W
Driving Beam: 2 non-replaceable LED Modules (MD E24 0577-1, 1 LED + MD E24 0577-2, 3 of 5 LEDs), 12V, 41.7W

Number and specific identification code(s) of electronic light source control gear(s), if any:

YES
2 control gear ; part of the LED Module and included into the lamp body

Number and specific identification code(s) of additional lighting unit(s) and for each LED module a statement whether it is replaceable or not, if any:

N/A

The determination of “cut-off” sharpness: **yes/no**²

No

If yes, it was carried out at 10 m / 25 m²:

N/A

Trade name and identification number of separate ballast(s) or part(s) of ballast(s):

N/A

The passing beam light source may/~~may not~~² be lit simultaneously with the driving beam light source and/or another reciprocally incorporated headlamp:

May

The minimum bank angle(s) to satisfy the requirement of paragraph 6.2.8.1, if any:

N/A

9.1 Primary driving beam: **yes/~~no~~**²

Yes

Secondary driving beam: **yes/no**²


No

~~The secondary driving beam shall only be operated together with a passing beam or a primary driving beam.~~



NSAI

Approval No: E24*113R03/00*0577*00

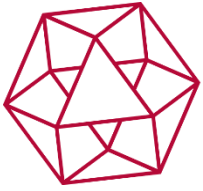
- 10. Approval mark position: *On the lens*
- 11. Reason(s) for extension (if applicable): *N/A*
- 12. Approval granted/extended/refused/withdrawn²: *Granted*
- 13. Place: *Dublin*
- 14. Date: *26th May, 2021*
- 15. Signature: 



- 16. The list of documents deposited with the Administrative Service which has granted approval is annexed and may be obtained on request.

³Indicate the appropriate marking selected from the list below:

C-AS,	C- BS,	R- BS,	CR- BS,	C/ -BS,	C/R-BS,
WC-CS,	C-BS PL,	R-BS PL,	CR-BS PL,	C/ -BS PL,	C/R-BS PL,
WC/-CS,	WC-DS,	WR-CS	WR-DS,	WCR-CS,	WCR-DS,
WC-DS PL,	WC/-DS,	WC/R-CS,	WC/R-DS,	WC-CS PL,	WCR-DS PL,
WC/CS PL,	WR-CS PL,	WR-DS PL,	WCR-CS PL,	WCR-DS PL,	
WC+CS,	WC/-DS PL,	WC/R-CS PL,	WC/R-DS PL,		
WC+CS PL,	WC+DS,	WC+R-CS,	WC+R-DS,	C+-BS,	C+R-BS,
WC-ES,	WC+DS PL,	WC+R-CS PL,	WC+R-DS PL,	C+-BS PL,	C+R-BS PL,
WR-ES PL,	WR-ES,	WCR-ES,	WC/-ES,	WC/R-ES,	WC-ES PL,
WC+ES,	WCR-ES PL,	WC/-ES PL,	WC/R-ES PL		
	WC+R-ES,	WC+ES PL,	WC+R-ES PL		



NSAI

Approval No: E24*113R03/00*0577*00

Index to the Information Package

Date of issue: *26th May, 2021*

Date of latest amendment: *N/A*

Reason for extension/revision: *N/A*

1. Additional conditions, and advisory notes on legal alternatives.

2. Test report(s)

- numbers(s): *ISOQA-21-0234-R113*

- date of issue: *19.05.2021*

- date of latest amendment: *N/A*

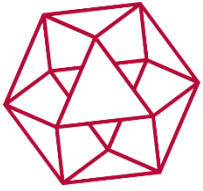
3. Information document

- number(s): *ISOQA-21-0234-Appendix 1_Information Document*

- date of issue: *30.03.2021*

- date of latest amendment: *N/A*

Documentation: *16 pages*



NSAI

Approval No: E24*113R03/00*0577*00

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

A: Additional conditions:

1. The device, type MS-F800HA, shall be marked as prescribed in the regulation.
2. The attached technical report, with any of its attachments, forms part of this Type Approval certificate.
3. Each individual product 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.
4. Changes in the product 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.
5. This Type Approval will expire when it is surrendered by the holder, or withdrawn by NSAI, or when the approved type of product 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.
6. NSAI may at any time check the correct performance of the duties imposed by the grant of this Type Approval, and in order to do so, may make tests, or have tests made.
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 the 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 vehicle, 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.

