

ECE TYPE-APPROVAL CERTIFICATE



Communication concerning:² ~~Approval granted~~
~~Approval extended~~
~~Approval refused~~
~~Approval withdrawn~~
Production definitely discontinued

of a type device pursuant to Regulation No. 7

Approval No: **E24*7R02/26*0291*00**

Reason for extension:

N/A

1. Trade name or mark of the device:
2. Manufacturer's name for the type of device:



Versions:

N/A

3. Manufacturer's name and address:
4. If applicable, name and address of manufacturer's representative:
5. Submitted for approval on:
6. Technical service responsible for conducting approval tests:
7. Date of test report issued by that service:
8. Number of report issued by that service:

N/A

12.02.2018

TÜV SÜD Auto Service GmbH
Westendstraße 199
D-80686 München

06.02.2018

¹ Distinguishing number of the country which has granted/refused/withdrawn approval (see approval provisions in the Regulation).

² Strike out which does not apply.



Approval No: E24*7R02/26*0291*00

9. Concise description:

9.1 By Category of lamps:

For mounting either outside or inside or both²

Colour of light emitted: red/white²

Number, category and kind of light source(s):

Voltage and wattage:

Light source module specific identification code:

Only for limited mounting height of equal to or less than 750 mm above the ground (yes/no):

Geometric conditions of installation and relating variations (if any):

Application of an electronic light source control gear/variable intensity control

(a) being part of the lamp: yes/no²

(b) being not part of the lamp: yes/no²

Input voltage(s) supplied by an electronic light source control gear/variable intensity control:

Electronic light source control gear/variable intensity control manufacturer and identification number (when the light source control gear is part of the lamp but is not included into the lamp body):

Rear position lamp: R1
Stop lamp: SI

Outside

Red

*25*LED Non-replaceable light source*

Rear position lamp:
12V/24V and 0.36W

Stop Lamp:
12V/24V and 2.5W

N/A

No

See manufacturer's information document

Rear position lamp: Yes
Stop lamp: Yes

Rear position lamp: No
Stop lamp: No

12V and 24V

N/A



NSAI

Certification

Approval No: E24*7R02/26*0291*00

Variable luminous intensity: yes/no²

No

The ~~front position lamp~~², rear position lamp², stop lamp², ~~end-outline marker lamp~~², is only for use on a vehicle fitted with a tell-tale indication failure: yes/no²

*Rear Position Lamp:
Stop Lamp:*

*No
No*

9.2 Function(s) produced by an interdependent lamp forming part of an interdependent lamp system:

Front position lamp	yes/no ²	
R1 Rear position lamp	yes/no ²	<i>No</i>
R2 Rear position lamp	yes/no ²	
S1 stop lamp	yes/no ²	<i>No</i>
S2 stop lamp	yes/no ²	
S3 stop lamp	yes/no ²	
S4 stop lamp	yes/no ²	
End-outline marker lamp	yes/no ²	

10. Position of the approval mark:

On the lens

11. Reason(s) for extension (if applicable):

N/A

12. Approval granted/extended/refused/withdrawn²:

Granted

13. Place:

Dublin

14. Date:

8th March, 2018.

15. Signature:



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



Index to the Information Package

Date of issue:	<i>8th March, 2018.</i>
Date of latest amendment:	<i>N/A</i>
Reason for extension/revision:	<i>N/A</i>
1. Additional conditions, and advisory notes on legal alternatives.	
2. Test report(s)	
- numbers(s):	
- date of issue:	<i>06.02.2018</i>
- date of latest amendment:	<i>N/A</i>
3. Information document	
- number(s):	
- date of issue:	<i>25.12.2018</i>
- date of latest amendment:	<i>N/A</i>
Documentation:	<i>28 pages</i>



NSAI

Certification

Approval No: E24*7R02/26*0291*00

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

A: Additional conditions:

1. The device, Type _____, 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.



Technical Report No. :
Manufacturer:
Type:

TECHNICAL REPORT

No.:

Test according to ECE regulation relating to

Rear position lamp R1 and stop lamp S1

ECE Regulation No.: 7


supplement 26 to the 02 series of amendments

Approvals granted up to now		
ECE	Number of approval	Date
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Technical Report No.:
Manufacturer:
Type:

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I. Technical description

- 0.1. Make (trade name of manufacturer) : 
- 0.2. Type :
- 0.2.1. Variants : N/A
- 0.3. Means of identification of type : By digits and letters
- 0.4. By category of lamp : Rear position lamp R1 and stop lamp S1
- For mounting either outside or inside or both : Outside
- Color of light emitted : Red
- Number, category and kind of light source(s) : 25*LEDs
- Voltage and wattage : Stop lamp: 12V/24V and 2.5W;
Rear position lamp: 12V/24V and 0.36W
- Light source module specific identification code : N/A
- Only for limited mounting height of equal to or less than 750 mm above the ground : No
- Geometrical conditions of installation and relating variations, if any : See manufacturer's information document
- Application of an electronic light source control gear/~~variable intensity control~~
- Being part of the lamp : Yes
- Being not part of the lamp : No



Technical Report No.:

Manufacturer:

Type:

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Input voltage(s) supplied by an electronic light source control gear/ variable-intensity-control : 12V and 24V

Electronic light source control gear/ variable intensity control manufacturer and identification number (when the light source control gear is part of the lamp but is not included into the lamp body) : N/A

Variable luminous intensity : No

The rear position lamp, stop lamp is only for use on a vehicle fitted with a tell-tale indicating failure : No

Function(s) produced by an interdependent lamp forming part of an interdependent lamp system:

R1 Rear position lamp : No

S1 Stop lamp : No

0.5. Name and address of manufacturer :

0.8. Address of assembly plant :

0.9. Location of the approval mark : On the lens

0.10. If applicable, name and address of the manufacturer's representative : N/A

Technical Report No.:
Manufacturer:
Type:

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II. Test record

1. Test conditions

- 1.1. Technical data of the test samples : Two samples were tested.
Marking:
Sample No. 1 and Sample No. 2.
For information about the form of the lamp, the position of the reference point and the reference axis, see information document.
- 1.2. Test procedures used : According to ECE Regulation No.: 7.02.
- 1.3. Measuring and test equipment : Full automatic photometric test system for automobile lamps
EVERFINE PHOTO-E-INFO CO., LTD.
Type GO-HD5

2. Test results

2.1. General Specifications

The devices have been designed and constructed that in normal conditions of use, and notwithstanding the vibrations to which they may be subjected in such use, their satisfactory operation remains assured and they retain the characteristics prescribed by this Regulation.

