

Shenzhen BCTC Testing Co.,Ltd.
BCTC Building & 1-2F,East of B Building,Pengzhou Industrial,Fuyuan 1st Road,
Qiaotou Community,Fuyong Street,Bao'an District,Shenzhen,China



Certificate of Compliance

Certificate Number: BCTC-FYC19010143C

Applicant :

Manufacturer :

Product : LED AUTO LIGHT

Testing M/N :

Additional M/N : M FQ424
M FT424
M FQ954
M FT954

The EUT described above has been consolidated by us and found in compliance with the council RoHS directive—2011/65/EU. It is possible to use CE marking to demonstrate the compliance with this RoHS Directive. This certificate is only valid for the test results in this report number: BCTC-FYC19010143R.



This certificate of conformity is based on a single evaluation of the submitted sample(s) of the above mentioned product. It does not imply an assessment of the whole product and relevant. Directives have to be observed.

Tel: 400-788-9558 0755-33207888
Http://www.bctc-lab.com



Shenzhen BCTC Testing Co.,Ltd.
BCTC Building & 1-2F,East of B Building,Pengzhou Industrial,Fuyuan 1st Road,
Qiaotou Community,Fuyong Street,Bao'an District,Shenzhen,China



Certificate of Compliance

Certificate Number: BCTC-FY190100137C

Applicant :

Manufacturer :

Product : LED AUTO LIGHT

M/N :
M FQ954
M FT954
M FQ424
M FT424

Test Standard : EN60529:1991+A1:2000+A2:2013

The EUT described above has been tested by us with the listed standards and found in compliance with the council LVD directive 2014/35/EU. It is possible to use IP marking to demonstrate the compliance with this LVD Directive. It is only valid in connection with the test report number: BCTC-FY190100137S.

IP67



This certificate of conformity is based on a single evaluation of the submitted sample(s) of the above mentioned product. It does not imply an assessment of the whole product and relevant. Directives have to be observed.

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Certificate of Compliance

Certificate Number: BCTC-FY190100136C

Applicant :

Manufacturer :

Product : LED AUTO LIGHT

M/N :
M FT954
M FQ954
M FT424
M FQ424

Test Standard : EN 55015:2013+A1:2015, EN 61547: 2009

The EUT described above has been tested according to the listed standards and found in compliance with the council EMC directive 2014/30/EU. The observations and test results referenced from this Certificate are relevant only to the sample tested. This Certificate is for the exclusive use of BCTC's Client and is provided pursuant to the agreement between BCTC and its Client. This Certificate is part of the full test report(s) and should be read in conjunction with report No. : BCTC-FY190100136E.



This certificate of conformity is based on a single evaluation of the submitted sample(s) of the above mentioned product. It does not imply an assessment of the whole product and relevant. Directives have to be observed.

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[Http://www.bctc-lab.com](http://www.bctc-lab.com)



Test Report No. : ISOQA-19-0505-R23

Approval No. : 23R-00 0411

Type : 7824

Manufacturer :



ISOQA Technical Service Co., Ltd

Web: www.isoqa.org

E-mail: isoqa@isoqa.org

0. General

0.1. Make (trade name of manufacturer) :

0.2. Type : 7824

0.3. Version / Variant : --

0.4. Manufacturer's name and address :

0.5. Test laboratory : ISOQA Technical Service Co., Ltd
60, Yong Long Road,
41257 Da-Li, Taichung
Taiwan

ECE TYPE-APPROVAL CERTIFICATE



Communication concerning:²

- Approval granted
- ~~Approval extended~~
- ~~Approval refused~~
- ~~Approval withdrawn~~
- ~~Production definitely discontinued~~

of a type of reversing lamp/~~manoeuvring lamp~~ pursuant to Regulation No. 23

Approval No: *E24*23R00/22*0411*00*

Reason(s) for extension:

N/A

1. Trade name or mark of the device:

2. Manufacturer's name for the type of device:

7824

Version(s):

N/A

3. Manufacturer's name and address:

4. If applicable, name and address of manufacturer's representative:

N/A

5. Submitted for approval on:

20.09.2019

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:

20.09.2019

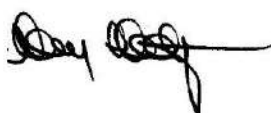

Approval No: E24*23R00/22*0411*00

8.	Number of report issued by that service:	<i>ISOQA-19-0505-R23</i>
9.	Concise description:	<i>Reversing Lamp AR</i>
	Number, category and kind of light source(s):	<i>4, -, LEDs</i>
	Voltage and wattage:	<i>12/24V – 20W</i>
	Application of an electronic light source control gear:	
	(a) being part of the lamp: yes ²	<i>Yes</i>
	(b) being not part of the lamp: yes ²	<i>No</i>
	Input voltage(s) supplied by an electronic light source control gear:	<i>N/A</i>
	Electronic light source control gear manufacturer and identification number (when the light source control gear is part of the lamp but is not included into the lamp body):	<i>N/A</i>
	Light source module: yes ²	<i>No</i>
	Light source module specific identification code:	<i>N/A</i>
	Geometrical conditions of installation and relating variations (if any):	<i>Reference axis parallel to the median longitudinal plane of the vehicle and parallel to the bearing plane of the vehicle on the road (see drawings of information document).</i>
	For a type of manoeuvring lamp pursuant to Regulation No. 23 paragraph 6.2.2. Maximum mounting height:	<i>N/A</i>
	The lamp is only for use on a vehicle fitted with a tell-tale indicating failure: yes ²	<i>No</i>

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*23R00/22*0411*00

10. Position of the approval mark: *See drawings of the information folder*
11. Comments:
In the case of a reversing lamp, this device shall be installed on a vehicle only as part of a pair of devices: **yes/no²** *No*
12. Reason(s) for extension (if applicable): *N/A*
13. Approval granted/~~extended~~/~~refused~~/~~withdrawn²~~ *Granted*
14. Place: *Dublin*
15. Date: *24th September, 2019*
16. Signature:  
17. 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>24th September, 2019</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):	<i>ISOQA-19-0505-R23</i>
- date of issue:	<i>20.09.2019</i>
- date of latest amendment:	<i>N/A</i>
3. Information document	
- number(s):	<i>INFORMATION</i>
- date of issue:	<i>06.09.2019</i>
- date of latest amendment:	<i>N/A</i>
Documentation:	<i>13 pages</i>

Approval No: E24*23R00/22*0411*00

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

A: Additional conditions:

1. The device, Type 7824 shall be marked as prescribed by the regulation.
2. Fitting instructions shall be supplied with each device, giving details of any limitations in the use of the device.
3. The device should be fitted in accordance with the fitting instructions.
4. The attached technical report, with any of its attachments, forms part of this Type Approval certificate.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. The duties imposed by the issuing of this certificate are not transferable. The legal protection of third parties is not affected by this certificate.
11. 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-19-0505-R23

Approval No. : 23R-00 0411

Type : 7824

Manufacturer :



ISOQA Technical Service Co., Ltd

Web: www.isoqa.org

E-mail: isoqa@isoqa.org

TEST REPORT

Concerning the Adoption of Harmonized Technical United Nations Regulations 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 United Nations Regulations

Uniform provisions concerning the approval of reversing lamps and manoeuvring lamps for power-driven vehicles and their trailers

Tested according ECE-R23, supplement 22 to original version of amendments of 10 February 2018

Kind of device: Reversing Lamp, Category AR

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

INFORMATION

for Initial Application

Date: 2019/9/6

Manufacturer's Name and Address		
Trade name or mark		
Type Name	7824	
Material of Lens(es)	PC	
Rate Voltage	12/ 24 V	
Rate Wattage	see below	
Reversing Lamp (R23.00)	Category	AR
	Light Source	4 x LED, 12/ 24 V, 20W
	Light Source Control Gear	part of the lamp and include into the lamp body
	Color of light emitted	White
	Color of lens	Clear

Test Report No. : ISOQA-19-0505-R23

Approval No. : 23R-00 0411

Type : 7824

Manufacturer :



ISOQA Technical Service Co., Ltd

Web: www.isoqa.orgE-mail: isoqa@isoqa.org**1. Test object (s)****1.1. Information :**

Material of Lens	PC	
Material of Housing	ADC12	
Material of Reflector	-	
Rated Voltage	12/ 24 V	
Reversing Lamp	Category	AR
	Light Source	4 x LED, 12/ 24 V, 20W
	Light Source Control Gear	Type : part of the lamp and include into the lamp body
	Color of light emitted	White
	Color of lens	Clear
	Visibility	The visibility angles are symmetrical, the horizontal arrow is not required.
	Grouped with	--
	Combined with	--
	Incorporated with	--

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.