Test Report No. : ISOQA-21-0234-R113

Approval No. : 113R-03 0577
Type : MS-F800HA
Manufacturer : Guangzhou MorSun Technology co.,Ltd



TEST REPORT

Agreement concerning the adoption of uniform technical prescription for wheeled vehicles, equipment and parts which can be fitted and/or be used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions.

Uniform provisions concerning the approval of motor vehicle headlamps emitting a symmetrical passing beam or a driving beam or both ~~and equipped with filament, gas-discharge light sources or~~ LED modules

Tested according ECE-R113, Supplement 1 to the 03 series of amendments of 29 May 2020


Kind of device: Headlamp for Symmetrical Passing Beam/ Driving Beam, Class B

Approval status	
X	Application for granting of a type approval
	Application for an extension of type approval No.
	Reason for the extension:

Test Report No. : ISOQA-21-0234-R113

Approval No. : 113R-03 0577
Type : MS-F800HA
Manufacturer : Guangzhou MorSun Technology co.,Ltd

0. General

- 0.1. Make (trade name of manufacturer) : 
- 0.2. Type : MS-F800HA
- 0.3. Version / Variant : --
- 0.4. Manufacturer's name and address : Guangzhou MorSun Technology co.,Ltd
Room 201, 2/F, No.10 Rongxi Industrial Street, Baiyun Lake Street, Baiyun District, Guangzhou City, Guangdong Province 510000 P.R. China
- 0.4.1 Name and address of representative : --
- 0.5. Test laboratory : ISOQA Technical Service Co., Ltd.
60, Yong Long Road,
41257 Da-Li, Taichung
Taiwan

Test Report No. : ISOQA-21-0234-R113

Approval No. : 113R-03 0577
 Type : MS-F800HA
 Manufacturer : Guangzhou MorSun Technology co.,Ltd

1. Test object (s)

1.1. Information :

Material of Lens	Teijin Panlite L-1225Z 100 PC with GE UVHC3000 coating	
Material of Housing	Aluminium alloy	
Rated Voltage	12 V	
Passing Beam	Category	C-BS
	Light Source	1 x MD E24 0577-1, 12 V, 20W (Detail see 1.3.3)
	Light Source Control Gear	Type : part of the LED module and included into the lamp body
	Color of light emitted	White
	Color of lens	Clear
	Grouped with	Front position lamp
	Combined with	-
	Incorporated with	Driving beam
Driving Beam	Category	R-BS
	Light Source	1 x MD E24 0577-1 + 1 x MD E24 0577-2, 12 V, 41.7W (Detail see 1.3.3)
	Light Source Control Gear	Type : part of the LED module and included into the lamp body
	Color of light emitted	White
	Color of lens	Clear
	Grouped with	Front position lamp
	Combined with	-
	Incorporated with	Passing beam
Reference Mark for Driving Beam	17.5	

1.2. Location of Marking : see Appendix 2

1.3. Remark(s) :

1.3.1. There are no objections against the variants that may be described in the Information folder respectively the information document by the manufacturer because adversely effects are not expected.
 The lamps are part of the same assembly of grouped, combined or reciprocally incorporated lamps. Each of these lamps satisfies the requirements of the relevant regulation.

1.3.2. Tests of plastic material please see: KEMA report no. : 2030925-QUA/LTL 03-075

1.3.3. MD E24 0577-1 contains 1 LED which used for both of passing beam and driving beam.
 MD E24 0577-2 contains 8 LEDs and 3 of them used for the driving beam.