No light source module or light generator is used.



Technical Report No.:

Manufacturer:

Type:

2.2. Intensity of light emitted - Mounting position 1

2.2.1. Rear position lamp

2.2.1.1 Sample No. 1, normal mode, 25 LEDs lit together, test voltage 11.999V.

No.	Point of the measurement		Limits [cd]		Measured values [cd]		Conclusion
			Min.	Max.	30 Minutes	1 Minute	
1	5L	10U	0.80	17.00	3.50	4.15	Complies
2	5R	10U	0.80	17.00	3.21	3.81	Complies
3	20R	5U	0.40	17.00	2.78	3.30	Complies
4	10R	5U	0.80	17.00	3.16	3.75	Complies
5	H	5U	2.80	17.00	3.79	4.50	Complies
6	10L	5U	0.80	17.00	3.43	4.07	Complies
7	20L	5U	0.40	17.00	4.13	4.90	Complies
8	10L	V	1.40	17.00	3.33	3.95	Complies
9	5L	V	3.60	17.00	4.40	5.22	Complies
10	H	V	4.00	17.00	4.94	5.86	Complies
11	5R	V	3.60	17.00	4.52	5.36	Complies
12	10R	V	1.40	17.00	3.01	3.57	Complies
13	20R	5D	0.40	17.00	2.79	3.31	Complies
14	10R	5D	0.80	17.00	3.19	3.78	Complies
15	H	5D	2.80	17.00	3.87	4.59	Complies
16	10L	5D	0.80	17.00	3.14	3.72	Complies
17	20L	5D	0.40	17.00	3.25	3.86	Complies
18	5L	10D	0.80	17.00	3.31	3.93	Complies
19	5R	10D	0.80	17.00	3.23	3.83	Complies
20	All directions Min.		0.05	---	0.34	0.40	Complies
21	All directions Max.		---	17.00	5.69	6.75	Complies

Technical Report No.:
 Manufacturer:
 Type:

2.2.1.2 Sample No. 2, normal mode, 25 LEDs lit together, test voltage 23.999V.

No.	Point of the measurement		Limits [cd]		Measured values [cd]		Conclusion
			Min.	Max.	30 Minutes	1 Minute	
1	5L	10U	0.80	17.00	2.49	2.91	Complies
2	5R	10U	0.80	17.00	2.39	2.79	Complies
3	20R	5U	0.40	17.00	2.20	2.57	Complies
4	10R	5U	0.80	17.00	2.60	3.04	Complies
5	H	5U	2.80	17.00	3.52	4.11	Complies
6	10L	5U	0.80	17.00	2.61	3.05	Complies
7	20L	5U	0.40	17.00	2.40	2.80	Complies
8	10L	V	1.40	17.00	2.65	3.10	Complies
9	5L	V	3.60	17.00	4.73	5.52	Complies
10	H	V	4.00	17.00	5.18	6.05	Complies
11	5R	V	3.60	17.00	4.80	5.61	Complies
12	10R	V	1.40	17.00	2.70	3.15	Complies
13	20R	5D	0.40	17.00	2.36	2.76	Complies
14	10R	5D	0.80	17.00	2.62	3.06	Complies
15	H	5D	2.80	17.00	3.86	4.51	Complies
16	10L	5D	0.80	17.00	2.64	3.08	Complies
17	20L	5D	0.40	17.00	2.46	2.87	Complies
18	5L	10D	0.80	17.00	3.26	3.81	Complies
19	5R	10D	0.80	17.00	3.21	3.75	Complies
20	All directions Min.		0.05	---	0.38	0.44	Complies
21	All directions Max.		---	17.00	5.78	6.75	Complies



Technical Report No.:

Manufacturer:

Type:

2.2.1.3 Sample No. 1, failure mode, 23 LEDs lit together, test voltage 11.999V.

No.	Point of the measurement		Limits [cd]		Measured values [cd]		Conclusion
			Min.	Max.	30 Minutes	1 Minute	
1	5L	10U	0.80	17.00	2.71	3.20	Complies
2	5R	10U	0.80	17.00	2.49	2.94	Complies
3	20R	5U	0.40	17.00	2.40	2.84	Complies
4	10R	5U	0.80	17.00	2.48	2.93	Complies
5	H	5U	2.80	17.00	3.15	3.72	Complies
6	10L	5U	0.80	17.00	2.71	3.20	Complies
7	20L	5U	0.40	17.00	3.37	3.98	Complies
8	10L	V	1.40	17.00	2.77	3.27	Complies
9	5L	V	3.60	17.00	4.00	4.73	Complies
10	H	V	4.00	17.00	4.41	5.21	Complies
11	5R	V	3.60	17.00	4.03	4.76	Complies
12	10R	V	1.40	17.00	2.35	2.78	Complies
13	20R	5D	0.40	17.00	2.33	2.75	Complies
14	10R	5D	0.80	17.00	2.47	2.92	Complies
15	H	5D	2.80	17.00	3.25	3.84	Complies
16	10L	5D	0.80	17.00	2.60	3.07	Complies
17	20L	5D	0.40	17.00	2.76	3.26	Complies
18	5L	10D	0.80	17.00	2.78	3.28	Complies
19	5R	10D	0.80	17.00	2.50	2.95	Complies
20	All directions Min.		0.05	---	0.27	0.32	Complies
21	All directions Max.		---	17.00	4.93	5.82	Complies