Test Report No. : ISOQA-19-0505-R23

Approval No. : 23R-00 0411

Type : 7824

Manufacturer :



ISOQA Technical Service Co., Ltd

Web: www.isoqa.orgE-mail: isoqa@isoqa.org**2. Test Specification**

2.1. Place of test : Laboratory of ISOQA in Taiwan

2.2. Date of test : 2019/9/6

2.3. Date of receipt of test device(s) : 2019/9/6

2.4. Test results :

2.4.1. Markings (according to paragraph 3 of R23-00)

a. trade name or mark	Complies	see Appendix 2
b. categories of light source(s) / light source module specific identification code	Not Applicable	Non-Replaceable Light Source
c. space reserved for the approval mark	Complies	see Appendix 2
d. rated voltage or range of voltage	Complies	see Appendix 2
e. marking on replaceable light source module	Not Applicable	

2.4.2. General Specifications (according to paragraph 5 of R23-00)

a. conformity of specifications	Complies
b. design and construction for satisfactory operation	Complies
c. light sources module	Not Applicable
d. replaceable light source(s)	Not Applicable
e. non-replaceable filament lamp(s)	Not Applicable

Test Report No. : ISOQA-19-0505-R23

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Type : 7824

Manufacturer :



ISOQA Technical Service Co., Ltd

Web: www.isoqa.org

E-mail: isoqa@isoqa.org

2.4.3. Intensity of light emitted (according to paragraph 6 of R23-00)

a. Light distribution	Complies	see 3.1
b. Visibility	Complies	see 3.1
c. failure of more than one light source	Not Applicable	see 2.5.1

2.4.4. colour of light emitted (according to paragraph 8 of ECE R23-00) Complies see 3.2

2.5. Remark (s)

2.5.1 According to manufacturer's technical description, one light source consists of 1 LED, if one LED fail at most this LED fails. The n-1 rule was checked compliance by calculation. Detailed results are presented in 3.1.

Test Report No. : ISOQA-19-0505-R23

Approval No. : 23R-00 0411

Type : 7824

Manufacturer :



ISOQA Technical Service Co., Ltd

Web: www.isoqa.orgE-mail: isoqa@isoqa.org**3. Performance test(s)****3.1. Photometric measurements test record****3.1.1 12 V system**

Function : Reversing Lamp

Category : AR

Test Voltage : 13.5 V

Light Source : 4 x LED

Test Distance : 3.182 m

Current : 1.418 A / 1.472 A

Test Point	Minimum (cd)	Maximum (cd)	Sample 1				Sample 2			
			1 min	10 min	Stable	n-1 ⁽¹⁾	1 min	10 min	Stable	n-1 ⁽¹⁾
5U - 45L	15	300	66.375	49.944	44.740	34.053	68.439	58.354	46.650	39.787
H - 45L	15	300	96.610	72.695	65.120	49.565	99.042	84.447	67.510	57.577
5D - 45L	15	600	139.307	104.823	93.900	71.470	142.159	121.210	96.900	82.643
H - 30L	25	300	186.781	140.546	125.900	95.827	190.719	162.614	130.000	110.873
5D - 30L	25	600	270.751	203.730	182.500	138.907	276.396	235.666	188.400	160.681
10U - 10L	10	300	107.381	80.800	72.380	55.091	110.192	93.954	75.110	64.059
5U - 10L	20	300	180.402	135.745	121.600	92.554	185.438	158.111	126.400	107.803
H - 10L	50	300	280.246	210.874	188.900	143.778	288.426	245.923	196.600	167.675
5D - 10L	50	600	415.844	312.907	280.300	213.345	425.303	362.630	289.900	247.248
10U - V	15	300	110.734	83.323	74.640	56.811	113.698	96.943	77.500	66.098
5U - V	25	300	186.039	139.987	125.400	95.446	192.039	163.740	130.900	111.641
H - V	80	300	284.400	214.000	191.700	145.909	291.800	248.800	198.900	169.636
5D - V	80	600	427.564	321.726	288.200	219.358	438.800	374.138	299.100	255.094
10U - 10R	10	300	102.500	77.127	69.090	52.587	105.996	90.376	72.250	61.620
5U - 10R	20	300	171.204	128.824	115.400	87.835	176.635	150.606	120.400	102.686
H - 10R	50	300	271.196	204.065	182.800	139.135	278.890	237.792	190.100	162.131
5D - 10R	50	600	397.300	298.953	267.800	203.831	410.192	349.746	279.600	238.463
H - 30R	25	300	162.302	122.126	109.400	83.268	169.153	144.226	115.300	98.336
5D - 30R	25	600	230.695	173.589	155.500	118.356	242.506	206.770	165.300	140.980
5U - 45R	15	300	53.512	40.266	36.070	27.454	57.054	48.647	38.890	33.168
H - 45R	15	300	79.727	59.991	53.740	40.903	84.224	71.813	57.410	48.963
5D - 45R	15	600	111.638	84.004	75.250	57.275	117.938	100.558	80.390	68.562
above H-H	-	300	284.829	214.323	191.989	146.129	294.904	251.447	201.016	171.441
H-H to 5° D	-	600	432.337	325.317	291.417	221.807	444.704	379.172	303.124	258.526
below 5° D	-	8000	615.368	463.040	414.789	315.709	628.211	535.637	428.208	365.207
Result			PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

(1) The Reversing Lamp was equipped with 4 LEDs, according to manufacturer's technical description, one light source consists of 1 LED, if one LED fails, at most this LED fails.

Test Report No. : ISOQA-19-0505-R23

Approval No. : 23R-00 0411
 Type : 7824
 Manufacturer :



ISOQA Technical Service Co., Ltd
 Web: www.isoqa.org
 E-mail: isoqa@isoqa.org

3.1.2 24 V system

Function : Reversing Lamp Category : AR
 Test Voltage : 28 V Light Source : 4 x LED
 Test Distance : 3.182 m Current : 0.698 A / 0.702 A

Test Point	Minimum (cd)	Maximum (cd)	Sample 1				Sample 2			
			1 min	10 min	Stable	n-1 ⁽¹⁾	1 min	10 min	Stable	n-1 ⁽¹⁾
5U - 45L	15	300	65.281	48.585	44.000	33.126	67.272	56.144	46.110	38.280
H - 45L	15	300	94.851	70.591	63.930	48.131	97.108	81.044	66.560	55.257
5D - 45L	15	600	133.975	99.709	90.300	67.984	136.266	113.724	93.400	77.539
H - 30L	25	300	182.937	136.148	123.300	92.828	186.454	155.610	127.800	106.098
5D - 30L	25	600	260.829	194.118	175.800	132.353	265.529	221.604	182.000	151.094
10U - 10L	10	300	107.833	80.253	72.680	54.718	110.968	92.611	76.060	63.144
5U - 10L	20	300	178.040	132.504	120.000	90.344	182.807	152.566	125.300	104.022
H - 10L	50	300	273.886	203.835	184.600	138.979	281.578	234.998	193.000	160.226
5D - 10L	50	600	401.036	298.465	270.300	203.499	409.382	341.660	280.600	232.950
10U - V	15	300	110.860	82.506	74.720	56.254	114.061	95.192	78.180	64.904
5U - V	25	300	184.123	137.031	124.100	93.430	189.955	158.532	130.200	108.090
H - V	80	300	286.200	213.000	192.900	145.227	295.000	246.200	202.200	167.864
5D - V	80	600	413.054	307.409	278.400	209.597	422.804	352.862	289.800	240.588
10U - 10R	10	300	102.269	76.112	68.930	51.895	105.920	88.398	72.600	60.272
5U - 10R	20	300	169.732	126.320	114.400	86.128	175.220	146.235	120.100	99.705
H - 10R	50	300	264.538	196.879	178.300	134.235	271.511	226.597	186.100	154.498
5D - 10R	50	600	384.122	285.877	258.900	194.916	395.814	330.337	271.300	225.229
H - 30R	25	300	157.863	117.487	106.400	80.105	164.278	137.102	112.600	93.479
5D - 30R	25	600	223.292	166.182	150.500	113.306	234.308	195.548	160.600	133.328
5U - 45R	15	300	53.175	39.574	35.840	26.983	56.724	47.341	38.880	32.278
H - 45R	15	300	77.359	57.573	52.140	39.254	81.570	68.076	55.910	46.416
5D - 45R	15	600	108.160	80.496	72.900	54.884	114.075	95.205	78.190	64.912
above H-H	-	300	286.201	213.001	192.901	145.228	294.838	246.065	202.089	167.771
H-H to 5° D	-	600	412.592	307.066	278.089	209.363	422.636	352.722	289.685	240.492
below 5° D	-	8000	586.072	436.175	395.015	297.392	594.998	496.572	407.826	338.571
Result			PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

(1) The Reversing Lamp was equipped with 4 LEDs, according to manufacturer's technical description, one light source consists of 1 LED, if one LED fails, at most this LED fails.