Test Report No. : ISOQA-21-0234-R113

Approval No. : 113R-03 0577
Type : MS-F800HA
Manufacturer : Guangzhou MorSun Technology co.,Ltd



2. Test Specification

2.1. Place of test : Laboratory of ISOQA in Taiwan

2.2. Date of test : 2021/4/14 ~ 2021/5/19

2.3. Date of receipt of test device(s) : 2021/4/14

2.4. Test results :

2.4.1. Markings (according to paragraph 3 and 4 of ECE R113-03)

a.	Trade name or mark	Complies	see Appendix 2
b.	Category of replaceable light sources	Not Applicable	non replaceable
c.	Space reserved for the approval mark and the additional symbols	Complies	see Appendix 2
d.	Center of reference	Not Applicable	
e.	Rated Voltage and Wattage	Complies	see Appendix 2
f.	Marking on LED module(s)	Not Applicable	non replaceable
g.	Marking on control gear	Not Applicable	
h.	A symbol consisting of the number 24 crossed out by an oblique cross (x)	Not Applicable	LED Module

2.4.2. General Specifications (according to paragraph 5 of ECE R113-03)

a.	Conformity of specifications	Complies	
b.	Design and construction for satisfactory operation	Complies	
c.	Light source	Complies	
d.	Tests for stability of photometric performance of headlamps in operation	Complies	see 3.4
e.	Test for plastic lens	Complies	see 3.5
f.	Alternative driving and/or passing beam	Complies	see 2.5.2
g.	the Class E headlamp and its ballast system shall not generate radiated or power line disturbances	Not Applicable	
h.	LED Module	Complies	

Test Report No. : ISOQA-21-0234-R113

Approval No. : 113R-03 0577
Type : MS-F800HA
Manufacturer : Guangzhou MorSun Technology co.,Ltd



- 2.4.3. Illumination (according to paragraph 6 of ECE R113-03)
- a. General Provision Complies
 - b. Passing Beam Complies see 3.1
 - c. Driving beams Complies see 3.2
 - d. Adjustable reflectors Not Applicable
- 2.4.4. Colour (according to paragraph 7 of ECE R113-03) Complies see 3.3
- 2.4.5 LED Module (according to Annex12 of ECE R113-03)
- a. colour rendering - Red content Complies see 3.6.1
 - b. uv-radiation Complies see 3.6.2
 - c. temperature stability - Illuminance Complies see 3.1 & 3.2
 - d. temperature stability - Colour Complies see 3.3
 - e. objective luminous flux Complies see 3.6.3
- 2.5. Remark (s)
- 2.5.1. LED module specific identification code : MD E24 0577-1 & MD E24 0577-2
- 2.5.2 The headlamp is designed to provide alternately a driving beam and a passing beam, the driving beam/ passing beam switch device was tested by a frequency of 10 operations per minute and 50,000 operations in total.

Test Report No. : ISOQA-21-0234-R113

Approval No. : 113R-03 0577
 Type : MS-F800HA
 Manufacturer : Guangzhou MorSun Technology co.,Ltd



3.3. Color of light emitted test record

Function : Passing Beam/ Driving Beam Colour : White
 Test Voltage : 13.2 V Light Source : same as photometric test
 Distance : 3.182 m Current : same as photometric test

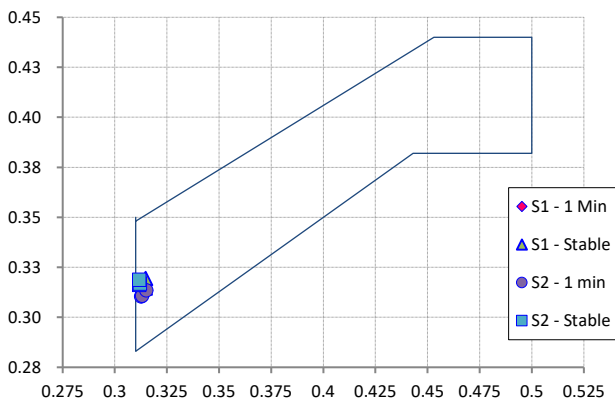
- Passing Beam

Point	Sample 1				Sample 2			
	1 min		stable		1 min		stable	
	x	y	x	y	x	y	x	y
Point 50V	0.3127	0.3105	0.3147	0.3146	0.3127	0.3105	0.3118	0.3162
Point 50R	0.3131	0.3107	0.3148	0.3194	0.3131	0.3107	0.3120	0.3169
Point 75R	0.3152	0.3135	0.3128	0.3174	0.3152	0.3135	0.3117	0.3187
Result	PASS		PASS		PASS		PASS	