2.2.1.4 Sample No. 2, failure mode, 23 LEDs lit together, test voltage 23.999V.

No.	Point of the measurement		Limits [cd]		Measured values [cd]		Conclusion
			Min.	Max.	30 Minutes	1 Minute	
1	5L	10U	0.80	17.00	2.06	2.44	Complies
2	5R	10U	0.80	17.00	2.04	2.42	Complies
3	20R	5U	0.40	17.00	1.87	2.22	Complies
4	10R	5U	0.80	17.00	2.19	2.60	Complies
5	H	5U	2.80	17.00	3.07	3.64	Complies
6	10L	5U	0.80	17.00	2.22	2.63	Complies
7	20L	5U	0.40	17.00	1.96	2.33	Complies
8	10L	V	1.40	17.00	2.36	2.80	Complies
9	5L	V	3.60	17.00	4.26	5.05	Complies
10	H	V	4.00	17.00	4.61	5.47	Complies
11	5R	V	3.60	17.00	4.23	5.02	Complies
12	10R	V	1.40	17.00	2.30	2.73	Complies
13	20R	5D	0.40	17.00	1.92	2.28	Complies
14	10R	5D	0.80	17.00	2.22	2.63	Complies
15	H	5D	2.80	17.00	3.33	3.95	Complies
16	10L	5D	0.80	17.00	2.26	2.68	Complies
17	20L	5D	0.40	17.00	2.16	2.56	Complies
18	5L	10D	0.80	17.00	2.84	3.37	Complies
19	5R	10D	0.80	17.00	2.87	3.41	Complies
20	All directions Min.		0.05	---	0.31	0.37	Complies
21	All directions Max.		---	17.00	5.23	6.21	Complies

Technical Report No.:

Manufacturer:

Type:

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2.2.2. Stop lamp

2.2.2.1 Sample No. 1, normal mode, 25 LEDs lit together, test voltage 11.999V.

No.	Point of the measurement		Limits [cd]		Measured values [cd]		Conclusion
			Min.	Max.	30 Minutes	1 Minute	
1	5L	10U	12.00	260.00	47.23	49.75	Complies
2	5R	10U	12.00	260.00	43.75	46.08	Complies
3	20R	5U	6.00	260.00	38.10	40.13	Complies
4	10R	5U	12.00	260.00	42.52	44.79	Complies
5	H	5U	42.00	260.00	54.90	57.83	Complies
6	10L	5U	12.00	260.00	46.39	48.86	Complies
7	20L	5U	6.00	260.00	53.52	56.38	Complies
8	10L	V	21.00	260.00	45.12	47.53	Complies
9	5L	V	54.00	260.00	65.89	69.41	Complies
10	H	V	60.00	260.00	72.54	76.41	Complies
11	5R	V	54.00	260.00	67.32	70.91	Complies
12	10R	V	21.00	260.00	40.73	42.90	Complies
13	20R	5D	6.00	260.00	38.11	40.14	Complies
14	10R	5D	12.00	260.00	44.87	47.26	Complies
15	H	5D	42.00	260.00	52.23	55.02	Complies
16	10L	5D	12.00	260.00	44.16	46.52	Complies
17	20L	5D	6.00	260.00	44.88	47.27	Complies
18	5L	10D	12.00	260.00	42.85	45.14	Complies
19	5R	10D	12.00	260.00	40.09	42.23	Complies
20	All directions Min.		0.30	---	2.61	2.75	Complies
21	All directions Max.		---	260.00	75.84	79.89	Complies

Technical Report No.:
 Manufacturer:
 Type:

2.2.2.2 Sample No. 2, normal mode, 25 LEDs lit together, test voltage 23.999V.

No.	Point of the measurement		Limits [cd]		Measured values [cd]		Conclusion
			Min.	Max.	30 Minutes	1 Minute	
1	5L	10U	12.00	260.00	42.74	45.22	Complies
2	5R	10U	12.00	260.00	43.80	46.34	Complies
3	20R	5U	6.00	260.00	43.50	46.02	Complies
4	10R	5U	12.00	260.00	44.17	46.73	Complies
5	H	5U	42.00	260.00	54.82	58.00	Complies
6	10L	5U	12.00	260.00	45.60	48.25	Complies
7	20L	5U	6.00	260.00	42.02	44.46	Complies
8	10L	V	21.00	260.00	46.24	48.92	Complies
9	5L	V	54.00	260.00	67.94	71.88	Complies
10	H	V	60.00	260.00	76.20	80.62	Complies
11	5R	V	54.00	260.00	67.67	71.60	Complies
12	10R	V	21.00	260.00	35.18	37.22	Complies
13	20R	5D	6.00	260.00	42.24	44.69	Complies
14	10R	5D	12.00	260.00	44.50	47.08	Complies
15	H	5D	42.00	260.00	56.18	59.44	Complies
16	10L	5D	12.00	260.00	46.90	49.62	Complies
17	20L	5D	6.00	260.00	33.86	35.82	Complies
18	5L	10D	12.00	260.00	41.55	43.96	Complies
19	5R	10D	12.00	260.00	41.37	43.77	Complies
20	All directions Min.		0.30	---	2.80	2.96	Complies
21	All directions Max.		---	260.00	79.46	84.07	Complies



Technical Report No.:

Manufacturer:

Type:

2.2.2.3. Sample No. 1, failure mode, 23 LEDs lit together, test voltage 11.999V.

No.	Point of the measurement		Limits [cd]		Measured values [cd]		Conclusion
			Min.	Max.	30 Minutes	1 Minute	
1	5L	10U	12.00	260.00	38.76	40.55	Complies
2	5R	10U	12.00	260.00	35.86	37.52	Complies
3	20R	5U	6.00	260.00	33.17	34.70	Complies
4	10R	5U	12.00	260.00	35.01	36.63	Complies
5	H	5U	42.00	260.00	48.73	50.98	Complies
6	10L	5U	12.00	260.00	39.13	40.94	Complies
7	20L	5U	6.00	260.00	46.67	48.83	Complies
8	10L	V	21.00	260.00	39.90	41.74	Complies
9	5L	V	54.00	260.00	59.77	62.53	Complies
10	H	V	60.00	260.00	65.75	68.79	Complies
11	5R	V	54.00	260.00	60.46	63.26	Complies
12	10R	V	21.00	260.00	33.32	34.86	Complies
13	20R	5D	6.00	260.00	32.75	34.26	Complies
14	10R	5D	12.00	260.00	38.38	40.15	Complies
15	H	5D	42.00	260.00	46.12	48.25	Complies
16	10L	5D	12.00	260.00	39.28	41.10	Complies
17	20L	5D	6.00	260.00	39.66	41.49	Complies
18	5L	10D	12.00	260.00	38.71	40.50	Complies
19	5R	10D	12.00	260.00	35.70	37.35	Complies
20	All directions Min.		0.30	---	2.18	2.28	Complies
21	All directions Max.		---	260.00	67.52	70.64	Complies

Technical Report No.:
 Manufacturer:
 Type:

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2.2.2.4. Sample No. 2, failure mode, 23 LEDs lit together, test voltage 23.999V.