Test Report No. : ISOQA-19-0505-R23

Approval No. : 23R-00 0411
 Type : 7824
 Manufacturer :



ISOQA Technical Service Co., Ltd
 Web: www.isoqa.org
 E-mail: isoqa@isoqa.org

3.2. Color of light emitted test record

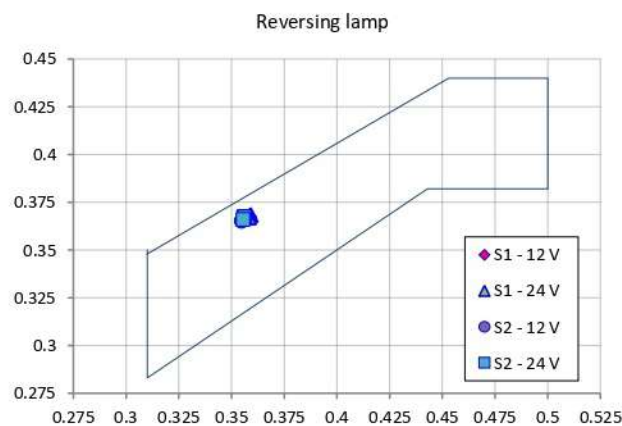
Function : Reversing Lamp Category : AR
 Test Voltage : 13.5 V / 28 V Light Source : 4 x LED
 Test Distance : 3.182 m Current : same as photometric test

-12 V system

Color of light emitted	Test Point	Sample 1		Sample 2		Result
		x	y	x	y	
White	H - V	0.3582	0.3670	0.3553	0.3658	Pass
	H - 10L	0.3587	0.3674	0.3556	0.3660	Pass
	H - 10R	0.3576	0.3663	0.3551	0.3657	Pass
	5U - V	0.3577	0.3665	0.3550	0.3657	Pass
	5D - V	0.3583	0.3671	0.3548	0.3650	Pass

-24 V system

Color of light emitted	Test Point	Sample 1		Sample 2		Result
		x	y	x	y	
White	H - V	0.3588	0.3678	0.3562	0.3672	Pass
	H - 10L	0.3593	0.3683	0.3565	0.3674	Pass
	H - 10R	0.3581	0.367	0.3559	0.3671	Pass
	5U - V	0.3587	0.3681	0.3561	0.3674	Pass
	5D - V	0.3584	0.3670	0.3555	0.3660	Pass



Test Report No. : ISOQA-19-0505-R23

Approval No. : 23R-00 0411

Type : 7824

Manufacturer :



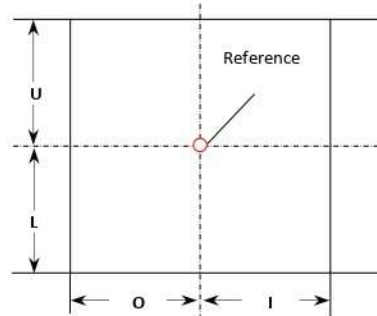
ISOQA Technical Service Co., Ltd

Web: www.isoqa.org

E-mail: isoqa@isoqa.org

3.3. Determination of the limits of the apparent surface according to paragraph 2.9.2 of ECE-R48

Boundary	Reversing Lamp
Upper (U)	34.00 mm
Lower (L)	34.00 mm
Outside (O)	34.00 mm
Inside (I)	34.00 mm



Test Report No. : ISOQA-19-0505-R23

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Manufacturer :



ISOQA Technical Service Co., Ltd

Web: www.isoqa.orgE-mail: isoqa@isoqa.org**4. Communication**

Concerning : APPROVAL GRANTED

of a type of device pursuant to Regulation No. 23

Approval No. 23R-00 0411 Extension No. 00

4.1. Concise description

4.1.1	Number, category and kind of light source(s)	:	4 non replaceable light sources (4 LEDs connected as 4 light sources)
	Voltage and wattage	:	12/ 24 V 20W
	Application of an electronic light source control gear	:	YES
	(a) being part of the lamp	:	YES
	(b) being not part of the lamp	:	NO
	Input voltage(s) supplied by an electronic light source control gear	:	12 V / 24 V
	Electronic light source control gear 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
	Light source module	:	NO
	Light source module specific identification code	:	N/A
	Geometrical conditions of installation and relating variations, if any	:	Reference axis parallel to the median longitudinal plane of the vehicle and parallel to the bearing plane of the vehicle on the road (see drawing).
	For a type of manoeuvring lamp pursuant to Regulation No. 23 paragraph 6.2.2. Maximum mounting height	:	N/A
	The lamp is only for use on a vehicle fitted with a tell-tale indicating failure	:	NO
4.2.	Position of the approval mark	:	on the lens
4.3.	In the case of a reversing lamp this device shall be installed on a vehicle only as part of a pair of devices	:	NO
4.3.	Reason(s) for extension (if applicable)	:	N/A

Test Report No. : ISOQA-19-0505-R23

Approval No. : 23R-00 0411

Type : 7824

Manufacturer :



ISOQA Technical Service Co., Ltd

Web: www.isoqa.org

E-mail: isoqa@isoqa.org

5. Appendices

- | | | | |
|---------------|----------------------|---|------------------|
| 1. Appendix 1 | Information document | 1 | page(s) in total |
| 2. Appendix 2 | Drawing | 1 | 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 : 2019/9/20

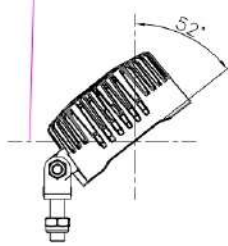
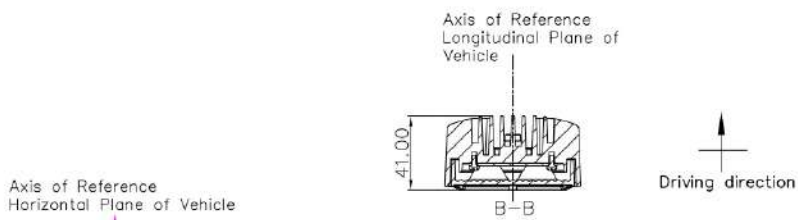
Signature

A handwritten signature in black ink that reads 'Arthur Chang'. The signature is written in a cursive, flowing style.

Laboratory Manager - Chih-Hua Chang

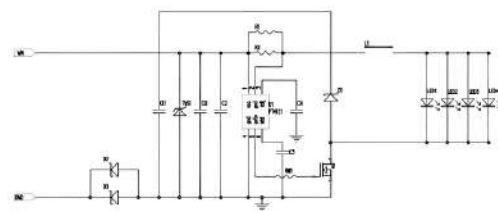
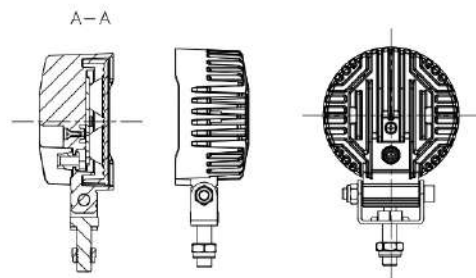
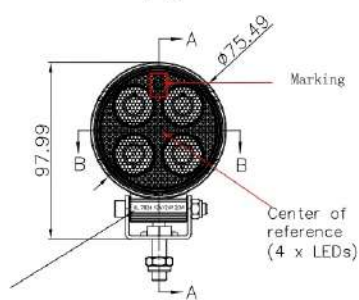
TYPE NAME	7824
FUNCTION	Reversing Lamp
DRAWING NO.	7824

UNIT: mm



Marking
00 AR
E24
0411

Trade mark:





2. ENSAYOS DE RADIACIÓN ELECTROMAGNÉTICA / ELECTROMAGNETIC RADIATION TEST

2.1 **Ensayo de radiación electromagnética de banda ancha / Broadband electromagnetic radiation test**

Método de ensayo / <i>Test method</i>	:	Indoor / Outdoor
Condiciones del lugar de ensayo / <i>Test place conditions</i>	:	Según el anexo 7 / <i>According to Annex 7</i>
Detectores de la antena receptora / <i>Receiving antenna detectors</i>	:	Cresta / Quasi-cresta <i>Peak / Quasi peak</i>
Componente en estado normal de funcionamiento / <i>Component at normal operating</i>	:	SI / YES
Ancho de banda / <i>Bandwidth</i>	:	120 kHz
Resultados de ensayo/ <i>Test Results</i>	:	Ver página 4 a 6 / <i>See page 4 to 6</i>

CORRECTO / CORRECT

2.2 **Ensayos de Banda Estrecha / Narrowband electromagnetic radiation test**

Método de ensayo / <i>Test method</i>	:	Indoor / Outdoor
Condiciones del lugar de ensayo / <i>Test place conditions</i>	:	Según el anexo 8 / <i>According to the Annex 8</i>
Detectores de la antena receptora / <i>Receiving antenna detectors</i>	:	Cresta / Media <i>Peak / Average</i>
Componente en estado normal de funcionamiento / <i>Component at normal operating</i>	:	SI / YES
Ancho de banda / <i>Bandwidth</i>	:	120 kHz
Resultados de ensayo / <i>Test Results</i>	:	Ver página 4 a 6 / <i>See page 4 to 6</i>

CORRECTO / CORRECT

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CN19010450



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E9*10R05/01*16538*00

Página / Page 1/3

Comunicación relativa a ⁽¹⁾ / *Communication concerning the* ⁽¹⁾:

- la concesión de una homologación / *approval granted*
- la extensión de una homologación / *approval extended*
- la denegación de una homologación / *approval refused*
- la retirada de una homologación / *approval withdrawn*
- el cese definitivo de una homologación / *production definitely discontinued*

de un tipo de subconjunto eléctrico / electrónico ⁽¹⁾ en aplicación del Reglamento nº 10.05 / *of a type of electrical / electronic sub-assembly* ⁽¹⁾ with regard to ECE Regulation No. 10.05

Nº de homologación / *Type-approval No.*: E9*10R05/01*16538*00

Nº de extensión / *Extension No.*: ---

1. Marca (razón social) / *Make (trade name of manufacturer)*:
2. Tipo y denominación(es) comercial (es) / *Type and general commercial description(s)*:
Tipo / *Type*:
Variantes / *Variants*: Ver documentación técnica / *See technical documentation*
Denominación comercial / *Commercial description*: LED WORK LIGHT
3. Medio de identificación del tipo, si está marcado en el vehículo, el componente o la unidad técnica independiente ⁽¹⁾ / *Means of identification of type, if marked on the vehicle/component/separate technical unit* ⁽¹⁾: Ver documentación técnica / *See technical documentation*
 - 3.1. Emplazamiento de estas marcas / *Location of that marking*: Ver documentación técnica / *See technical documentation*
4. Categoría de vehículo / *Category of vehicle*: ---
5. Nombre y dirección del fabricante / *Name and address of manufacturer*:
6. Emplazamiento y forma de colocación de la marca de homologación en componentes y unidades técnicas independientes / *In the case of components and separate technical units, location and method of affixing of the approval mark*: Ver documentación técnica / *See technical documentation*
7. Dirección(es) de la(s) planta(s) de montaje / *Address(es) of assembly plant(s)*:
8. Información complementaria (si procede) / *Additional information (where applicable)*: Véase el apéndice / *See appendix*

(1) Tachar lo que no proceda / *Strike out what does not apply*

FIRMADO



MINISTERIO
DE INDUSTRIA, COMERCIO Y
TURISMO

DIRECCIÓN GENERAL DE INDUSTRIA Y
DE LA PEQUEÑA Y MEDIANA EMPRESA

SUBDIRECCIÓN GENERAL DE
CALIDAD Y SEGURIDAD INDUSTRIAL



E9*10R05/01*16538*00

Página / Page 2/3

9. Servicio técnico encargado de la realización de los ensayos / *Technical service responsible for carrying out the tests*: IDIADA
10. Fecha del acta de ensayo / *Date of test report*: 23/01/2019
11. Número del acta de ensayo / *Number of test report*: CN19010450
12. Observaciones (si las hubiera) / *Remarks (if any)*: Véase el apéndice / *See appendix*
13. Lugar / *Place*: Madrid
14. Fecha / *Date*: Ver firma electrónica / *See digital signature*
15. Firma / *Signature*:

EL SUBDIRECTOR GENERAL DE CALIDAD Y SEGURIDAD INDUSTRIAL
Resolución P.D. del DIRECTOR GENERAL DE INDUSTRIA Y DE LA PYME de 25-10-2012
16. Se adjunta el índice del expediente de homologación en posesión de las autoridades competentes, la cual puede obtenerse a petición del interesado / *The index to the information package lodged with the approval authority, which may be obtained on request is attached*
17. Motivos de extensión / *Reasons for extension*: ----

(1) Tachar lo que no proceda / *Strike out what does not apply*

FIRMADO



E9*10R05/01*16538*00

Página / Page 3/3

**Apéndice del certificado de homologación N° E9*10R05/01*16538*00
relativo a la homologación de subconjuntos eléctricos o electrónicos en lo que se refiere al Reglamento N°10**

***Appendix to Type-approval communication form N° E9*10R05/01*16538*00
concerning the type-approval of an electrical/electronic sub-assembly under Regulation N° 10***

1. Información adicional / *Additional information (where applicable):*
 - 1.1. Tensión nominal del sistema eléctrico / *Electrical system rated voltage: Ver documentación técnica / See technical documentation*
 - 1.2. Este SEE puede utilizarse en todos los vehículos con las siguientes restricciones / *This ESA can be used on any vehicle type with the following restrictions: Sí / Yes*
 - 1.2.1. Condiciones de instalación, si las hubiera / *Installation conditions, if any: ---*
 - 1.3. Este SEE sólo puede utilizarse en los tipos de vehículo siguientes / *This ESA can only be used on the following vehicle types: ---*
 - 1.3.1. Condiciones de instalación si las hubiera / *Installation conditions, if any: ---*
 - 1.4. El método o métodos específicos de ensayo utilizados y los márgenes de frecuencias abarcados para determinar la inmunidad han sido / *The specific test method(s) used and the frequency ranges covered to determine immunity were: Ver informe de ensayo n° / See test report No. CN19010450*
 - 1.5. Servicio técnico acreditado según ISO 17025 y reconocido por el organismo homologador responsable de realizar los ensayos/ *Technical service accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests: IDIADA*
2. Observaciones/ *Remarks (if any): ---*

(1) Tachar lo que no proceda / *Strike out what does not apply*

**INFORME N° / REPORT No. CN19010450****REGLAMENTO CEPE/ONU 10R05 REFERENTE A LA COMPATIBILIDAD ELECTROMAGNÉTICA
UN/ECE REGULATION 10R05 RELATING ELECTROMAGNETIC COMPATIBILITY**

Solicitante / <i>Applicant</i>	:	
Fabricante / <i>Manufacturer</i>	:	
Marca / <i>Make</i>	:	
Tipo / <i>Type</i>	:	
Variantes / <i>Variants</i>	:	Ver documentación técnica / <i>See technical documentation</i>
Denominación comercial / <i>Commercial description</i>	:	LED WORK LIGHT
Categoría / <i>Category</i>	:	Componente / <i>Component</i>
Lugar y fecha de emisión del informe / <i>Place and date of test report issue</i>	:	L'Albornar, Santa Oliva (Tarragona), 23/01/2019

CONCLUSIONES: Este componente CUMPLE con las prescripciones sobre compatibilidad electromagnética relativo al REGLAMENTO CEPE/ONU 10R05, como se detalla en el anexo a este informe. /
CONCLUSIONS: This component FULFILLS the prescriptions about electromagnetic compatibility, in application to UN/ECE REGULATION 10R05, as detailed in the annex to this report.

Realizado / *Performed by:*Guohui(kent) Lian
AUDITOR
AUDITORVº.Bº. / *Revised by:*Lluís Sans Gomis
JEFE DE DEPARTAMENTO
DEPARTMENT MANAGER

* LOS RESULTADOS PRESENTADOS SE REFIEREN ÚNICAMENTE A LA MUESTRA ENSAYADA.
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**ANEXO AL INFORME /
ANNEX TO THE REPORT**

1. CARACTERÍSTICAS DEL COMPONENTE ENSAYADO /
TESTED COMPONENT CHARACTERISTICS

Marca / <i>Make</i>	:	
Tipo / <i>Type</i>	:	
Denominación Comercial/ <i>Commercial descriptions</i>	:	LED WORK LIGHT
Función / <i>Function</i>	:	LED WORK LIGHT
Tensión nominal / <i>Rated voltage</i>	:	12V y/and 24V
Variante ensayada / <i>Tested variant</i>	:	
Oscilador electrónico de frecuencia superior a 9kHz / <i>Electronic oscillator with frequency greater than 9 kHz</i>	:	SI / YES
Fecha de recepción de la muestra / <i>Sample received on</i>	:	18/01/2019
Modo de operación / <i>Operation mode</i>	:	MO#01 Normal operation

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Vehículos con sistemas a 24V / Vehicles with 24 V systems

Pulso/ Pulse	Nivel III de inmunidad / Immunity Level III	Ciclo de ráfaga/ Tiempo de repetición del pulso Duration	Tiempo de ensayo/ Nº de pulsos Test time/ N° of pulses	Resultado del ensayo / Test result
1	-450 V	Ri=50Ω, td=1ms, tr=3μs, t1=1s, t2=200ms, t3<100μs	5000 pulsos/ pulses	C
2a	+37 V	Ri=2Ω, td=0.05ms, tr=1μs, t1=5s	5000 pulsos/ pulses	A
2b	+20 V	Ri=0Ω, td=1s, t12=1ms, tr=1ms, t6=1ms	10 pulsos/ pulses	C
3a	-150 V	Ri=50Ω, td=0.1μs, tf=5ns, t1=100μs, t4=10ms, t5=90ms	1 h	A
3b	+150 V	Ri=50Ω, td=0.1μs, tr=5ns, t1=100μs, t4=10ms, t5=90ms	1 h	A
4	-12 V	Va=-12V, Ri=0Ω, t8<50ms, t9=10s, t10=10ms, t11=10ms to 100ms	1 pulso/ pulse	C

CORRECTO / CORRECT
4. ENSAYO DE INMUNIDAD ELECTROMAGNÉTICA / ELECTROMAGNETIC IMMUNITY TEST

Método de ensayo / Test method	: Según el Anexo 9 del Reglamento ECE 10.05 According to Annex 9 of ECE Regulation 10.05
Frecuencias / Frequencies	: 20 – 400MHz, 400 – 2000 MHz
Nivel de campo / Level of field	: 60 mA, 30 V/m
Modulación / Modulation	: AM 1 KHz 80% (20 – 800 MHz), PM 217 Hz 12.5 % (800 – 2000 MHz)
Resultado de ensayo/ Test Result	: No se detectan fallos / No failures detected

CORRECTO / CORRECT

Lugar de ensayo / Test place: Guangzhou, China
Fecha de ensayo / Test date: 21/01/2019-22/01/2019



Guohui(kent) Lian
AUDITOR
AUDITOR

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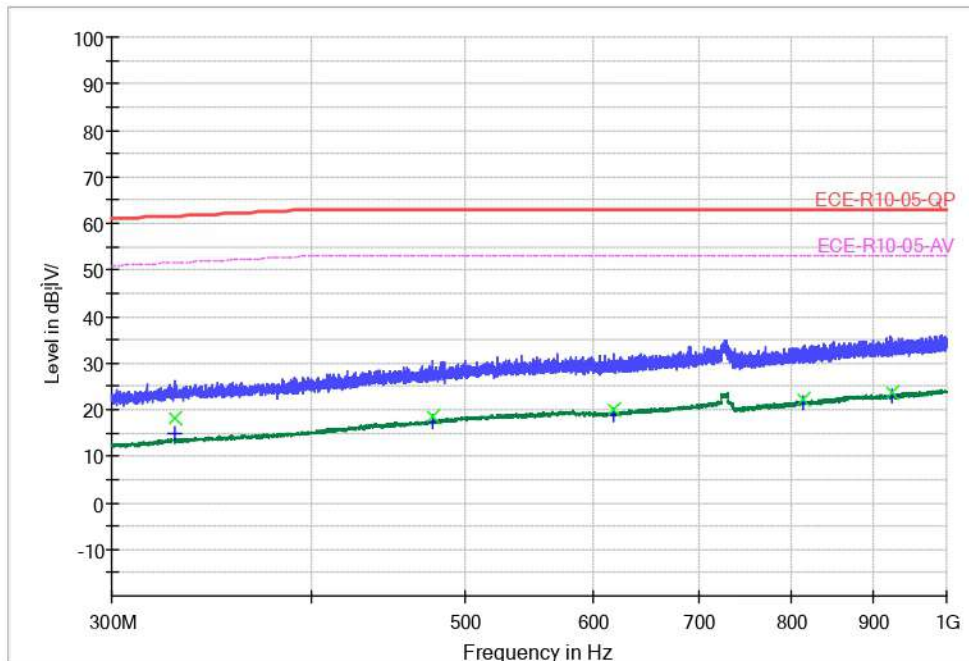
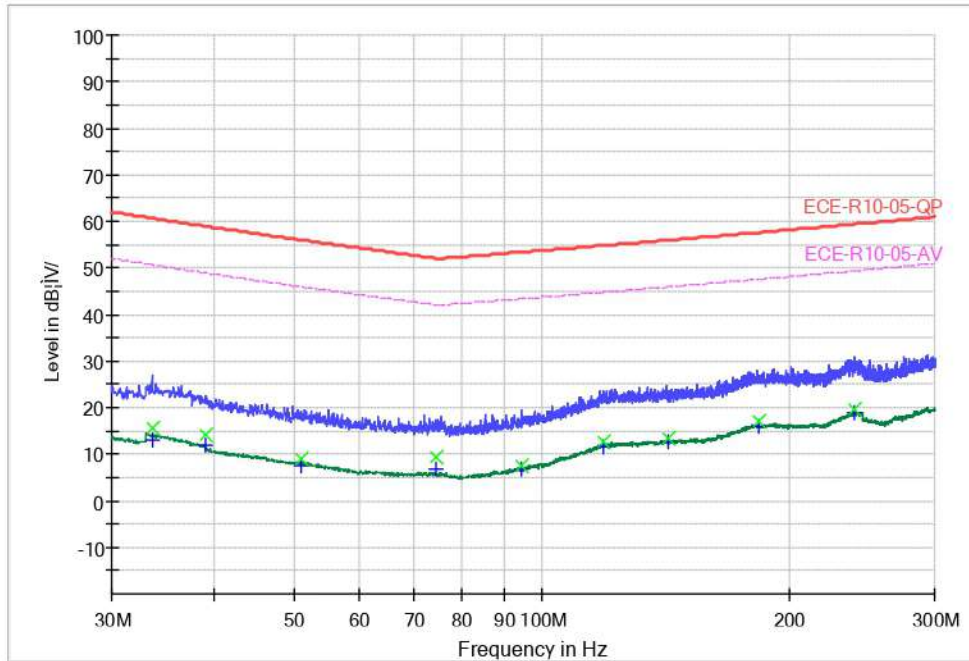


2.3 Resultado de ensayo / Test Results

24V del SEE como el caso más desfavorable / 24V of the ESA as the worst case

MO#01 Normal operation

Banda Ancha y Banda Estrecha / Broadband and Narrowband – Polarización Horizontal / Horizontal Polarisation



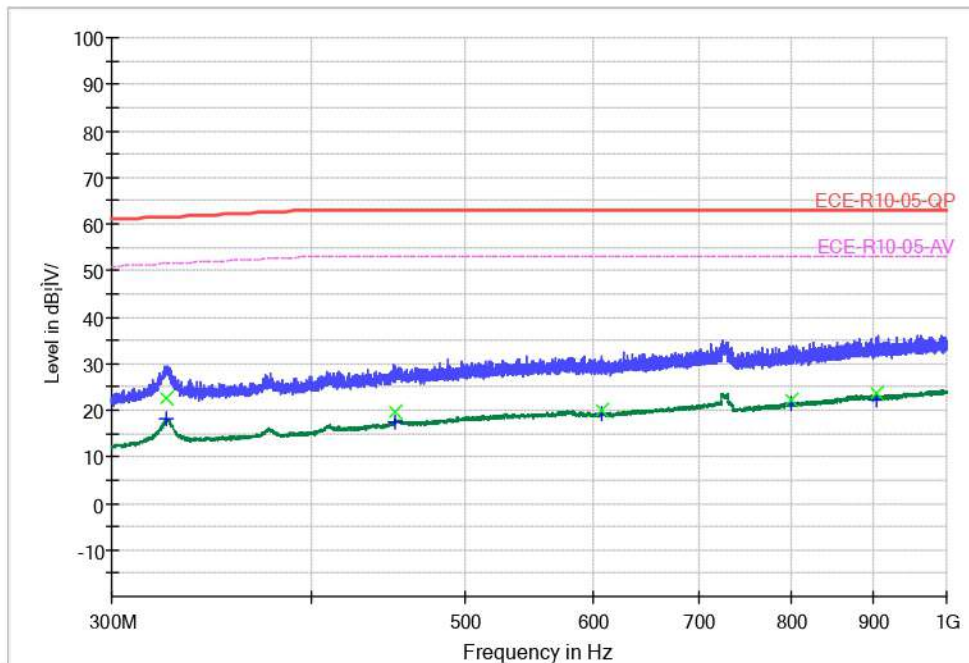
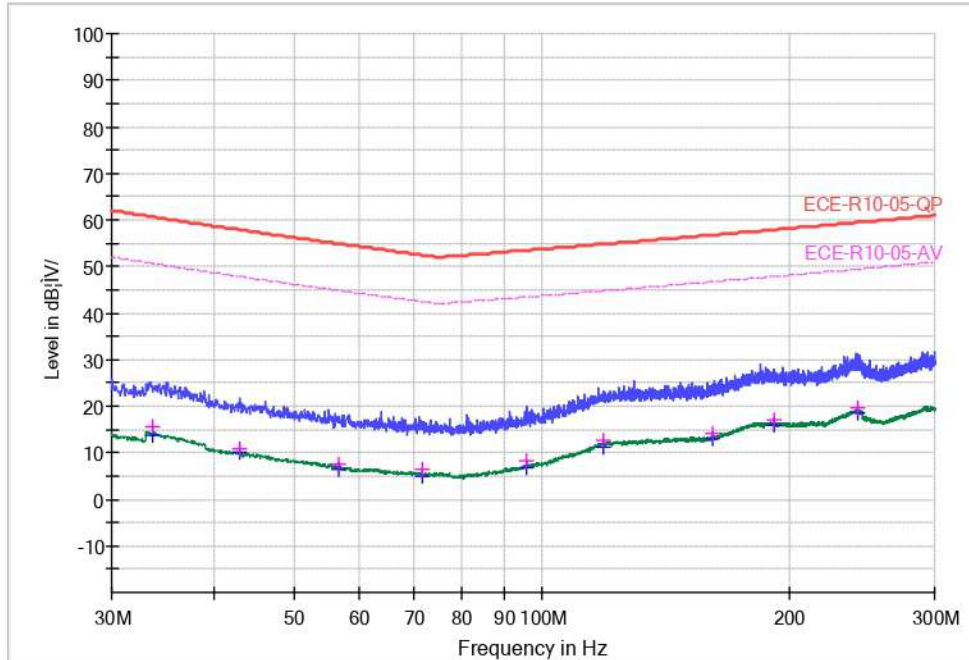
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IDIADA CN19010450

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Banda Ancha y Banda Estrecha / Broadband and Narrowband
-Polarización Vertical / Vertical Polarisation



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BANDA ANCHA / BROADBAND

Detector: Quasi peak detector

Mode: Normal operation

Reference (MHz)	Apply (MHz) Horizontal	Apply (MHz) Vertical	Results (dBmV/m)			Limit (dBmV/m) (QP)
			Horizontal	Vertical	Maximum	
30-34	33.60	33.60	15.80	15.70	15.80	62.00-60.63
34-45	39.06	42.90	14.00	10.80	14.00	60.63-57.57
45-60	51.00	56.52	8.90	7.70	8.90	57.57-54.44
60-80	74.22	71.58	9.40	6.40	9.40	54.44-52.42
80-100	94.50	96.00	7.50	8.20	8.20	52.42-53.89
100-130	118.86	118.56	12.60	12.60	12.60	53.89-55.61
130-170	142.26	161.16	13.60	14.10	14.10	55.61-57.38
170-225	183.48	191.16	17.00	17.10	17.10	57.38-59.22
225-300	239.52	242.46	19.70	19.50	19.70	59.22-61.11
300-400	328.26	324.30	18.10	22.60	22.60	61.11-63.00
400-525	476.28	451.92	18.40	19.50	19.50	63.00
525-700	618.66	607.80	20.10	20.00	20.10	63.00
700-850	812.94	799.86	22.30	22.10	22.30	63.00
850-1000	925.14	903.24	23.70	23.80	23.80	63.00

BANDA ESTRECHA / NARROWBAND

Detector: Average detector

Mode: Normal operation

Reference (MHz)	Apply (MHz) Horizontal	Apply (MHz) Vertical	Results (dBmV/m)			Limit (dBmV/m) (AV)
			Horizontal	Vertical	Maximum	
30-34	33.60	33.60	13.20	13.70	13.70	52.00-50.63
34-45	39.06	42.90	11.90	9.90	11.90	50.63-47.57
45-60	51.00	56.52	7.60	6.60	7.60	47.57-44.44
60-80	74.22	71.58	6.70	5.10	6.70	44.44-42.42
80-100	94.50	96.00	6.70	6.90	6.90	42.42-43.89
100-130	118.86	118.56	11.60	11.20	11.60	43.89-45.61
130-170	142.26	161.16	12.60	12.90	12.90	45.61-47.38
170-225	183.48	191.16	16.00	16.10	16.10	47.38-49.22
225-300	239.52	242.46	18.80	18.60	18.80	49.22-51.11
300-400	328.26	324.30	14.80	18.20	18.20	51.11-53.00
400-525	476.28	451.92	17.30	17.30	17.30	53.00
525-700	618.66	607.80	19.00	19.10	19.10	53.00
700-850	812.94	799.86	21.50	21.30	21.50	53.00
850-1000	925.14	903.24	23.00	22.30	23.00	53.00

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3. INMUNIDAD Y EMISIONES DE PERTURBACIONES CONDUCIDAS / IMMUNITY AND EMISSION OF CONDUCTED DISTURBANCES TEST

3.1. **Emisiones de perturbaciones conducidas / Emissions of conducted disturbances**

- Método de ensayo / *Test method* : Según el Anexo 10 del Reglamento ECE 10.05
According to Annex 10 of ECE Regulation 10.05
- Temperatura de ensayo /
Test temperature : 25 °C
- Tensión de alimentación de ensayo /
Test voltage : DC 13.5V y/and DC 27.5 V
- Condiciones de medida /
Measuring Condition : Comprobación de la emisión de transitorios producidos en el interruptor de ENC / DESC hacia las líneas de alimentación /
Check transient emission at switch ON/OFF in Power Source lines
- Gráficas de resultados / *Results charts* : Ver página 8 a 11 / *See page 8 to 11*
- Resultado de ensayo / *Test Result* :

Polaridad de la amplitud del impulso/ <i>Polarity of pulse amplitude</i>	Amplitud máxima de pulso permitido para/ <i>Maximum allowed pulse amplitude for</i>	Tipo de pulso / <i>Type of pulse</i>	Resultado de ensayo / <i>Test result</i>
	Vehículos con sistemas a 12V <i>/ Vehicles with 12 V systems</i>		
Positivo/ <i>Positive</i>	+ 75	Lento / <i>Slow</i>	Cumple / <i>Fulfils</i>
		Rápido / <i>Fast</i>	Cumple / <i>Fulfils</i>
Negativo/ <i>Negative</i>	- 100	Lento / <i>Slow</i>	Cumple / <i>Fulfils</i>
		Rápido / <i>Fast</i>	Cumple / <i>Fulfils</i>

Polaridad de la amplitud del impulso/ <i>Polarity of pulse amplitude</i>	Amplitud máxima de pulso permitido para/ <i>Maximum allowed pulse amplitude for</i>	Tipo de pulso / <i>Type of pulse</i>	Resultado de ensayo / <i>Test result</i>
	Vehículos con sistemas a 24V <i>/ Vehicles with 24 V systems</i>		
Positivo/ <i>Positive</i>	+150	Lento / <i>Slow</i>	Cumple / <i>Fulfils</i>
		Rápido / <i>Fast</i>	Cumple / <i>Fulfils</i>
Negativo/ <i>Negative</i>	-450	Lento / <i>Slow</i>	Cumple / <i>Fulfils</i>
		Rápido / <i>Fast</i>	Cumple / <i>Fulfils</i>

CORRECTO / CORRECT

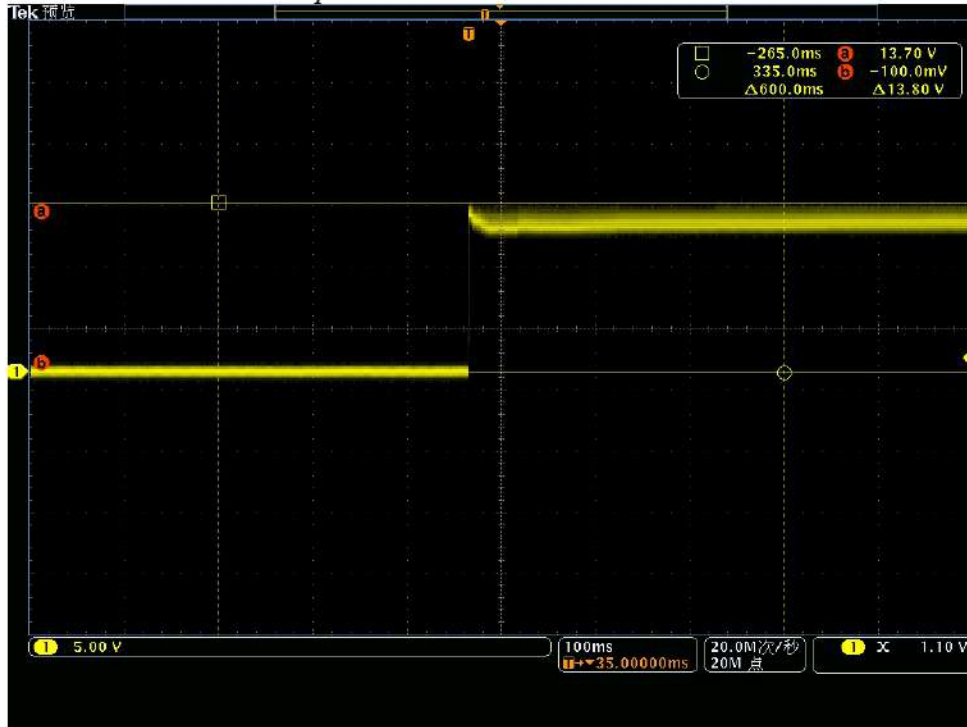
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Vehículos con sistemas a 12V/ Vehicles with 12 V systems

Slow Pulse: OFF-->ON Data Graph



Slow Pulse: ON-->OFF Data Graph



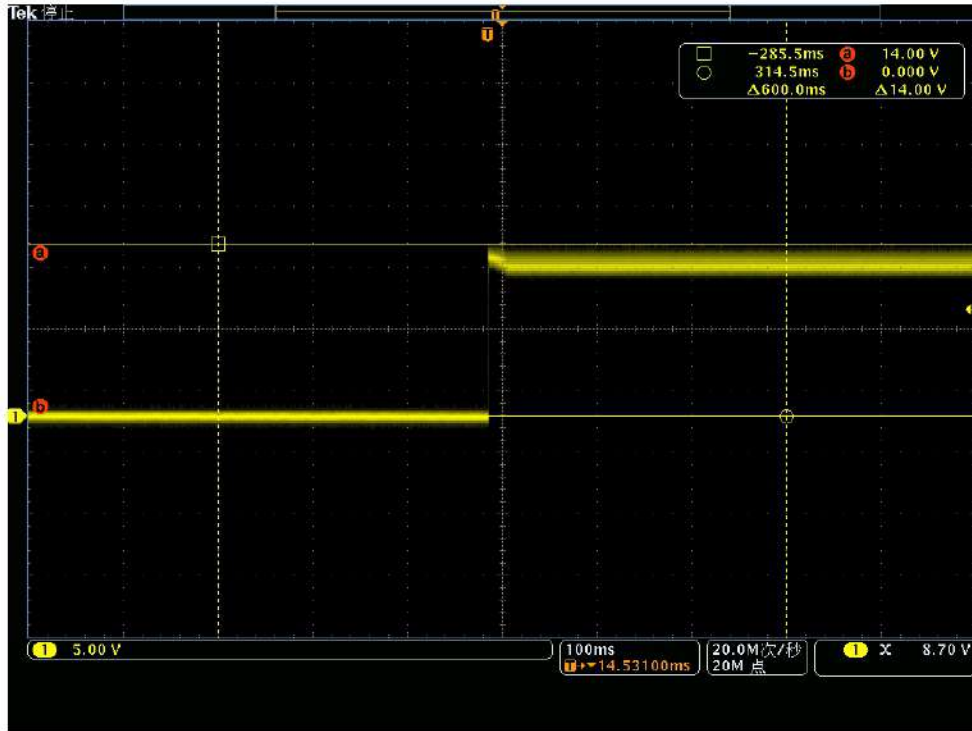
Validate this report with the security code «HJAJRLYN» at: <https://extranet.idiada.com/hom-cve>
 Verifique el informe con código de seguridad «HJAJRLYN» en: <https://extranet.idiada.com/hom-cve>

IDIADA CN19010450

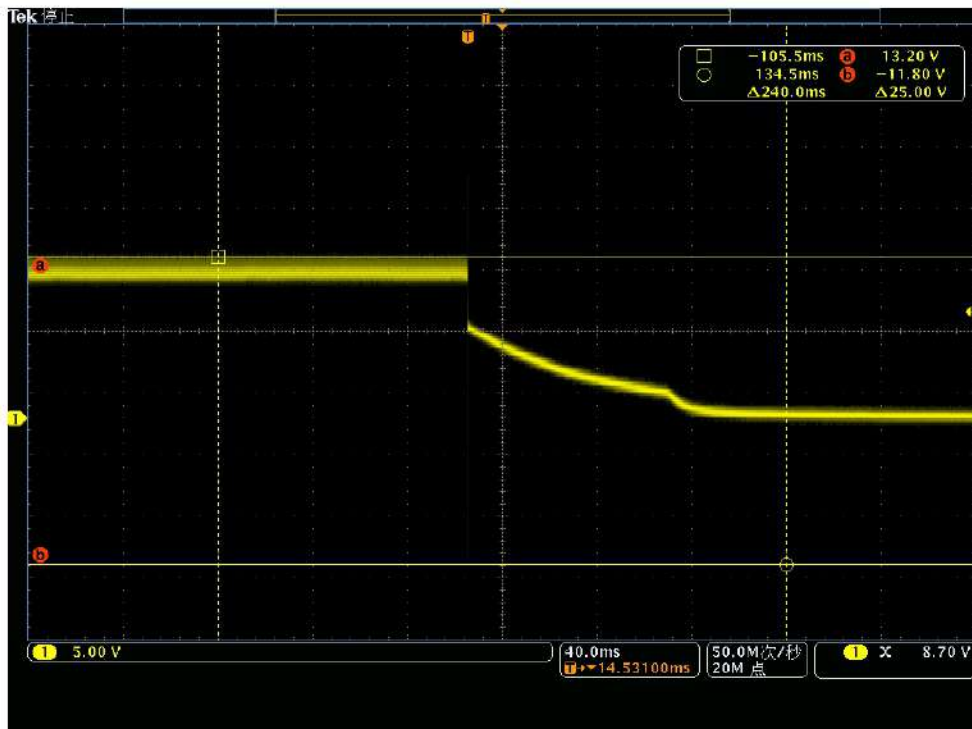
* LOS RESULTADOS PRESENTADOS SE REFIEREN UNICAMENTE A LA MUESTRA ENSAYADA.
 THE PRESENTED RESULTS REFER ONLY TO THE TESTED SAMPLE.
 * QUEDA TERMINANTEMENTE PROHIBIDA LA REPRODUCCION PARCIAL DE ESTE INFORME SIN PERMISO EXPRESO DE IDIADA.
 THE PARTIAL REPRODUCTION OF THIS REPORT WITHOUT THE PERMISSION OF IDIADA IS COMPLETELY FORBIDDEN.



Fast Pulse: OFF-->ON Data Graph



Fast Pulse: ON-->OFF Data Graph



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Vehículos con sistemas a 24V/ *Vehicles with 24 V systems*

Slow Pulse: OFF-->ON Data Graph



Slow Pulse: ON-->OFF Data Graph



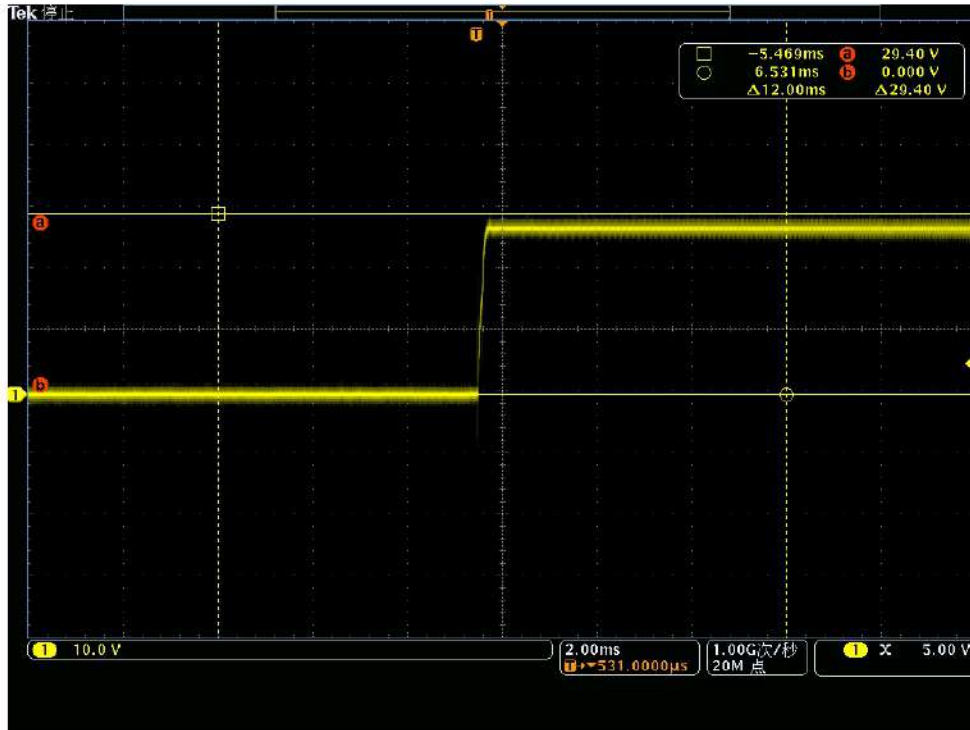
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IDIADA CN19010450

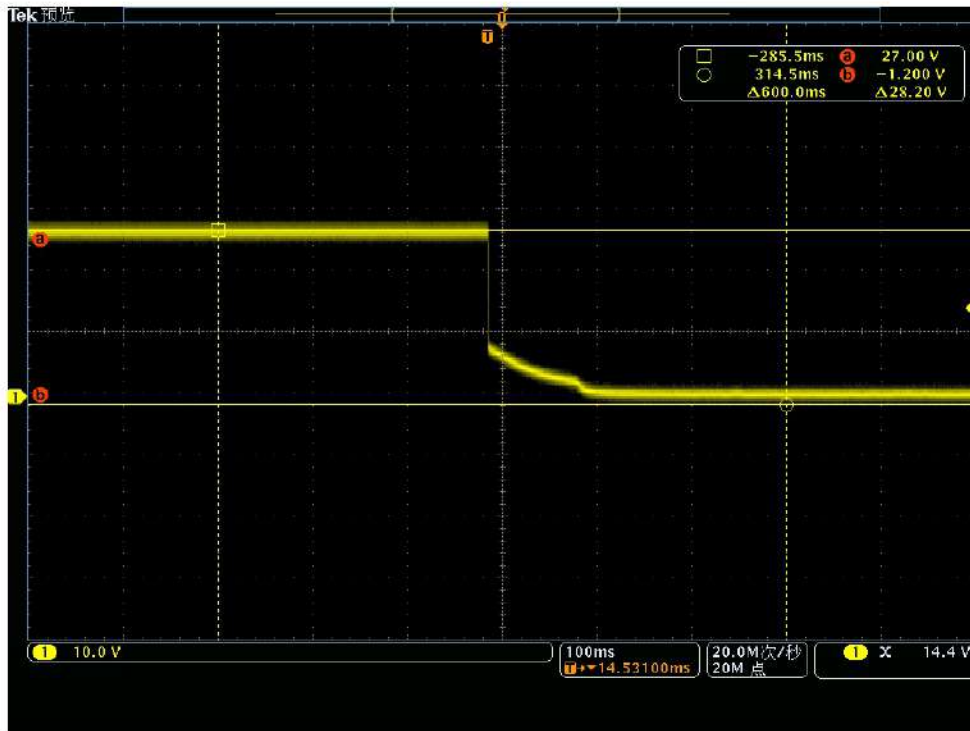
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3.2. Inmunidad a las perturbaciones transitorias conducidas a lo largo de las líneas de alimentación / Immunity against disturbances conducted along supply lines

Método de ensayo / Test method : Según el Anexo 10 del Reglamento ECE 10.05
According to Annex 10 of ECE Regulation 10.05

Estado de funcionamiento para el sistema / Performance criteria

Pulso/ Pulse	Nivel de inmunidad/ Immunity level	Estado de funcionamiento para el sistema/ Performance criteria	
		Relacionados con funciones de inmunidad/ Related to immunity functions	No relacionados con funciones de inmunidad/ Not related to immunity functions
1	III	C	D
2a	III	B	D
2b	III	C	D
3a/3b	III	A	D
4	III	B /or C	D

Resultado de ensayo/ Test Result

(immunity related function)
MO#01 Normal operation

Vehículos con sistemas a 12V / Vehicles with 12 V systems

Pulso/ Pulse	Nivel III de inmunidad / Immunity Level III	Ciclo de ráfaga/ Tiempo de repetición del pulso Duration	Tiempo de ensayo/ Nº de pulsos Test time/ N° of pulses	Resultado del ensayo / Test result
1	-75 V	Ri=10Ω, td=2ms, tr=1μs, t1=1s, t2=200ms, t3<100μs	5000 pulsos/ pulses	C
2a	+37 V	Ri=2Ω, td=0.05ms, tr=1μs, t1=5s	5000 pulsos/ pulses	A
2b	+10 V	Ri=0Ω, td=1s, t12=1ms, tr=1ms, t6=1ms	10 pulsos/ pulses	C
3a	-112 V	Ri=50Ω, td=0.1μs, tf=5ns, t1=100μs, t4=10ms, t5=90ms	1 h	A
3b	+75 V	Ri=50Ω, td=0.1μs, tr=5ns, t1=100μs, t4=10ms, t5=90ms	1 h	A
4	-6V	Va=-2.5V, Ri=0Ω, t8<50ms, t9=10s, t10=5ms, t11=5ms to100ms	1 pulso/ pulse	C

CORRECTO / CORRECT

* LOS RESULTADOS PRESENTADOS SE REFIEREN ÚNICAMENTE A LA MUESTRA ENSAYADA.
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Lista de componentes del SEE / List of components constituting the ESA
Marca y tipo de microprocesador, cristal, etc. / Make and type of microprocessor,
crystal, etc.

BILL OF MATERIAL						
P/N: HML-76180		Parameter		Version:	2018.07.23	
No.	Code(new)	Item	Description	Number	Unit	Remark
1	2.21.103.0113	Chip Resistor	0.22R 1206 ±1%	12	PCS	R1-R4,R6-R9,R11-R14
2	2.21.103.0079	Chip Resistor	10K 1206 ±1%	1	PCS	RZ1
3	2.21.103.0014	Chip Resistor	3K 1206 ±5%	1	PCS	RT1
4	2.21.103.0126	Chip Resistor	100R 0805 ±5%	3	PCS	RM1-RM3
7	2.21.103.0136	PTC	470R, 0603	2	PCS	RP1,RP2
8	2.21.103.0134	NTCChip Resistor	22K, 0805, 4150	1	PCS	RN
9	2.21.104.0015	Aluminum electrolytic capacitance	100uF/35V ±5% 7.8*6.5mm	2	PCS	CE1,CE2
10	2.21.104.0086	Chip Capacitor	1UF/10V, 0805, ±10%	3	PCS	CV1-CV3
11	2.21.104.0031	Chip Capacitor	0.1uF/50V 0805 ±10%	3	PCS	Ci1,Ci3,Ci5
12	2.21.104.0085	Chip Capacitor	4.7UF/10V, 0805, ±10%	1	PCS	CD
13	2.21.104.0044	Chip Capacitor	10uF/50V 1206 ±10% TDK	3	PCS	Ci2,Ci4,Ci6
14	2.21.104.0013	Chip Capacitor	22uF/16V 1206 ±10%	3	PCS	CO1-CO3
15	2.21.106.0066	Chip Diode	SMAJ36A/SMA CITY SMA	1	PCS	TVS
16	2.21.106.0052	Patch Stabilized Diode	6.2V/0.5W ST	1	PCS	ZD
18	2.21.106.0016	Schottky Diode	SS36 3A 60V SMA	6	PCS	D1-D6
19	2.21.105.0003	Paste Power Inductance	47uH GPSR1050-470M 3A DCR<210mΩ ±20%	3	PCS	L1-L3
20	2.21.106.0065	MOS Tube	AP9870GH-HF TO-252 BV:60 RDS:42mΩ ID:18A	3	PCS	Q1,Q2,Q3
21	2.21.106.0002	N MOS Tube	50N06 HS50N06DA TO-252	1	PCS	Q4
22	2.21.103.0077	Chip Resistor	0R 1206 ±1%	5	PCS	J1,J2,J5,J7,J8
23	2.21.103.0119	Chip Resistor	0R/1808, 5%	3	PCS	J3,J4,J6
24	2.21.103.0003	Chip Resistor	0R 2512 ±1%	1	PCS	J9
25	2.21.102.0057	Drive IC	TP4121A 6V-55V	3	PCS	U1-U3
26	2.21.107.0129	LED	OSRAM 5W, GW PUSRA1.PM (P8)	36	PCS	LED1-LED36
27	2.21.101.0532-G-60-A0	/	76180TPP8 V3.0	1	PCS	/

DOCUMENTACIÓN TÉCNICA /
TECHNICAL DOCUMENTATION

Ficha de características nº **relativa a la homologación de tipo CE de subconjuntos eléctricos o electrónicos respecto a la compatibilidad electromagnética (Reglamento ECE 10 cuya última modificación la constituye la serie de enmiendas 05)**

Information document no. relating to EC type-approval of an electric/electronic subassembly with respect to electromagnetic compatibility (Regulation ECE 10 as last amended by series of amendments 05)

Tipo / Type:

Número total de páginas / Total number of pages:

7

Fecha / Date:

18/01/2019

INDICE / INDEX

2	Índice / <i>Index</i>
3	Generalidades / <i>General</i>
5	Planos del SEE / <i>Drawings of the ESA</i>
6	Diagrama de bloques electrónicos / <i>Electronic block diagram</i>
7	Lista de componentes del SEE / <i>List of components constituting the ESA</i>

Lista de componentes del SEE / List of components constituting the ESA
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27	2.21.101.0532-G-60-A0	/	76180TPP8 V3.0	1	PCS	/

6. Dirección(es) de la(s) planta(s) de montaje / *Address(es) of assembly plant(s):*

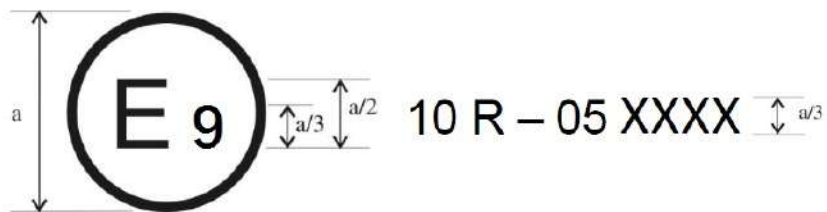
7. Nombre y dirección del solicitante / *Name and address of Applicant :*

8. Este SEE se homologará como componente/UT~~I~~ ⁽¹⁾ / *This ESA shall be approved as a component/STU⁽¹⁾*
9. Restricciones de uso y condiciones de instalación / *Any restrictions of use and conditions for fitting:*
N/A
10. Tensión nominal del sistema eléctrico / *Electrical system rated voltage:*
DC 12V/24V, Negative ground
The possible range for normal operation is 10-30V.

(1) Táchese lo que no proceda / *Delete where not applicable.*

Planos del SEE / Drawings of the ESA

Localización de la marca de homologación CE / Location of the EC approval mark



a = 6 mm

and Trade mark location

Diagrama de bloques electrónicos / *Electronic block diagram*