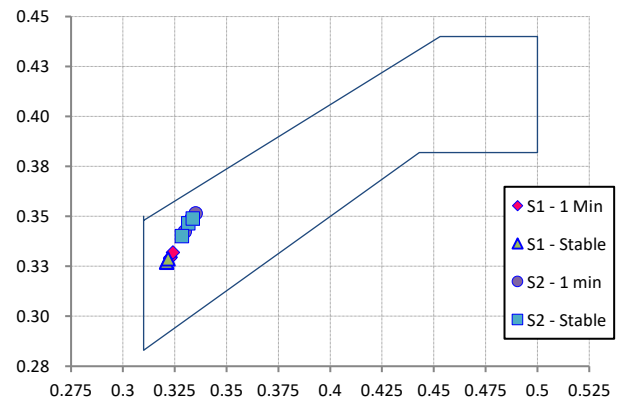
- Driving Beam

Point	Sample 1				Sample 2			
	1 min		stable		1 min		stable	
	x	y	x	y	x	y	x	y
Point 50V	0.3230	0.3296	0.3211	0.3270	0.3331	0.3488	0.3315	0.3466
Point 50R	0.3226	0.3291	0.3209	0.3271	0.3298	0.3424	0.3284	0.3402
Point 75R	0.3241	0.3320	0.3217	0.3287	0.3351	0.3515	0.3336	0.3490
Result	PASS		PASS		PASS		PASS	

Passing Beam



Driving Beam



Test Report No. : ISOQA-21-0234-R113

Approval No. : 113R-03 0577
 Type : MS-F800HA
 Manufacturer : Guangzhou MorSun Technology co.,Ltd



3.4. Stability of Photometric Performance of Headlamps in Operation

Function : Passing Beam / Driving Beam Class : Class B
 Test Voltage : 13.2 V Light Source : same as photometric test

- Test for Stability of Photometric Performance

Test Point	clean headlamp before burn in		clean headlamp after burn in		dirty headlamp after burn in	
	Value (cd)	dif.	Value (cd)	dif.	Value (cd)	dif.
I _{max}	58549.66	-	57653.54	1.53%	55128.60	4.38%
50R	12530.00	-	12215.00	2.51%	11370.00	6.92%
50L	10470.00	-	10130.00	3.25%	9536.00	5.86%
0.50U/1.5L	125.60	-	118.50	7.10 cd	101.20	17.30 cd
0.50U/1.5R	131.30	-	126.40	4.90 cd	110.20	16.20 cd
Result	-		PASS		PASS	

For clean headlamp test the headlamps continuously operated for 12 hours; for dirty headlamp test the headlamp continuously operated for 1 hour.

After the test, there is no distortion, deformation, cracking or change in colour of either the headlamp lens or the external lens.

The value measured at point 0.50U/1.5L and 0.50U/1.5R shall not exceed the photometric value measured prior to the test by more than 255 cd; a 10% discrepancy of others is permissible.

- Test for Change in Vertical Position of the Cut-Off Line under the Influence of Heat

Summary	V-Loc	V-Dev [mrad]	Result
3 min	-0.50°	-8.73	$\Delta r1 = r3-r60 = 0 \text{ mrad}$
60 min	-0.50°	-8.73	$\Delta r1 \leq 1 \text{ mrad (Upward)}$
Result			PASS

Test Report No. : ISOQA-21-0234-R113

Approval No. : 113R-03 0577
Type : MS-F800HA
Manufacturer : Guangzhou MorSun Technology co.,Ltd



3.5. Tests on Complete Headlamps

3.5.1. Mechanical deterioration

Function : Passing Beam / Driving Beam Class : Class B
Test Voltage : 13.2 V Light Source : same as photometric test

Test Point	Minimum (cd)	Maximum (cd)	Value (cd)
H-V	-	910	891
50R	990	-	19560
50L	990	-	17390
H-V (Driving)	14400	-	44710
Result			PASS

3.5.2 Adherence of coatings

Requirement	Result
There shall be no appreciable impairment of the grated area. Impairments at the intersections between squares or at the edges of the cuts shall be permitted, provided that the impaired area does not exceed 15 per cent of the grated surface.	PASS

Test Report No. : ISOQA-21-0234-R113

Approval No. : 113R-03 0577
Type : MS-F800HA
Manufacturer : Guangzhou MorSun Technology co.,Ltd