No.	Point of the measurement		Limits [cd]		Measured values [cd]		Conclusion
			Min.	Max.	30 Minutes	1 Minute	
1	5L	10U	12.00	60.00	36.48	38.46	Complies
2	5R	10U	12.00	260.00	36.64	38.63	Complies
3	20R	5U	6.00	260.00	37.63	39.67	Complies
4	10R	5U	12.00	260.00	39.45	41.59	Complies
5	H	5U	42.00	260.00	47.43	50.00	Complies
6	10L	5U	12.00	260.00	39.88	42.04	Complies
7	20L	5U	6.00	260.00	37.89	39.94	Complies
8	10L	V	21.00	260.00	41.77	44.03	Complies
9	5L	V	54.00	260.00	61.81	65.16	Complies
10	H	V	60.00	260.00	69.17	72.92	Complies
11	5R	V	54.00	260.00	60.52	63.80	Complies
12	10R	V	21.00	260.00	30.98	32.66	Complies
13	20R	5D	6.00	260.00	36.83	38.83	Complies
14	10R	5D	12.00	260.00	39.53	41.67	Complies
15	H	5D	42.00	260.00	50.23	52.95	Complies
16	10L	5D	12.00	260.00	41.20	43.43	Complies
17	20L	5D	6.00	260.00	29.76	31.37	Complies
18	5L	10D	12.00	260.00	36.39	38.36	Complies
19	5R	10D	12.00	260.00	36.59	38.57	Complies
20	All directions Min.		0.30	---	2.48	2.61	Complies
21	All directions Max.		---	260.00	72.47	76.40	Complies



Technical Report No.:

Manufacturer:

Type:

2.2.3. Sample No. 1 and No. 2, the ratio between the luminous intensities actually measured of the two lamps when turned on simultaneously at the intensity of the rear position lamp when turned on alone.

No.	Point of the measurement		Limits [cd]		Measured values [cd]		Conclusion
			Min.	Max.	Sample No. 1	Sample No. 2	
1	10R	5U	5.00	----	14.13	17.50	Complies
2	H	5U	5.00	----	15.03	16.12	Complies
3	10L	5U	5.00	----	14.10	17.91	Complies
4	10L	V	5.00	----	14.21	18.05	Complies
5	5L	V	5.00	----	15.68	15.11	Complies
6	H	V	5.00	----	15.47	15.36	Complies
7	5R	V	5.00	----	15.60	14.78	Complies
8	10R	V	5.00	----	13.90	13.37	Complies
9	10R	5D	5.00	----	14.72	17.48	Complies
10	H	5D	5.00	----	14.01	15.25	Complies
11	10L	5D	5.00	----	14.55	18.27	Complies

Technical Report No.:
 Manufacturer:
 Type:

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2.3. Intensity of light emitted - Mounting position 2

2.3.1. Rear position lamp

2.3.1.1 Sample No. 1, normal mode, 25 LEDs lit together, test voltage 11.999V.

No.	Point of the measurement		Limits [cd]		Measured values [cd]		Conclusion
			Min.	Max.	30 Minutes	1 Minute	
1	5L	10U	0.80	17.00	2.86	3.40	Complies
2	5R	10U	0.80	17.00	3.27	3.89	Complies
3	20R	5U	0.40	17.00	2.86	3.40	Complies
4	10R	5U	0.80	17.00	3.66	4.35	Complies
5	H	5U	2.80	17.00	4.16	4.95	Complies
6	10L	5U	0.80	17.00	3.19	3.79	Complies
7	20L	5U	0.40	17.00	2.51	2.98	Complies
8	10L	V	1.40	17.00	3.20	3.80	Complies
9	5L	V	3.60	17.00	4.77	5.67	Complies
10	H	V	4.00	17.00	5.14	6.11	Complies
11	5R	V	3.60	17.00	5.41	6.43	Complies
12	10R	V	1.40	17.00	3.38	4.02	Complies
13	20R	5D	0.40	17.00	2.90	3.45	Complies
14	10R	5D	0.80	17.00	3.36	3.99	Complies
15	H	5D	2.80	17.00	4.38	5.21	Complies
16	10L	5D	0.80	17.00	3.03	3.60	Complies
17	20L	5D	0.40	17.00	2.66	3.16	Complies
18	5L	10D	0.80	17.00	3.08	3.66	Complies
19	5R	10D	0.80	17.00	2.95	3.51	Complies
20	All directions Min.		0.05	---	0.40	0.48	Complies
21	All directions Max.		---	17.00	6.12	7.27	Complies



Technical Report No.:

Manufacturer:

Type:

2.3.1.2 Sample No. 2, normal mode, 25 LEDs lit together, test voltage 23.999V.

No.	Point of the measurement		Limits [cd]		Measured values [cd]		Conclusion
			Min.	Max.	30 Minutes	1 Minute	
1	5L	10U	0.80	17.00	2.57	3.03	Complies
2	5R	10U	0.80	17.00	2.76	3.25	Complies
3	20R	5U	0.40	17.00	1.98	2.33	Complies
4	10R	5U	0.80	17.00	2.96	3.48	Complies
5	H	5U	2.80	17.00	3.95	4.65	Complies
6	10L	5U	0.80	17.00	2.99	3.52	Complies
7	20L	5U	0.40	17.00	2.29	2.70	Complies
8	10L	V	1.40	17.00	3.25	3.83	Complies
9	5L	V	3.60	17.00	4.85	5.71	Complies
10	H	V	4.00	17.00	5.25	6.18	Complies
11	5R	V	3.60	17.00	5.32	6.26	Complies
12	10R	V	1.40	17.00	3.08	3.63	Complies
13	20R	5D	0.40	17.00	2.40	2.83	Complies
14	10R	5D	0.80	17.00	3.17	3.73	Complies
15	H	5D	2.80	17.00	4.19	4.93	Complies
16	10L	5D	0.80	17.00	3.04	3.58	Complies
17	20L	5D	0.40	17.00	2.46	2.90	Complies
18	5L	10D	0.80	17.00	2.56	3.01	Complies
19	5R	10D	0.80	17.00	2.93	3.45	Complies
20	All directions Min.		0.05	---	0.27	0.32	Complies
21	All directions Max.		---	17.00	6.01	7.07	Complies

Technical Report No.:
 Manufacturer:
 Type:

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2.3.1.3 Sample No. 1, failure mode, 23 LEDs lit together, test voltage 11.999V.

No.	Point of the measurement		Limits [cd]		Measured values [cd]		Conclusion
			Min.	Max.	30 Minutes	1 Minute	
1	5L	10U	0.80	17.00	2.22	2.62	Complies
2	5R	10U	0.80	17.00	2.72	3.21	Complies
3	20R	5U	0.40	17.00	2.44	2.88	Complies
4	10R	5U	0.80	17.00	3.11	3.67	Complies
5	H	5U	2.80	17.00	3.51	4.14	Complies
6	10L	5U	0.80	17.00	2.68	3.16	Complies
7	20L	5U	0.40	17.00	2.03	2.39	Complies
8	10L	V	1.40	17.00	2.64	3.11	Complies
9	5L	V	3.60	17.00	4.09	4.82	Complies
10	H	V	4.00	17.00	4.64	5.47	Complies
11	5R	V	3.60	17.00	4.74	5.59	Complies
12	10R	V	1.40	17.00	2.78	3.28	Complies
13	20R	5D	0.40	17.00	2.40	2.83	Complies
14	10R	5D	0.80	17.00	2.74	3.23	Complies
15	H	5D	2.80	17.00	3.89	4.59	Complies
16	10L	5D	0.80	17.00	2.50	2.95	Complies
17	20L	5D	0.40	17.00	2.11	2.49	Complies
18	5L	10D	0.80	17.00	2.52	2.97	Complies
19	5R	10D	0.80	17.00	2.46	2.90	Complies
20	All directions Min.		0.05	---	0.33	0.39	Complies
21	All directions Max.		---	17.00	5.24	6.18	Complies

Technical Report No.:
 Manufacturer:
 Type:

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2.3.1.4 Sample No. 2, failure mode, 23 LEDs lit together, test voltage 23.999V.

No.	Point of the measurement		Limits [cd]		Measured values [cd]		Conclusion
			Min.	Max.	30 Minutes	1 Minute	
1	5L	10U	0.80	17.00	2.19	2.63	Complies
2	5R	10U	0.80	17.00	2.34	2.81	Complies
3	20R	5U	0.40	17.00	1.64	1.97	Complies
4	10R	5U	0.80	17.00	2.57	3.09	Complies
5	H	5U	2.80	17.00	3.33	4.00	Complies
6	10L	5U	0.80	17.00	2.39	2.87	Complies
7	20L	5U	0.40	17.00	1.83	2.20	Complies
8	10L	V	1.40	17.00	2.56	3.08	Complies
9	5L	V	3.60	17.00	4.31	5.18	Complies
10	H	V	4.00	17.00	4.54	5.46	Complies
11	5R	V	3.60	17.00	4.67	5.62	Complies
12	10R	V	1.40	17.00	2.38	2.86	Complies
13	20R	5D	0.40	17.00	1.89	2.27	Complies
14	10R	5D	0.80	17.00	2.64	3.17	Complies
15	H	5D	2.80	17.00	3.51	4.22	Complies
16	10L	5D	0.80	17.00	2.44	2.93	Complies
17	20L	5D	0.40	17.00	1.95	2.35	Complies
18	5L	10D	0.80	17.00	1.99	2.39	Complies
19	5R	10D	0.80	17.00	2.48	2.98	Complies
20	All directions Min.		0.05	---	0.22	0.26	Complies
21	All directions Max.		---	17.00	5.16	6.21	Complies

Technical Report No.:
 Manufacturer:
 Type:

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2.3.2. Stop lamp

2.3.2.1 Sample No. 1, normal mode, 25 LEDs lit together, test voltage 11.999V.

No.	Point of the measurement		Limits [cd]		Measured values [cd]		Conclusion
			Min.	Max.	30 Minutes	1 Minute	
1	5L	10U	12.00	260.00	41.54	43.99	Complies
2	5R	10U	12.00	260.00	37.52	39.73	Complies
3	20R	5U	6.00	260.00	39.80	42.14	Complies
4	10R	5U	12.00	260.00	45.23	47.89	Complies
5	H	5U	42.00	260.00	54.44	57.65	Complies
6	10L	5U	12.00	260.00	47.60	50.40	Complies
7	20L	5U	6.00	260.00	40.16	42.52	Complies
8	10L	V	21.00	260.00	39.76	42.10	Complies
9	5L	V	54.00	260.00	66.29	70.19	Complies
10	H	V	60.00	260.00	74.22	78.59	Complies
11	5R	V	54.00	260.00	71.07	75.25	Complies
12	10R	V	21.00	260.00	39.71	42.05	Complies
13	20R	5D	6.00	260.00	38.23	40.48	Complies
14	10R	5D	12.00	260.00	46.57	49.31	Complies
15	H	5D	42.00	260.00	55.80	59.09	Complies
16	10L	5D	12.00	260.00	46.23	48.95	Complies
17	20L	5D	6.00	260.00	41.82	44.28	Complies
18	5L	10D	12.00	260.00	42.31	44.80	Complies
19	5R	10D	12.00	260.00	43.25	45.80	Complies
20	All directions Min.		0.30	---	2.95	3.12	Complies
21	All directions Max.		---	260.00	77.52	82.08	Complies



Technical Report No.:

Manufacturer:

Type:

2.3.2.2 Sample No. 2, normal mode, 25 LEDs lit together, test voltage 23.999V.

No.	Point of the measurement		Limits [cd]		Measured values [cd]		Conclusion
			Min.	Max.	30 Minutes	1 Minute	
1	5L	10U	12.00	260.00	38.85	40.92	Complies
2	5R	10U	12.00	260.00	43.05	45.35	Complies
3	20R	5U	6.00	260.00	44.67	47.05	Complies
4	10R	5U	12.00	260.00	46.42	48.90	Complies
5	H	5U	42.00	260.00	55.52	58.48	Complies
6	10L	5U	12.00	260.00	43.63	45.96	Complies
7	20L	5U	6.00	260.00	42.10	44.35	Complies
8	10L	V	21.00	260.00	41.99	44.23	Complies
9	5L	V	54.00	260.00	66.81	70.37	Complies
10	H	V	60.00	260.00	72.55	76.42	Complies
11	5R	V	54.00	260.00	67.43	71.03	Complies
12	10R	V	21.00	260.00	40.04	42.18	Complies
13	20R	5D	6.00	260.00	43.30	45.61	Complies
14	10R	5D	12.00	260.00	48.48	51.07	Complies
15	H	5D	42.00	260.00	57.85	60.94	Complies
16	10L	5D	12.00	260.00	43.30	45.61	Complies
17	20L	5D	6.00	260.00	43.98	46.33	Complies
18	5L	10D	12.00	260.00	44.46	46.83	Complies
19	5R	10D	12.00	260.00	41.45	43.66	Complies
20	All directions Min.		0.30	---	3.52	3.71	Complies
21	All directions Max.		---	260.00	75.31	79.33	Complies

Technical Report No.:
 Manufacturer:
 Type:

2.3.2.3. Sample No. 1, failure mode, 23 LEDs lit together, test voltage 11.999V.

No.	Point of the measurement		Limits [cd]		Measured values [cd]		Conclusion
			Min.	Max.	30 Minutes	1 Minute	
1	5L	10U	12.00	260.00	35.42	37.18	Complies
2	5R	10U	12.00	260.00	33.08	34.72	Complies
3	20R	5U	6.00	260.00	34.23	35.93	Complies
4	10R	5U	12.00	260.00	40.06	42.05	Complies
5	H	5U	42.00	260.00	48.08	50.47	Complies
6	10L	5U	12.00	260.00	42.38	44.49	Complies
7	20L	5U	6.00	260.00	35.86	37.64	Complies
8	10L	V	21.00	260.00	34.06	35.75	Complies
9	5L	V	54.00	260.00	60.05	63.03	Complies
10	H	V	60.00	260.00	67.01	70.34	Complies
11	5R	V	54.00	260.00	65.32	68.57	Complies
12	10R	V	21.00	260.00	34.89	36.62	Complies
13	20R	5D	6.00	260.00	33.93	35.62	Complies
14	10R	5D	12.00	260.00	41.02	43.06	Complies
15	H	5D	42.00	260.00	49.36	51.81	Complies
16	10L	5D	12.00	260.00	40.51	42.52	Complies
17	20L	5D	6.00	260.00	35.69	37.46	Complies
18	5L	10D	12.00	260.00	36.81	38.64	Complies
19	5R	10D	12.00	260.00	38.81	40.74	Complies
20	All directions Min.		0.30	---	2.48	2.60	Complies
21	All directions Max.		---	260.00	69.11	72.54	Complies



Technical Report No.:
 Manufacturer:
 Type:

2.3.2.4. Sample No. 2, failure mode, 23 LEDs lit together, test voltage 23.999V.

No.	Point of the measurement		Limits [cd]		Measured values [cd]		Conclusion
			Min.	Max.	30 Minutes	1 Minute	
1	5L	10U	12.00	260.00	33.94	35.33	Complies
2	5R	10U	12.00	260.00	37.63	39.17	Complies
3	20R	5U	6.00	260.00	37.47	39.00	Complies
4	10R	5U	12.00	260.00	40.86	42.53	Complies
5	H	5U	42.00	260.00	49.17	51.18	Complies
6	10L	5U	12.00	260.00	37.81	39.35	Complies
7	20L	5U	6.00	260.00	37.86	39.41	Complies
8	10L	V	21.00	260.00	35.16	36.60	Complies
9	5L	V	54.00	260.00	59.79	62.23	Complies
10	H	V	60.00	260.00	66.34	69.05	Complies
11	5R	V	54.00	260.00	60.79	63.27	Complies
12	10R	V	21.00	260.00	34.05	35.44	Complies
13	20R	5D	6.00	260.00	37.41	38.94	Complies
14	10R	5D	12.00	260.00	42.50	44.24	Complies
15	H	5D	42.00	260.00	51.37	53.47	Complies
16	10L	5D	12.00	260.00	38.20	39.76	Complies
17	20L	5D	6.00	260.00	38.86	40.45	Complies
18	5L	10D	12.00	260.00	38.15	39.71	Complies
19	5R	10D	12.00	260.00	36.33	37.81	Complies
20	All directions Min.		0.30	---	3.11	3.24	Complies
21	All directions Max.		---	260.00	67.82	70.59	Complies

Technical Report No.:
 Manufacturer:
 Type:

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2.3.3. Sample No. 1 and No. 2, the ratio between the luminous intensities actually measured of the two lamps when turned on simultaneously at the intensity of the rear position lamp when turned on alone.

No.	Point of the measurement		Limits [cd]		Measured values [cd]		Conclusion
			Min.	Max.	Sample No. 1	Sample No. 2	
1	10R	5U	5.00	---	13.04	16.26	Complies
2	H	5U	5.00	---	13.84	14.74	Complies
3	10L	5U	5.00	---	15.42	15.19	Complies
4	10L	V	5.00	---	13.02	13.52	Complies
5	5L	V	5.00	---	14.59	14.51	Complies
6	H	V	5.00	---	15.11	14.59	Complies
7	5R	V	5.00	---	13.91	13.44	Complies
8	10R	V	5.00	---	12.34	13.56	Complies
9	10R	5D	5.00	---	14.42	15.91	Complies
10	H	5D	5.00	---	13.45	14.47	Complies
11	10L	5D	5.00	---	15.71	14.65	Complies

2.4. Colour – Red

2.4.1. Rear position lamp

Sample	Measured values		Limits		Conclusion
	x	y	$y \leq 0.335$	$y \geq 0.980 - x$	
No. 1	0.6978	0.3000	Yes	Yes	Complies
No. 2	0.6972	0.3003	Yes	Yes	Complies

2.4.2. Stop lamp

Sample	Measured values		Limits		Conclusion
	x	y	$y \leq 0.335$	$y \geq 0.980 - x$	
No. 1	0.6969	0.3006	Yes	Yes	Complies
No. 2	0.6966	0.3002	Yes	Yes	Complies



Technical Report No.:

Manufacturer:

Type:

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2.5. Apparent surface

2.5.1. Rear position lamp

Limit (I)	Limit (O)	Limit (U)	Limit (D)
35mm	35mm	35mm	35mm

2.5.2. Stop lamp

Limit (I)	Limit (O)	Limit (U)	Limit (D)
35mm	35mm	35mm	35mm

3. Specimen submitted to test on : 2017-12-25 (YYYY-MM-DD)

4. Place of test : Jiangsu Huachen Vehicle Inspection Co.,
Ltd., Zhenjiang City, P.R. China

Date of test : 2018-01-04 (YYYY-MM-DD)

III. Enclosures

Manufacturer's information :
document No.