3.6. Additional Test for LED modules and headlamps including LED modules

3.6.1. Colour Rendering

- for Passing Beam : $k_{red} = 0.0764$ (≥ 0.05)
- for Driving Beam : $k_{red} = 0.0780$ (≥ 0.05)

3.6.2. UV-Radiation

- for Passing Beam : $k_{uv} = 5.97E-10$ ($\leq 10^{-5}$ W/ lm)
- for Driving Beam : $k_{uv} = 3.24E-08$ ($\leq 10^{-5}$ W/ lm)

3.6.3. Objective Luminous Flux

Function	Minimum (lm)	Maximum (lm)	Value	Result
Passing Beam	350	1000	949.36	PASS
Driving Beam	-	-	2341.29	-

LED Module(s) was aged for 72 hours before upon tests

Test Report No. : ISOQA-21-0234-R113

Approval No. : 113R-03 0577
Type : MS-F800HA
Manufacturer : Guangzhou MorSun Technology co.,Ltd

4. Communication

Concerning : APPROVAL GRANTED

of a type of device pursuant to Regulation No. 113

Approval No. 113R-03 0577 Extension No. 00

4.1. Brief description

Category as described by the relevant marking	:	CR-BS PL ↔
Number and category(s) of filament lamp(s):	:	NO
Number and category (ies) of gas-discharge light source	:	NO
Number and specific identification code(s) of LED modules and for each LED module statement whether it is replaceable or not	:	Passing Beam: 1 non-replaceabl LED Module (MD E24 0577-1, 1 LED), 12 V, 20W Driving Beam: 2 non-replaceable LED Modules (MD E24 0577-1, 1 LED + MD E24 0577-2, 3 of 5 LEDs), 12V, 41.7W
Number and specific identification code(s) of electronic light source control gear	:	YES 2 control gear ; part of the LED Module and included into the lamp body
The determination of "cut-off" sharpness	:	NO
if yes, it was carried out at	:	N/A
Trade name and identification number of separate ballast(s) or part(s) of ballast(s)	:	N/A
The passing-beam light source may/may not be lit simultaneously with the driving-beam light source and/or another reciprocally incorporated headlamp.	:	May
The minimum bank angle(s) to satisfy the requirement of R113.01 paragraph 6.2.8.1.	:	N/A
4.1.1 Primary driving beam	:	YES
Secondary driving beam	:	NO
4.2. Approval mark position	:	on the LENS
4.3. Reason(s) for extension (if applicable)	:	N/A

Test Report No. : ISOQA-21-0234-R113

Approval No. : 113R-03 0577
Type : MS-F800HA
Manufacturer : Guangzhou MorSun Technology co.,Ltd



5. Appendices

- | | | | | |
|----|------------|----------------------|---|------------------|
| 1. | Appendix 1 | Information document | 1 | page(s) in total |
| 2. | Appendix 2 | Drawing | 2 | page(s) in total |

6. Statement of conformity

The information folder respectively information document by the manufacturer and the type described therein are in compliance with the Test Specification mentioned above.

ISOQA Technical Service Co., Ltd.

Place : Taichung, Taiwan

Date : 2021/5/19

Signature


A handwritten signature in black ink that reads 'Archer Chang' in a cursive, flowing script.

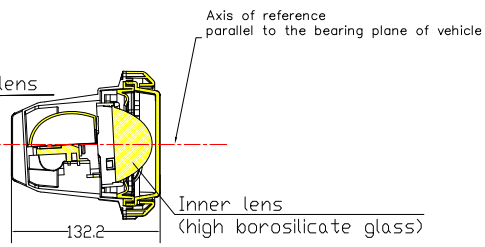
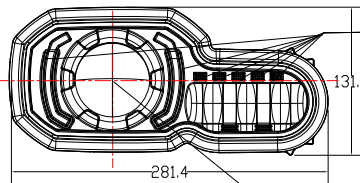
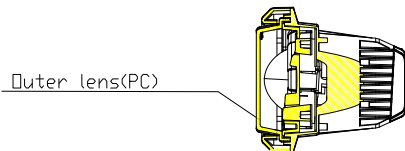
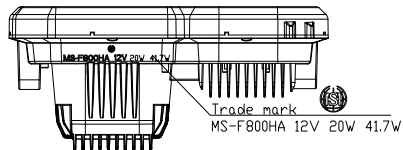
Laboratory Manager - Chih-Hua Chang