Dated on : 2017-12-25 (YYYY-MM-DD)

Technical Report No.:
 Manufacturer:
 Type:

IV. Statement of conformity

The information folder as mentioned under No. III and the type described therein are in compliance with the test specification mentioned above. The worst-case was selected in accordance with document "Preparation of Test Reports".

The test report may be reproduced and published in full and by the client only. It can be reproduced partially with the written permission of the test laboratory only.

München, 2018-02-06
 (YYYY-MM-DD)



Joe Zhou

Test Laboratory / DIN EN ISO 17025

Genehmigungsbehörde/ Approval authority	Land/Country	Registriernummer/ Registration-number	Aktueller Benennungsumfang/ Actual scope list
Kraftfahrt-Bundesamt (KBA)	Deutschland/ Germany	KBA-P 00100-10	www.kba.de
Vehicle Certification Agency (VCA)	Vereintes Königreich/ United Kingdom	VCA-TS-006	http://ec.europa.eu/enterprise/sectors/automotive/approval-authorities-technical-services/technical-services/index_en.htm
Approval Authority of the Netherlands (RDW)	Niederlande/ The Netherlands	RDWT-082-XX	
National Standards Au- thority of Ireland (NSAI)	Irland/ Ireland	Technical Service Number: 49	
Vehicle Safety Certifica- tion Center (VSCC)	Taiwan/ Taiwan	DE04-06-2	http://www.vsc.org.tw/English/Default.aspx

Information folder No. :

First application date : December 25, 2017

1. Specification data

Type		Rear group lamp	
Function		Stop lamp	Rear position lamp
Color		Red	Red
Rated	Voltage	12V/24V*	12V/24V*
	Wattage	2.5W	0.36W
Application Regulation ECE		R7.02 Cat. S1	R7.02 Cat. R1
Location of marking	Number and category of light source	25*LED Non-replaceable light source Marked on LED PCB	
	Trade mark		
		Marked on lens	
	Approval mark	Marked on lens	
Remark		The lamp is only for use on a vehicle fitted with a tell-tale indicating failure: No *: Application of an electronic light source control gear: Being part of the lamp Input voltage: 12V/24V	

2. Construction and material

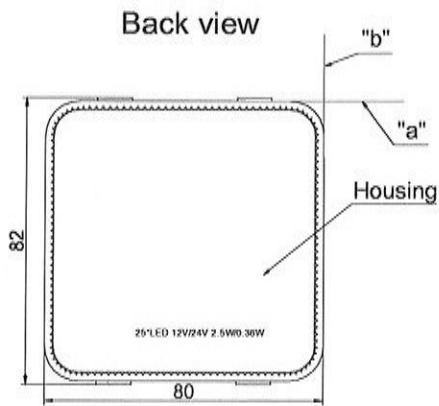
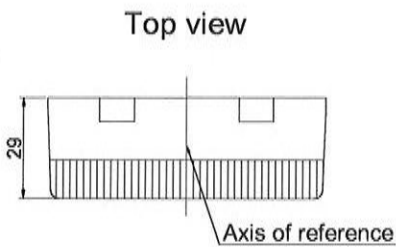
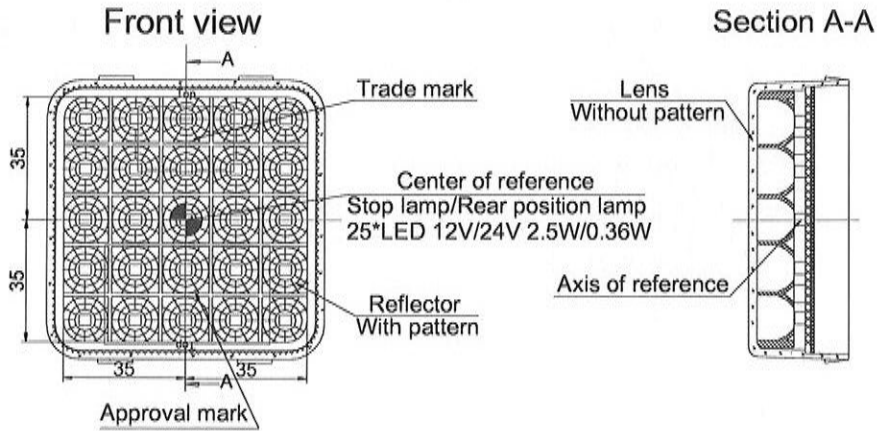
Construction	Material	Remarks
Lens	PMMA	Colour: Red
Reflector	ABS	AL vacuum vapour coating Painting on the inside surface Colour: Metal silver
Housing	Epoxy resin	To ensure air-tightness of the lamp
Electrical Wiring	Copper covered with insulation	--

3. Name and address of manufacturer :

4. Name and address of the assembly plant :

5. Name and address of the manufacturer's representative : N/A

Mounting Position 1

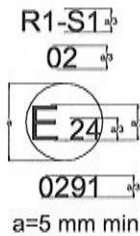


NOTE:
 1. "a": Horizontal Plane of Vehicle
 2. "b": Longitudinal Plane of Vehicle

Trade mark



Approval mark

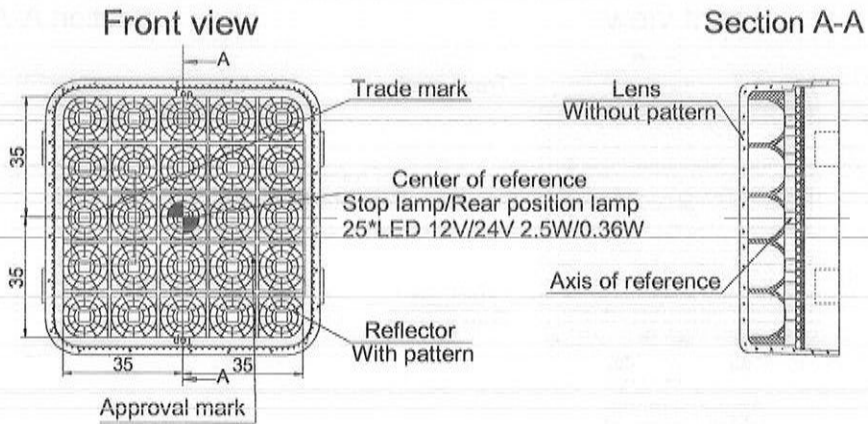


Product Type	
General assembly drawing	
Drawing No.	

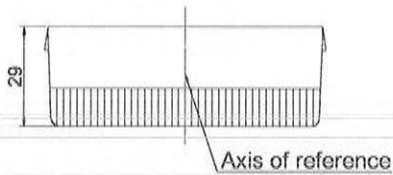
Information folder No. :

First application date : December 25, 2017

Mounting Position 2



Top view



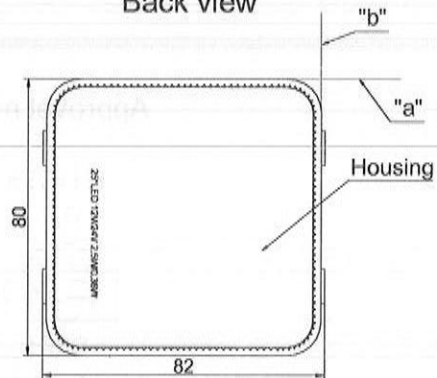
NOTE:

1. "a": Horizontal Plane of Vehicle
2. "b": Longitudinal Plane of Vehicle

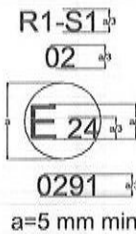
Trade mark



Back view



Approval mark

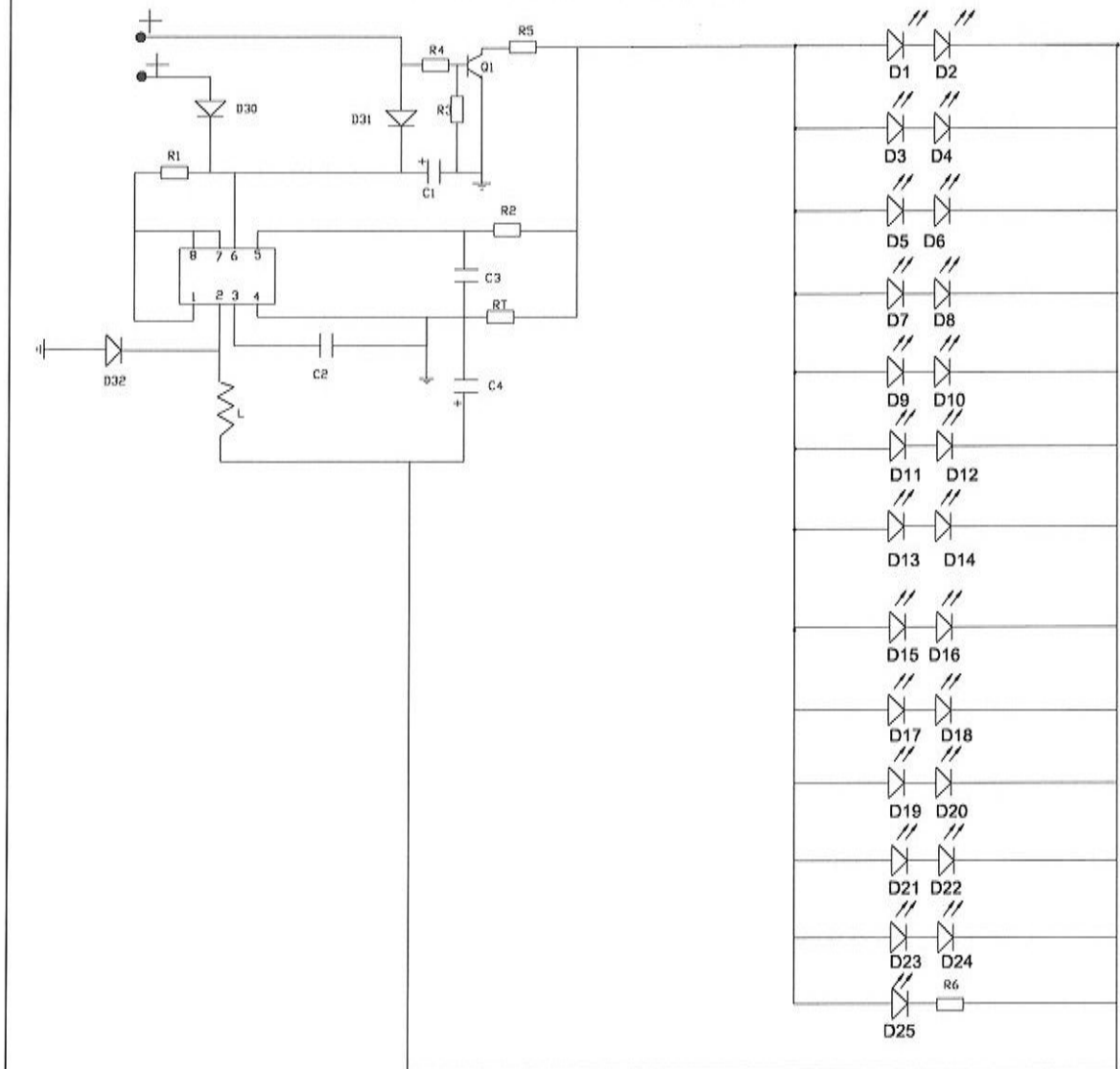


Product Type	
General assembly drawing	
Drawing No.	

Information folder No. :

First application date : December 25, 2017

Stop lamp/Rear position lamp
25*LED 12V/24V 2.5W/0.36W



Product Type	
LED circuit Diagram	
Drawing No.	