INFORMATION

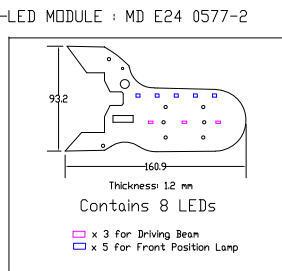
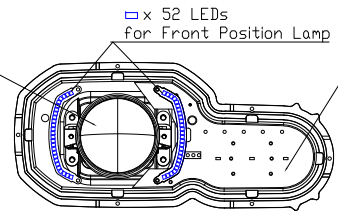
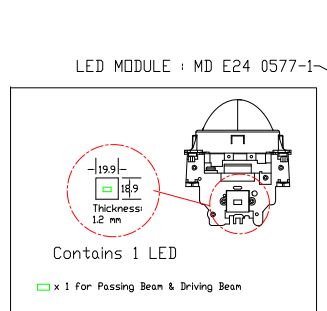
for Initial Application

Date: 2021/3/30

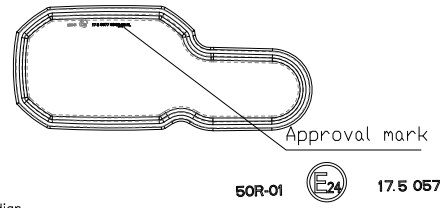
Manufacturer's Name and Address	Guangzhou MorSun Technology co.,Ltd Room 201, 2/F, No.10 Rongxi Industrial Street, Baiyun Lake Street, Baiyun District, Guangzhou City, Guangdong Province 510000 P.R. China	
Trade name or mark		
Type Name	MS-F800HA	
Material of Outer Lens(es)	Teijin Panlite L-1225Z 100 PC with GE UVHC3000 coating	
Material of inner Lens(es)	Passing/Driving beam : Glass Front Position lamp : PMMA	
Material of Housing	Aluminium alloy	
Rate Voltage	12 V	
Rate Wattage	see below	
Passing Beam (R113.03)	Category	C-BS
	Class	Class B
	Light Source	1 x MD E24 0577-1, 12 V, 20W
	Light Source Control Gear	part of the LED module and included into the lamp body
	Color of light emitted	White
	Color of inner lens	Clear
	Color of outer lens	Clear
Driving Beam (R113.03)	Category	R-BS
	Class	Class B
	Light Source	1 x MD E24 0577-1 + 1 x MD E24 0577-2, 12 V, 41.7W
	Light Source Control Gear	part of the LED module and included into the lamp body
	Color of light emitted	White
	Color of outer lens	Clear
Front Position Lamp (R50.01)	Category	-
	Light Source	1 x LED Module + 52 LEDs, 12 V, 1.5W (if anyone LED fails, all LEDs fail)
	Light Source Control Gear	part of the lamp and included into the lamp body
	Color of light emitted	White
	Color of outer lens	Clear
	Color of Inner lens	Clear with pattern



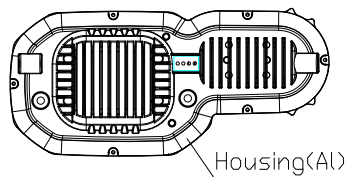
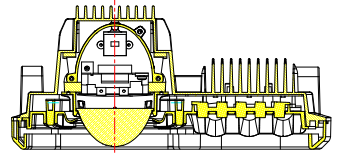
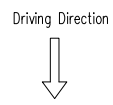
Center of reference
Driving beam
12V 41.7W
Passing beam
12V 20W
Position lamp
12V 1.4W



LIGHT SOURCES:
Front Position Lamp:
- 52 Non-replaceable LEDs +
- 5 LEDs of MD E24 0577-2
Passing Beam:
- MD E24 0577-1
Driving Beam
- MD E24 0577-1 +
- 3 LEDs of MD E24 0577-2

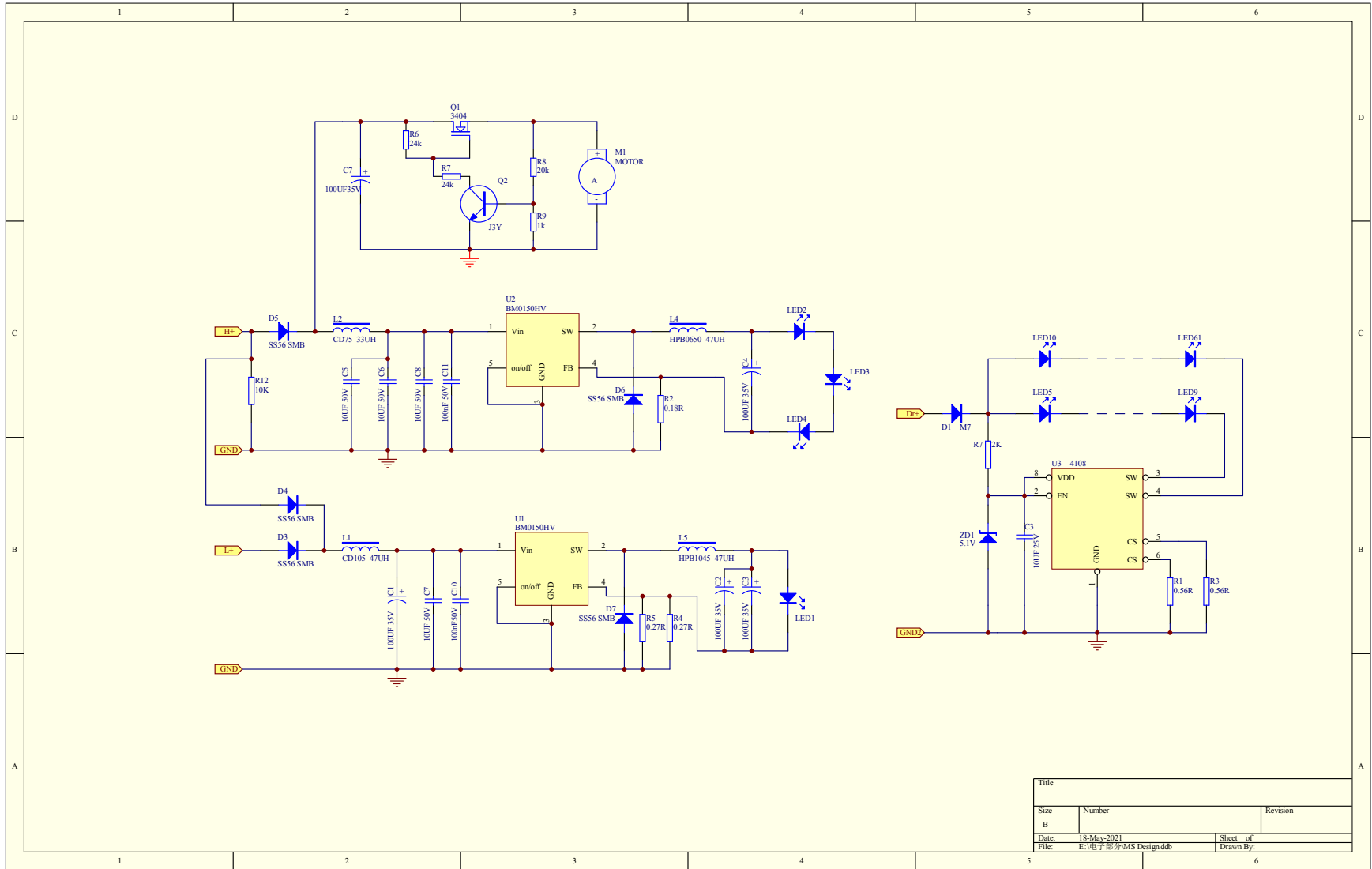


Axis of reference
parallel to the median
longitudinal plane of vehicle



unit : mm

Guangzhou MorSun Technology Co., Ltd.	
Type Name :	MS-F800HA
Type description :	Front position Lamp / Driving Beam / Passing Beam



Title		
Size	Number	Revision
B		
Date:	18-May-2021	Sheet of
File:	E:\电子部分\MS Design.ddb	Drawn By: