



GRAND-DUCHÉ DE LUXEMBOURG

Ministère du Développement durable  
et des Infrastructures  
Département des Transports

L-2938 Luxembourg

SOCIÉTÉ NATIONALE DE  
CERTIFICATION ET D'HOMOLOGATION

s.à r.l.

Registre de Commerce: B 27180

L-5201 Sandweiler



**Référence:** E13\*10R00\*10R04\*12770\*00

**Annexes:** - Rapport Technique  
- Fiche de Renseignements du constructeur

Sandweiler, le 25 septembre 2012

**Communication concernant:**<sup>(2)</sup>  
Communication concerning:




- **la délivrance d'une homologation**  
approval granted
- ~~**l'extension d'homologation**~~  
~~approval extended~~
- ~~**le refus d'homologation**~~  
~~approval refused~~
- ~~**le retrait d'homologation**~~  
~~approval withdrawn~~
- ~~**l'arrêt définitif de la production**~~  
~~production definitively discontinued~~

**d'un type de sous-ensemble électrique/électronique<sup>(2)</sup> en ce qui concerne le Règlement N° 10.**  
of a type of ~~electrical~~/electronic sub-assembly with regard to Regulation N° 10.

**Numéro d'homologation par type:**  
Approval number:

E13\*10R00\*10R04\*12770\*00

**Marque d'homologation:**  
Approval mark:

 10R - 04 12770

**1. Fabricant (marque commerciale du constructeur):**  
Make (trade name of manufacturer):

JULUEN ENTERPRISE CO., LTD.

**2. Type:**  
Type:

B14

**Dénomination(s) commerciale(s) générale(s):**  
General commercial description(s):

Warning Light

**Version(s)/Variante(s):**  
Version(s)/Variant(s):

B15, B16, B17

- 3. Moyens d'identification du type, s'ils sont marqués sur le véhicule / composant / entité technique<sup>(2)</sup>:**  
Means of identification of type, if marked on the vehicle / component / separate technical unit: See item 6.
- 3.1. Emplacement de ce marquage:**  
Location of that marking: See item 6.
- 4. Catégorie du véhicule:**  
Category of vehicle: Not applicable
- 5. Nom et adresse du constructeur:**  
Name and address of manufacturer: JULUEN ENTERPRISE CO., LTD.  
8F.-1, No. 502, Da-an Rd., Shulin City,  
Taipei County, 238, Taiwan,  
R.O.C.
- 6. Dans le cas de composants ou d'entités techniques, emplacement et procédé de fixation de la marque de réception CEE:**  
In the case of components and separate technical units, location and method of affixing of the ECE approval mark: Printed label durable fixed on housing of ESA or engraved on housing of ESA
- 7. Adresse(s) de l' (des) usine(s) d'assemblage:**  
Address(es) of assembly plant(s): Yung Li Traffic Equipment Co., Ltd.  
No. 1-2, Lane 65, Sec. 2, Chia-Yuan Rd.,  
Shu-Lin, Taipei Hsien, Taiwan,  
R.O.C.
- 8. Informations supplémentaires (s'il y a lieu):**  
Additional informations (where applicable): See appendix
- 9. Autorité déléguée:**  
Assigned authority: *Société Nationale de Certification et d'Homologation  
L-5230 Sandweiler*
- Service technique responsable de l'exécution des essais:**  
Technical service responsible for carrying out the tests: *Société Nationale de Certification et d'Homologation  
11, rue de Luxembourg  
L-5230 Sandweiler*
- 10. Date du rapport d'essai:**  
Date of test report: 20.09.2012
- 11. Numéro du rapport d'essai:**  
Number of test report: 32206CP
- 12. Remarques (s'il y a lieu):**  
Remarks (if any): None

13. **Lieu:** Sandweiler  
Place:

14. **Date:** 25 septembre 2012  
Date:

15. **Signature:**  
Signature:

Pour le Département des Transports



**Marco FELTES**  
Inspecteur Principal 1<sup>er</sup> en rang

Pour la SNCH



**Claude LIESCH**  
Directeur



16. **L'index de l'ensemble des renseignements déposé chez l'autorité de réception, qui peut être obtenu sur demande, est joint.**

The index to the information package lodged with the approval authority, which may be obtained on request, is attached.

See index to type-approval report

17. **Raison(s) de l'extension:** Not applicable  
Reason(s) for extension:

## Appendice

Appendix

**au certificat d'homologation par type N° E13\*10R00\*10R04\*12770\*00**  
to type-approval certificate N° E13\*10R00\*10R04\*12770\*00  
**concernant l'homologation par type d'un sous ensemble électrique/électronique selon le Règlement N° 10.**  
concerning the type-approval of an electrical/electronic sub-assembly under Regulation N° 10.

- |               |  |   |
|---------------|--|---|
| <b>1.</b>     | <b>Informations supplémentaires.</b><br>Additional information.  |   |
| <b>1.1.</b>   | <b>Tension nominale du système électrique [V]:</b><br>Electrical system rated voltage [V]:   | 12/24 V DC  |
|               | <b>Masse:</b><br>Ground:   | <del>Positive</del> /Negative <sup>(2)</sup>                                |
| <b>1.2.</b>   | <b>Ce SEEE peut être utilisé sur n'importe quel type de véhicule avec les restrictions suivantes:</b><br>This ESA can be used on any vehicle type with the following restrictions:   | Not applicable  |
| <b>1.2.1.</b> | <b>Conditions d'installation, s'il y a lieu:</b><br>Installation conditions, if any:   | Not applicable  |
| <b>1.3.</b>   | <b>Ce SEEE peut seulement être utilisé sur les types de véhicules suivants:</b><br>This ESA can be used only on the following vehicle types:   | Not applicable  |
| <b>1.3.1.</b> | <b>Conditions d'installation, s'il y a lieu:</b><br>Installation conditions, if any:   | Not applicable  |
| <b>1.4.</b>   | <b>La (les) méthode(s) spécifique(s) d'essais utilisée(s) et les bandes de fréquences couvertes pour déterminer l'immunité étai(ent): (indiquez s'il vous plaît à partir de l'annexe 9 la méthode précise utilisée).</b><br>The specific test method(s) used and the frequency ranges covered to determine immunity were: (Please specify precise method used from annex 9). | Not applicable  |
| <b>1.5.</b>   | <b>Laboratoire accrédité au titre de la norme ISO 17025 et reconnu par l'autorité d'homologation chargée d'effectuer les essais:</b><br>Laboratory accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests:  | SGS-TÜV SAARLAND FORSTER GmbH<br>Saarbrücker Strasse 1<br>D-66706 Perl-Sinz |
| <b>2.</b>     | <b>Commentaires:</b><br>Remarks:   | None  |

<sup>2</sup> **Biffer la mention inutile**  
Strike out what does not apply



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L-5201 Sandweiler

**Référence:** E13\*10R00\*10R04\*12770\*00

**Annexes:** - Rapport Technique  
- Fiche de Renseignements du constructeur

Sandweiler, le 25 septembre 2012

## Index du dossier d'homologation

Index to type-approval report

	<b>Numéro d'homologation:</b> Approval number:	E13*10R00*10R04*12770*00
	<b>Révision:</b> Revision:	00
	<b>Marque de fabrication ou de commerce:</b> Trade name or mark:	JULUEN ENTERPRISE CO., LTD.
	<b>Type:</b> Type:	B14
1.	<b>Procès-verbal d'essai:</b> Test report:	N° 32206CP
	- Compilation:	Page 1;
	- Information sheet:	Attachment 1 - Page 2 & 3;
	- Test report:	Attachment 2 - Page 4 to 15.
2.	<b>Dossier du constructeur:</b> Report of the manufacturer:	Attachment 3
	- Content:	Refer to 1 <sup>st</sup> page in information document
3.	<b>Autres documents annexés:</b> Other documents annexed:	Not applicable
4.	<b>Date de délivrance de l'homologation initiale:</b> Date of issue of initial type approval:	25.09.2012
5.	<b>Date de la dernière délivrance de pages révisées:</b> Date of last issue of revised pages:	Not applicable
6.	<b>Date de la dernière délivrance d'une homologation révisée:</b> Date of last extension:	Not applicable

## **Kompilation Nr.: 32206CP**

**Kompilation**

**page 1**

### **Composition of the Attachments**

**Attachment 1**

**Information sheet**

**page 2 to 3**

**Attachment 2**

**Test Report No.: 32206CP**

**page 4 to 15**

**Attachment 3**

**Report of the manufacturer**

**external documents**

-Information Documents,  
-Photo of ESA,



## Attachment 1

Technical information about the ESA type according to ECE Reg. No. 10R00, 04 series of amendments from 28.10.2011, corrigendum 1 to the 04 series of amendments of 28.10.2011

### SECTION I

- |      |   |  |
|------|---|--|
| 1.   | Make (trade name of manufacturer):  | JULUEN ENTERPRISE CO., LTD.  |
| 2.   | Type/<br>Brand name:<br>General commercial description(s):  | B14<br>n.a.<br>Warning Light   |
|      | <i>Version(s)/Variant(s):</i><br><i>Brand name:</i>   | <i>B15, B16, B17</i><br><i>n.a.</i>  |
| 3.   | Means of identification of type, if marked on the <del>vehicle</del> / component / <del>separate technical unit</del> : | Laser printed label  |
| 3.1. | Location of that marking:   | Laser printed label fixed durable on housing of ESA or engraved on housing of ESA  |
| 4.   | Category of vehicle:  | n.a.   |
| 5.   | Name and address of manufacturer:   | JULUEN ENTERPRISE CO., LTD.<br>8F.- 1, NO. 502, DA-AN RD., SHULIN CITY,<br>TAIPEI COUNTY 238, TAIWAN (R.O.C.)            |
| 5.1  | Representant  | n. a.  |
| 6.   | In the case of components and separate technical units, location and method of affixing of the EC approval-mark:        | printed label, fixed durable on housing of ESA   |
| 7.   | Address(es) of assembly plant(s)  | Yung Li Traffic Equipment Co., Ltd.<br>No. 1-2, Lane 65, Sec. 2, Chia-Yuan Rd.,<br>Shu-Lin, Taipei Hsien, Taiwan, R.O.C. |
| 8.   | Additional information (where applicable):  | see appendix   |
| 9.   | Assigned authority:   | Société Nationale de Certification et<br>d'Homologation<br>L-5230 Sandweiler   |
|      | Technical service responsible for conducting approval tests   | Société Nationale de Certification et<br>d'Homologation<br>11, rue de Luxembourg<br>L-5230 Sandweiler                    |
| 10.  | Date of test report:  | 20.09.2012   |
| 11.  | Number of test report   | 32206CP  |
| 12.  | Remarks (if any):   | n.a.   |

## Appendix

- |               |   |  |
|---------------|---|--|
| <b>1.</b>     | Additional informations:  | not applicable   |
| <b>1.1.</b>   | Electrical system rated voltage [V]:  | 12 / 24VDC   |
|               | Ground:   | Negative   |
| <b>1.2.</b>   | This ESA can be used on any vehicle type with the following restrictions:                     | not applicable   |
| <b>1.2.1.</b> | Installation conditions, if any:  | not applicable   |
| <b>1.3.</b>   | This ESA can be used only on the following vehicle types:                                     | not applicable   |
| <b>1.3.1.</b> | Installation conditions, if any:  | not applicable   |
| <b>1.4.</b>   | The specific test method(s) used and the frequency ranges covered to determine immunity were: | not applicable   |
| <b>1.5.</b>   | Approved/accredited laboratory responsible for carrying out the test:                         | SGS-TÜV Saarland Forster GmbH<br>Saarbrücker Strasse 1<br>66706 Perl- Sinz |
| <b>2.</b>     | Remarks:  | not applicable   |



## Attachment 2

### Test report #.: 32206CP

**Tests on electronic parts in vehicles (electromagnetic compatibility)  
per ECE Regulation No. 10R00, 04 series of amendments from 28.10.2011  
and corrigendum 1 to 04 series of amendments of 28.10.2011**

#### **0. General declaration:**

- 0.1. Model name:** Warning Light
- 0.2. Type/ Brand name(s):** B14
- Version's/ Brand name(s):** B15, B16, B17
- 0.3. Type identification, place of type plate:**  
Laser printed label fixed durable on housing of ESA  
or engraved on housing of ESA
- 0.4. Name and address of manufacturer:** JULUEN ENTERPRISE CO., LTD.  
8F.-1, NO. 502, DA-AN RD., SHULIN CITY,  
TAIPEI COUNTY 238, TAIWAN (R.O.C.)
- 0.5. Number of description map:** 001  
**date and change:** 20.09.2012

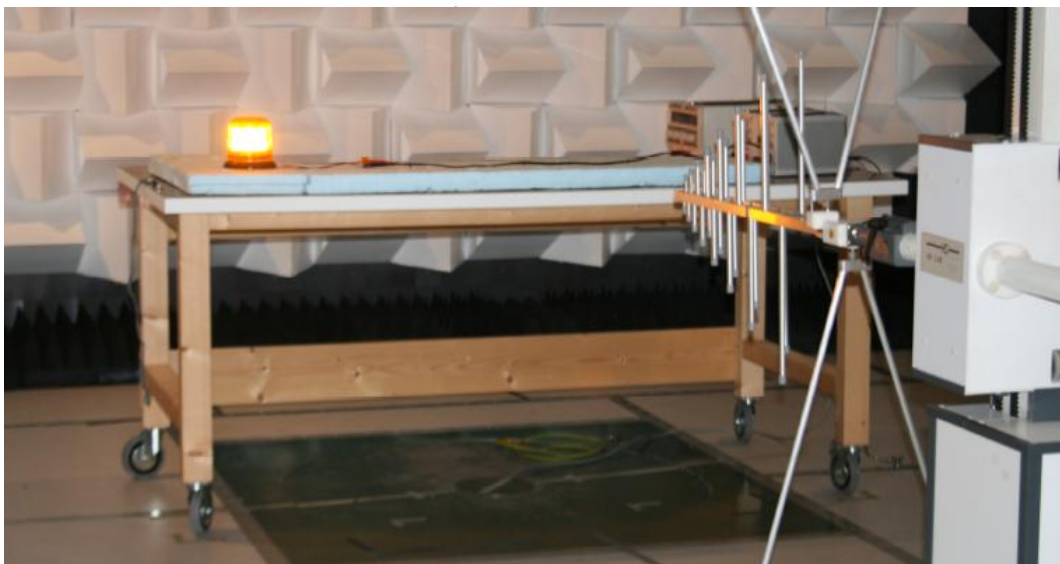
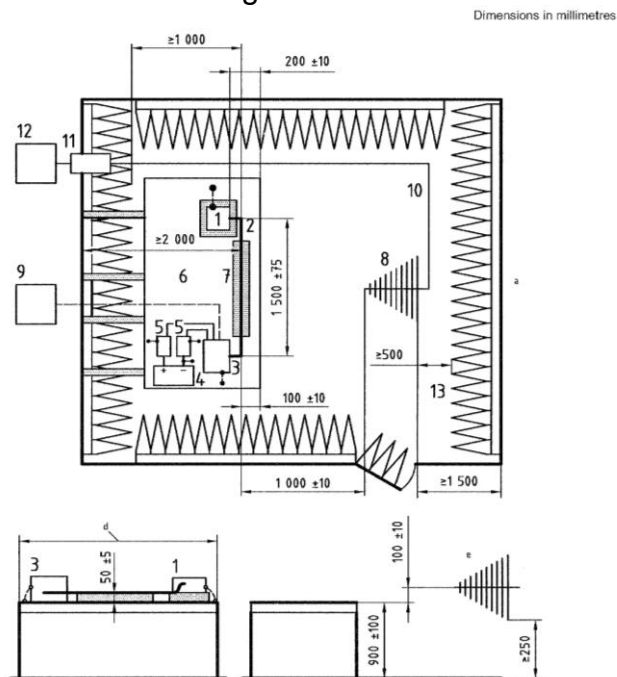
#### **1. Details to equipment under test:**

- 1.1. Representative EUT:** tested model B14
- 1.2. Description of EUT:** Warning Light

## 2. Test protocol:

### 2.1. Measurements radiated broadband electromagnetic emissions (annex 7)

**2.1.1. Details to test:** Power supply of E.U.T. with car battery and were measured and observed with digital voltmeter METEX, type M2750. Power supply voltage comes over L.I.S.N. ( $5\mu\text{H}/50\Omega$ ) and were connected with original cable from E. U. T.. Ground plane were connected to earth ground system. E. U. T. were isolated with 50mm isolation from ground plane. Ground plane is a copper plate with dimension of 3x1.5m (L x W). Operation mode were with original cables during tests, works in load mode with worst case parameter in horizontal and vertical polarisation. Test was performed according CISPR 25 sec. ed. 2002 and corrigendum 2004.



**2.1.2 Test results:** passed, broadband emissions

**2.2. Measurements radiated narrowband electromagnetic emissions (annex 8)**

**2.2.2 Details to tests:** see pt.2.1.1

**2.2.3 Test results:** passed, narrowband emissions

SGS-TÜV Saarland Forster GmbH

20.09.2012

## Test Report

### EUT Information

EUT Name:	Warning Light
Type:	B14
Manufacturer:	Juluen Enterprise
Part Number:	---
HW.-Rev.	09/2012
SW.-Rev.	---
Operating cond.:	Light-Mode
Operator:	Stefan Turnsek, B. Eng.
Test spec.:	Veh Dir.
Test Site:	SAC1
Supply:	DC-24V
Polarisation:	Vertical/Horizontal
Project No.:	32206_11092012_B14
Comment:	---

### EMI Auto Test Template: Automotive Components

Hardware Setup:	Automotive Components
Measurement Type:	Open-Area-Test-Site
Frequency Range:	30 MHz - 1 GHz
Graphics Level Range:	0 dBµV/m - 80 dBµV/m

Preview Measurements:	
Scan Test Template:	Automotive Field Strength Prescan

Data Reduction:	
Limit Line #1:	Automotive Components BB QP
Limit Line #2:	Automotive Components NB AV
Peak Search:	6 dB , Maximum Results: 30
Subrange Maxima:	30 Subranges , Maxima per Subrange: 1
Acceptance Offset:	-20 dB
Maximum Number of Results:	30
After Data Reduction:	Interactive data reduction

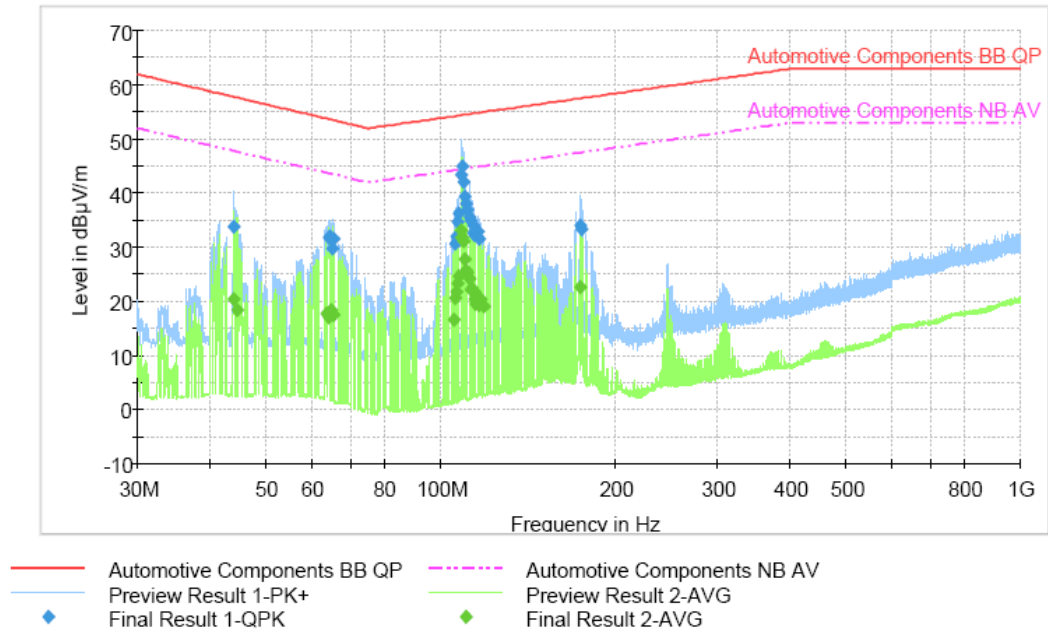
Final Measurements:	
Template for Single Meas.:	Automotive Field Strength Final

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 1 GHz	40 kHz	QPK; AVG	120 kHz	1 s	20 dB

Receiver:	[ESU 26]
-----------	----------

Report Settings:	
Report Template:	AutomotiveTest Report

Automotive Components



**Final Result 1**

Frequency (MHz)	Quasi/Peak (dBµV/m)	Polarization	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
43.880000	33.9	V	12.3	23.5	57.8	
64.900000	31.8	H	11.1	21.5	53.7	
64.520000	31.9	H	11.0	21.7	53.6	
65.900000	29.7	H	11.0	23.5	53.6	
65.320000	31.5	H	10.9	22.0	53.5	
105.760000	30.6	H	10.9	23.7	54.3	
106.280000	32.1	H	11.0	22.2	54.3	
106.960000	34.7	H	11.1	19.6	54.3	
107.240000	36.3	H	11.1	18.0	54.3	
108.400000	43.5	V	11.2	10.9	54.4	
108.960000	45.0	V	11.3	9.5	54.5	
109.560000	42.0	H	11.3	12.5	54.5	
110.120000	39.4	H	11.4	15.1	54.5	
110.520000	38.1	H	11.4	16.5	54.5	
110.920000	36.9	H	11.5	17.7	54.6	
112.160000	35.7	V	11.6	18.9	54.6	
112.720000	34.9	V	11.7	19.8	54.7	
113.520000	34.0	V	11.8	20.7	54.7	
113.880000	32.7	H	11.8	22.0	54.7	
114.280000	32.2	H	11.9	22.6	54.8	
115.960000	33.0	V	12.0	21.8	54.9	
116.600000	31.6	V	12.1	23.3	54.9	
174.120000	33.9	H	12.8	23.6	57.5	
174.680000	33.3	H	12.8	24.3	57.6	

**Final Result 2**

Frequency (MHz)	Average (dBµV/m)	Polarization	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
44.900000	26.4	V	12.3	27.5	47.9	
44.520000	18.4	V	12.2	29.3	47.7	
63.480000	17.6	V	11.2	26.2	43.8	
64.200000	17.1	H	11.1	26.6	43.7	
64.720000	18.3	H	11.0	25.3	43.6	
65.000000	17.7	H	11.0	25.9	43.6	
65.400000	17.6	H	10.9	25.9	43.5	
105.320000	16.6	V	10.9	27.7	44.2	
106.040000	20.7	H	11.0	23.6	44.3	
106.560000	21.8	H	11.0	22.5	44.3	
106.840000	23.3	H	11.1	21.0	44.3	
107.240000	24.6	H	11.1	19.8	44.3	
108.440000	33.1	V	11.2	11.3	44.4	
108.680000	31.8	V	11.2	12.6	44.4	
109.080000	31.8	V	11.3	12.6	44.5	
109.480000	31.2	V	11.3	13.3	44.5	
110.200000	27.7	H	11.4	16.8	44.5	
110.600000	25.9	H	11.4	18.7	44.6	
111.000000	25.2	H	11.5	19.3	44.6	
112.320000	24.2	V	11.6	20.5	44.7	
112.840000	22.1	V	11.7	22.6	44.7	
113.240000	22.3	V	11.7	22.4	44.7	
114.120000	21.8	H	11.8	23.0	44.8	
114.360000	20.3	H	11.9	24.5	44.8	
114.760000	18.6	H	11.9	25.2	44.8	
116.080000	20.7	V	12.0	24.2	44.9	
116.600000	19.3	V	12.1	25.6	44.9	
117.160000	20.3	V	12.2	24.6	44.9	
118.560000	19.1	H	12.3	25.9	45.0	
174.400000	22.5	H	12.8	25.0	47.5	

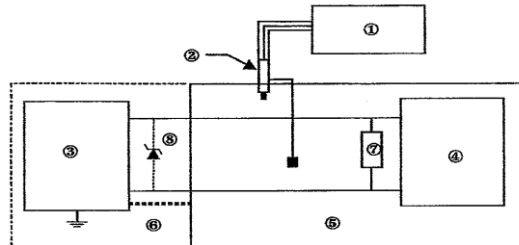
### 2.3. Tests to immunity against radiated electromagnetic fields (annex 9)

2.3.1. **Test methods:** n. a., no immunity-related functions acc. pt.6.10.3.

### 2.4. Tests to immunity against transients disturbances (annex 10)

2.4.1. **Test methods:** tests were performed acc.ISO 7637-2 2<sup>nd</sup> edition 2004 and amendment 1 2008 as described in Annex 10 with required test levels given in table 1.

2.4.1.1. **Details to test:** E.S.A were connected to car battery and observed with CCD camera during operations and tests.



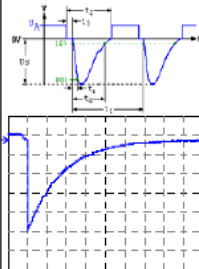
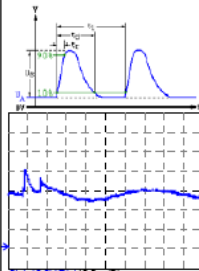
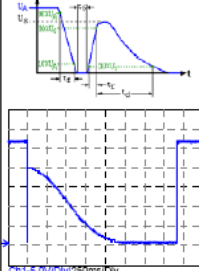
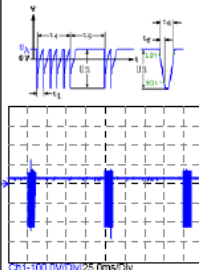
- 1 DSO, Tektronix, TDS 3052
- 2 Probe TDS
- 3 Car Tester, Spitzenberger & Spieß, PAS
- 4 E.S.A.
- 5 Ground Plane
- 6 Ground connection



**Company:** SGS-TÜV Saarland Forster GmbH  
**Operator:** S. E. Weber

**Manufacturer:** JULUEN ENTERPRISE CO., LTD.  
**Modelno.:** B14  
**Operating mode:** light mode  
**Date of test:** 18.09.2012

**Nominal voltage:** 24.00 Volt  
**Test voltage:** 27.00 Volt  
**Shunt resistor Rs:** no shunt  
**Executed test:**  
**Test description:**

Pulse	Us/Vs	Ri	Test parameters	Pulses / Time	Delay	Figure
ISO 7637-2 (2008) AMD1 - Pulse 1	-450.0 V	50.00 Ohm	tr = 3.0us, td = 1.0ms, t1 = 1.0s, t2 = 200.0ms	5000 P.	0.0 s	
ISO 7637-2 (2008) AMD1 - Pulse 2A	37.0 V	2.00 Ohm	td = 50.0us, t1 = 500.0ms	5000 P.	0.0 s	
ISO 7637-2 (2008) AMD1 - Pulse 2B	20.0 V	0.00 Ohm	td = 1.0s	10 P.	10.0 s	
ISO 7637-2 (2008) AMD1 - Pulse 3A	-160.0 V	50.00 Ohm	t1 = 100.0us, t4 = 10.0ms, t5 = 90.0ms	60.0 min	0.0 s	

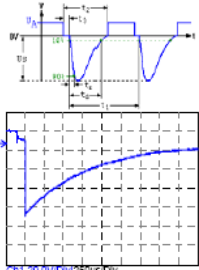
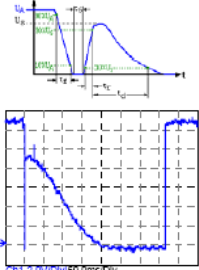
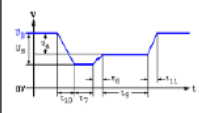
Spitzenberger & Spies  
 Viechtach

Pulse	Us/Vs	Ri	Test parameters	Pulses / Time	Delay	Figure
ISO 7637-2 (2008) AMD1 - Pulse 3B	160.0 V	50.00 Ohm	t1 = 100.0us, t4 = 10.0ms, t5 = 90.0ms	60.0 min	0.0 s	
ISO 7637-2 (2008) AMD1 - Pulse 4	-12.0 V	0.00 Ohm	Ua = -8.0V, t7 = 75.0ms, t8 = 30.0ms, t9 = 10.0s, t10 = 10.0ms, t11 = 75.0ms	1 P.	60.0 s	

**Company:** SGS-TÜV Saarland Forster GmbH  
**Operator:** S. E. Weber

**Manufacturer:** JULUEN ENTERPRISE CO., LTD.  
**Modelno.:** B14  
**Operating mode:** light mode  
**Date of test:** 18.09.2012

**Nominal voltage:** 12.00 Volt  
**Test voltage:** 13.50 Volt  
**Shunt resistor Rs:** no shunt  
**Executed test:**  
**Test description:**

Pulse	Us/Vs	Ri	Test parameters	Pulses / Time	Delay	Figure
ISO 7637-2 (2008) AMD1 - Pulse 1	-75.0 V	10.00 Ohm	tr = 1.0us, td = 2.0ms, t1 = 1.0s, t2 = 200.0ms	5000 P.	0.0 s	
ISO 7637-2 (2008) AMD1 - Pulse 2B	10.0 V	0.00 Ohm	td = 200.0ms	10 P.	10.0 s	
ISO 7637-2 (2008) AMD1 - Pulse 4	-6.0 V	0.00 Ohm	Ua = -4.0V, t7 = 30.0ms, t8 = 30.0ms, t9 = 10.0s, t10 = 5.0ms, t11 = 50.0ms	1 P.	60.0 s	 <p>No oscilloscope screenshot available for this pulse</p>

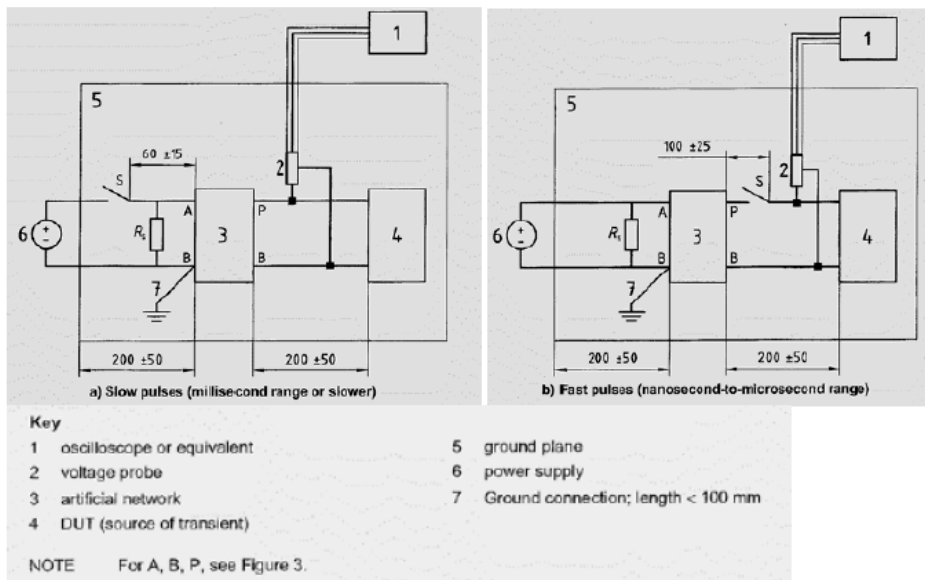


**2.4.1.2 Tests result:** no degradation of any performance were registered during tests.

**2.3. Tests to emissions of conducted disturbances (annex 10)**

**2.5.1. Test methods:** tests were performed acc.ISO 7637-2 2<sup>nd</sup> edition 2004 and amendment 1 2008 as described in Annex 10 with required test levels given in table 2.

**2.5.1.1. Details to test:** E.S.A were connected to car battery and observed with CCD camera during operations and tests.



**2.5.1.2 Tests result:** passed conducted disturbances

Company: SGS-TÜV Saarland Forster GmbH  
 Operator: S.Turnsek

Manufacturer: JULUEN ENTERPRISE CO., LTD.  
 Modelno.: B14  
 Operating mode: light mode  
 Date of test: 18.09.2012

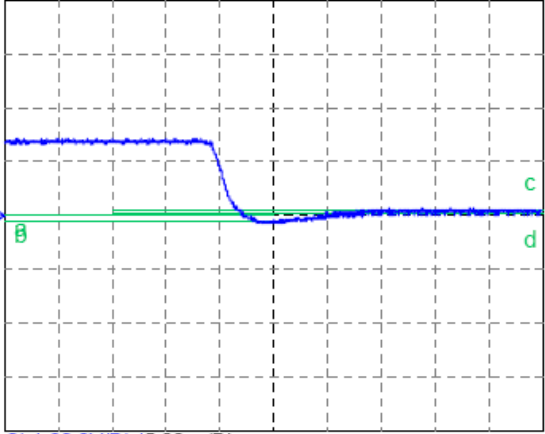
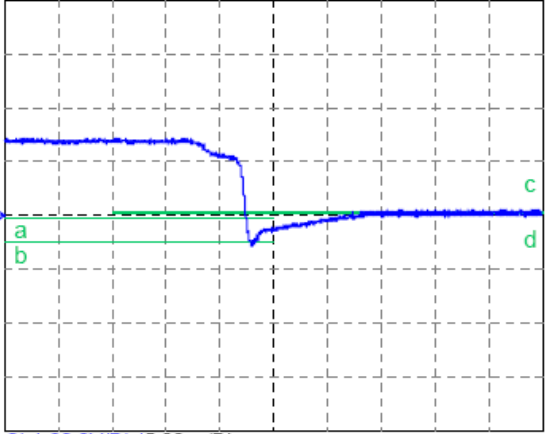
Nominal voltage: 24.00 Volt  
 Test voltage: 27.00 Volt  
 Shunt resistor Rs: no shunt  
 Executed test: Voltage transient emission test  
 Test description: 10 transients, 3 sec switch off, 10 sec delay time between repetitions  
 Limits: 24V System, +150V/-450V

**Fast transients:**

Transient no. 1 contains max. positive amplitude as well as max. negative amplitude!

Transient	Amplitudes	Transient times	Figure
1 of 10	Us1 = -2.2V Us2 = 1.7V	tr = 2.3us, td = 0.00us, tf = 0.00us, tr = 0.00us, td = 0.00us, tf = 0.00us, a = 0.16V, b = 1.404V, c = 4.92V, d = 0.55V	

Slow transients:

Transient	Amplitudes	Transient times	Figure
3 of 10 Max. pos. amplitude	Us1 = -30.0V Us2 = -24.5V	tr = 1.3us, td = 6.56us, tf = 5.26us, tr = 5.96us, td = 6.00us, tf = 0.02us, a = -0.31V, b = -2.81V, c = 2.11V, d = 0.23V	 <p>Ch1-20.0V/Div 5.00us/Div</p>
8 of 10 Max. neg. amplitude	Us1 = -38.9V Us2 = -25.6V	tr = 0.4us, td = 7.78us, tf = 7.28us, tr = 3.18us, td = 0.00us, tf = 0.00us, a = -1.17V, b = -10.55V, c = 1.404V, d = 0.16V	 <p>Ch1-20.0V/Div 5.00us/Div</p>

Positive voltage transients:  $U_{max}=+1,7V$

Negative voltage transients:  $U_{max}= -38,9V$

- 2.6 Date of tests:** 18.09.2012 & 20.09.2012
- 2.7 Place of tests:** SGS-TÜV Saarland Forster GmbH  
Saarbrücker Str. 1  
66706 Perl- Sinz
- 2.8 Remarks:** all versions as stated in the test report are covered with test object(s) respectively. No further tests were necessary. Tested model was B14.

### **3. Annex**

- 3.1.** not applicable  
**3.2.** not applicable

### **4. Final statement**

The description map and in that described type comply with above standards. Test lab is recognized from recognition body of Federal Office for Vehicles, Germany under the registration number: KBA-P 00029-98. Parts of this report are not allowed to reproduced or published without written permission from test lab.  
This report covers complete sheet 4-15.

Perl , 20.09.2012  
( Place ) ( date )

Karl-Heinz Forster  
(Head of test lab) (signature)



( stamp of test lab )

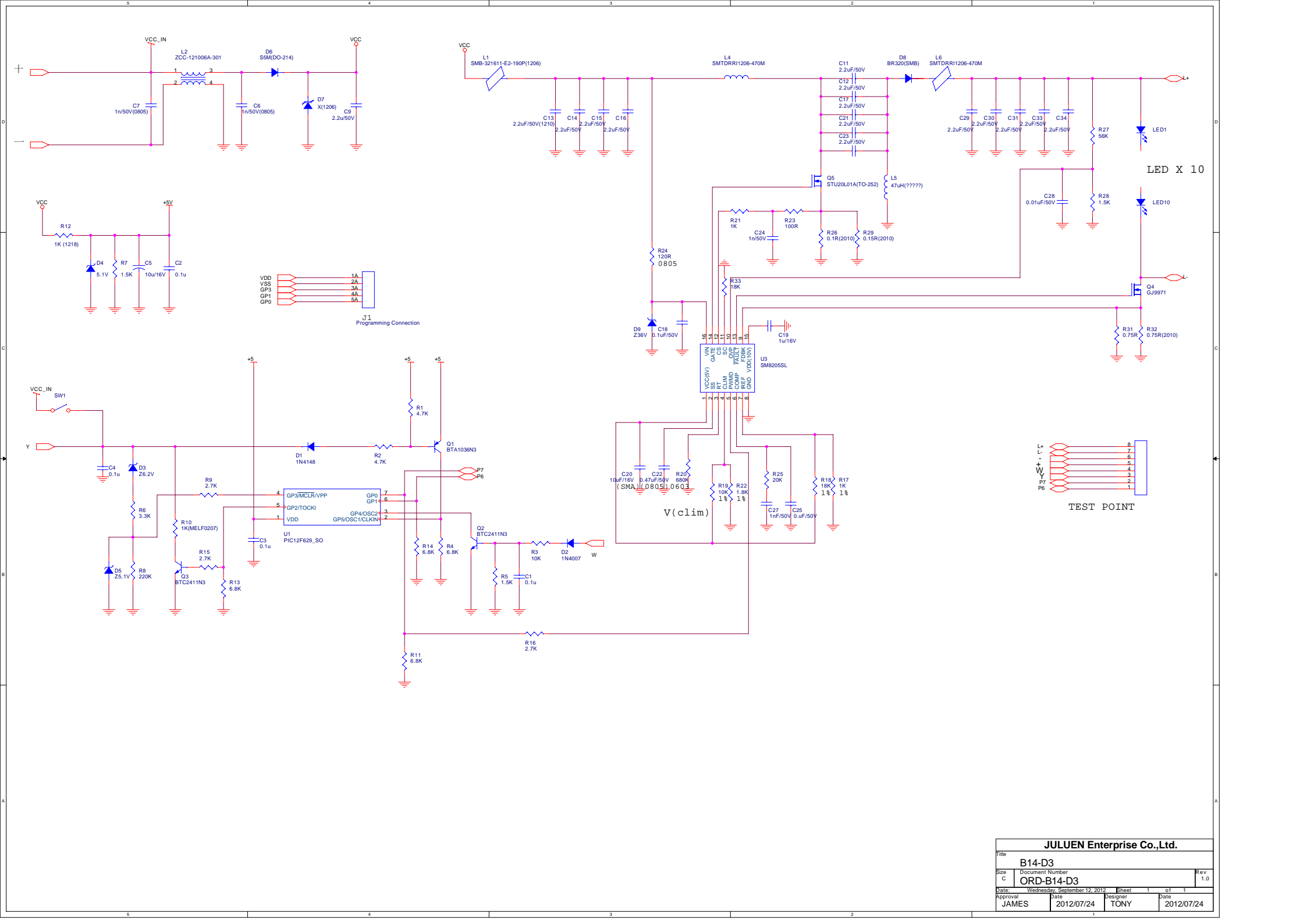
# Report of the manufacturer

Report/Application No.: 32206CP, B14

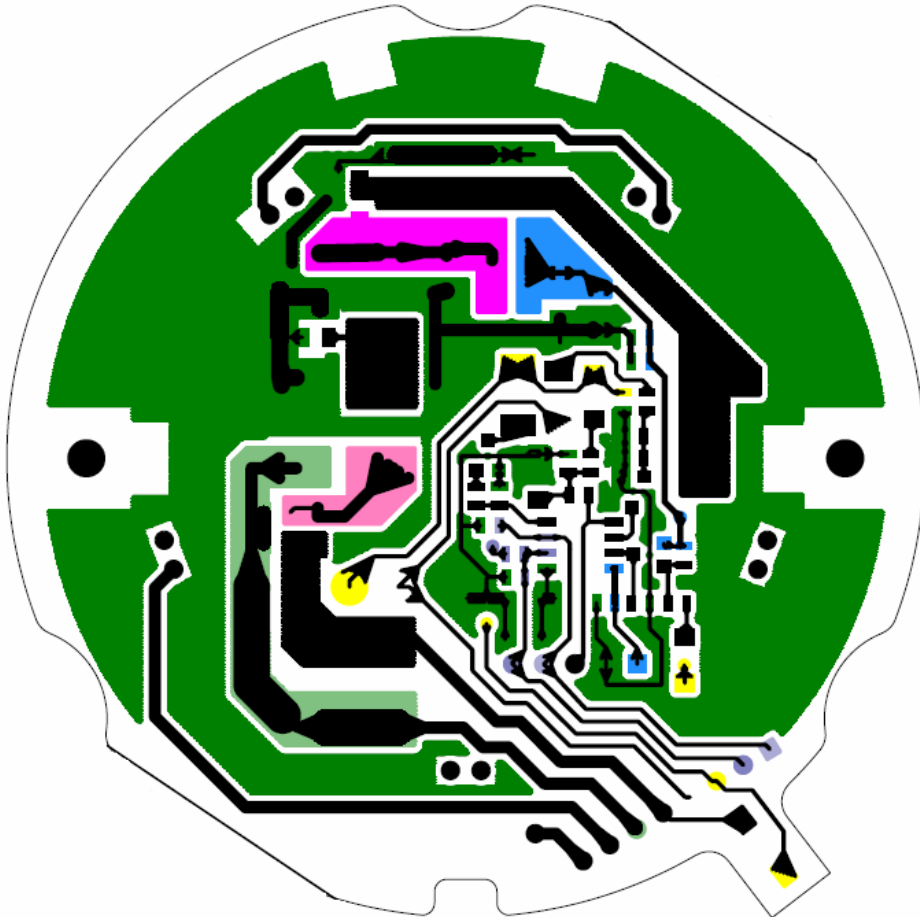
Make (trade name of manufacturer): Juluen Enterprise Co., Ltd.  
Type: B14  
General commercial description(s): Warning Light  
Version(s)/Variant(s): B15, B16, B17  
  
Name and address of manufacturer: JULUEN ENTERPRISE CO., LTD.  
8F.- 1, NO. 502, DA-AN RD., SHULIN CITY,  
TAIPEI COUNTY 238, TAIWAN (R.O.C.)

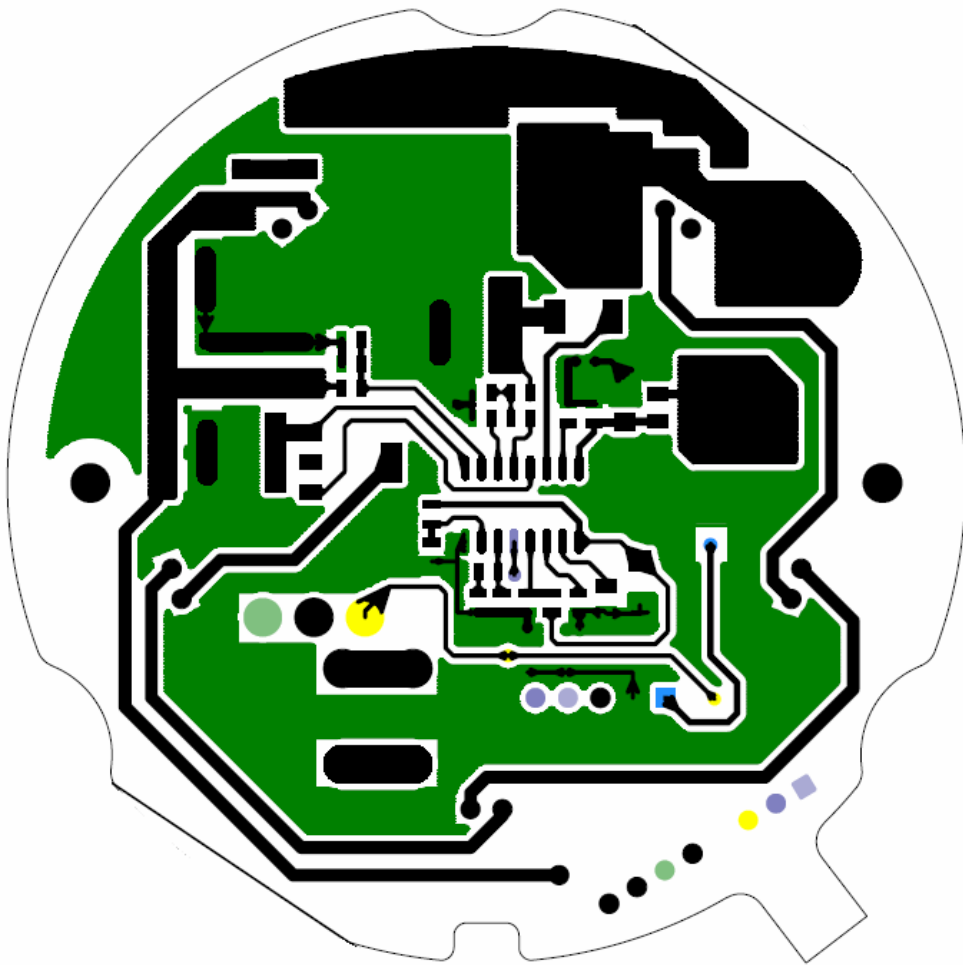
## Contents

Technical Documents	Description	Sheet
Schematic	SCHEMATIC1_ORD-B14-D3	1
Layout	PCB-B14-D3	6
	PCB-B14-LEDX2	5
BOM	BOM-YPCB-B14-D3	3
Photo E.u.T.	Photo	1

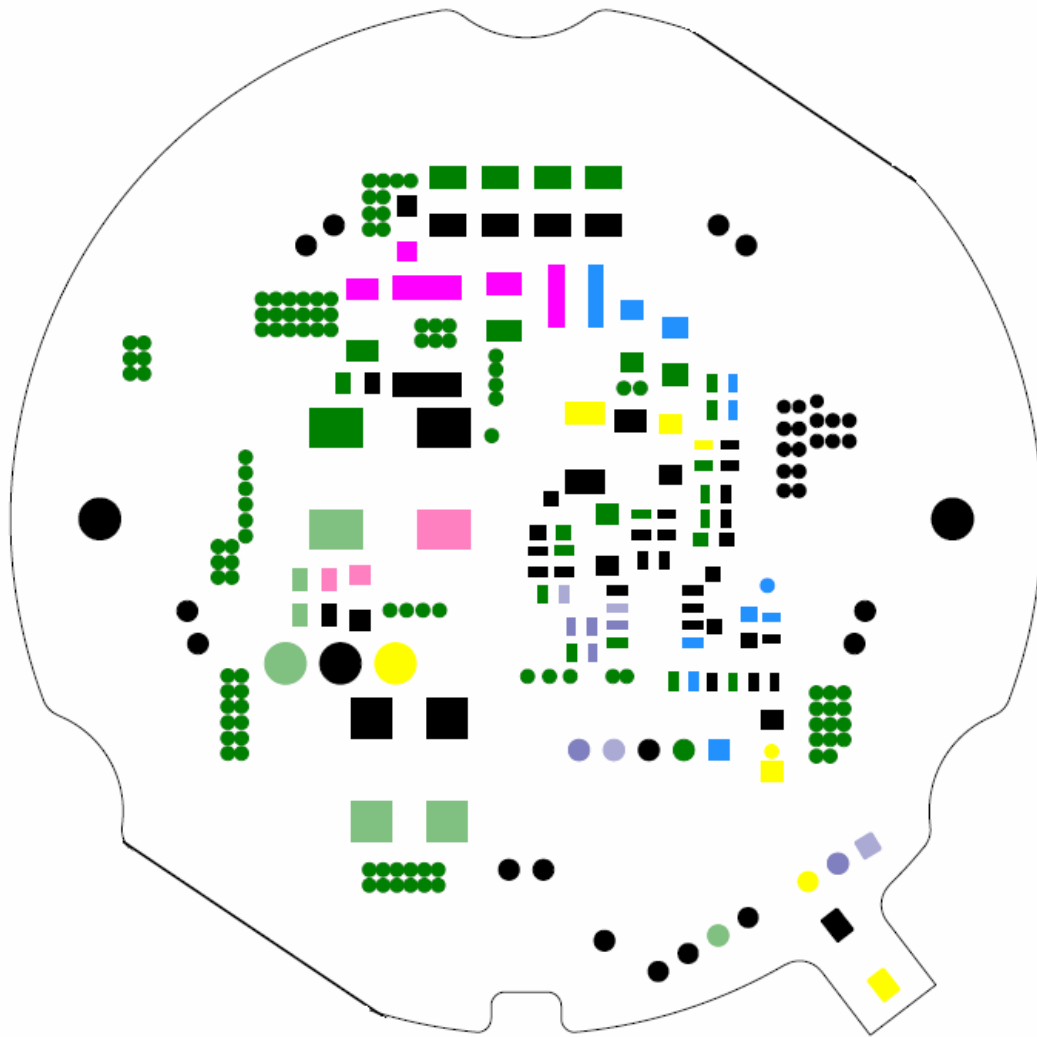


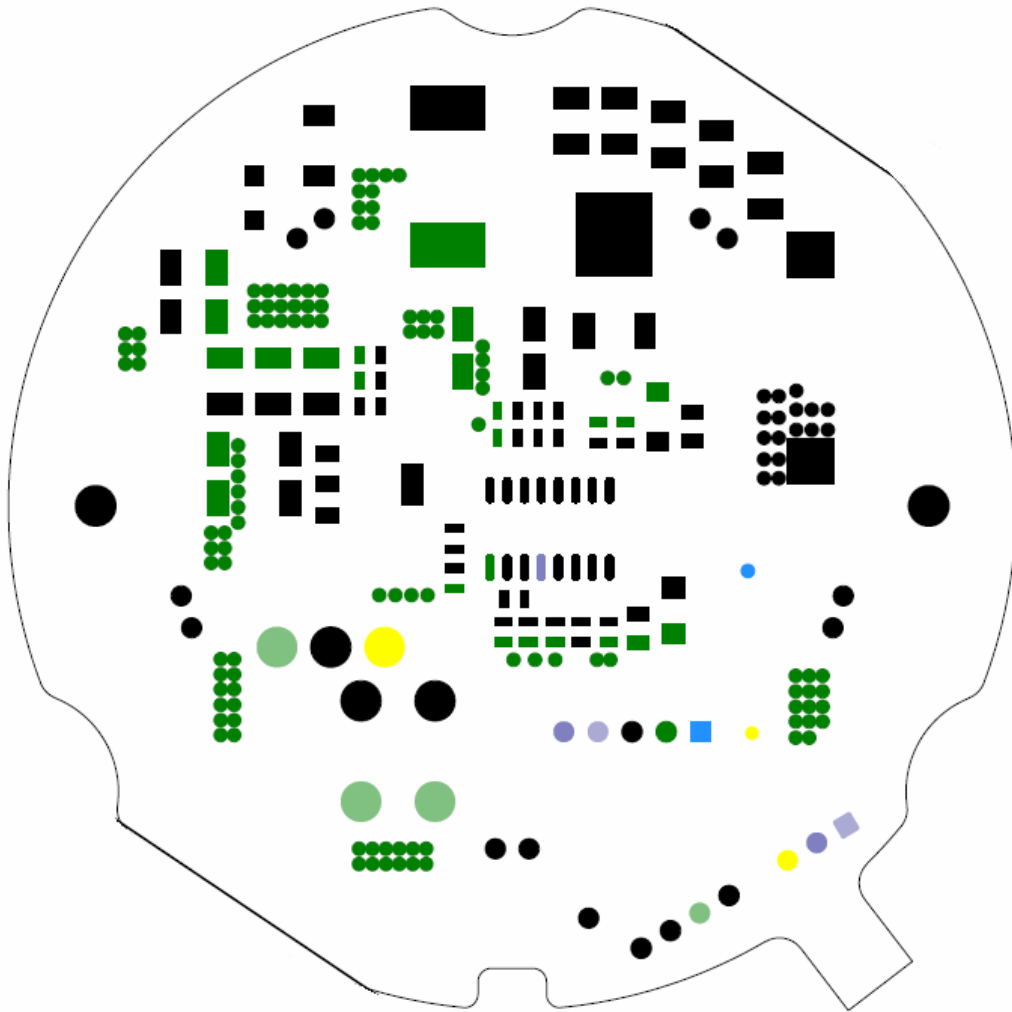
<b>JULUEN Enterprise Co.,Ltd.</b>			
Title: B14-D3			
Size: C	Document Number: ORD-B14-D3		Rev: 1.0
Date: Wednesday, September 12, 2012	Sheet: 1	of: 1	
Approval: JAMES	Date: 2012/07/24	Designer: TONY	Date: 2012/07/24

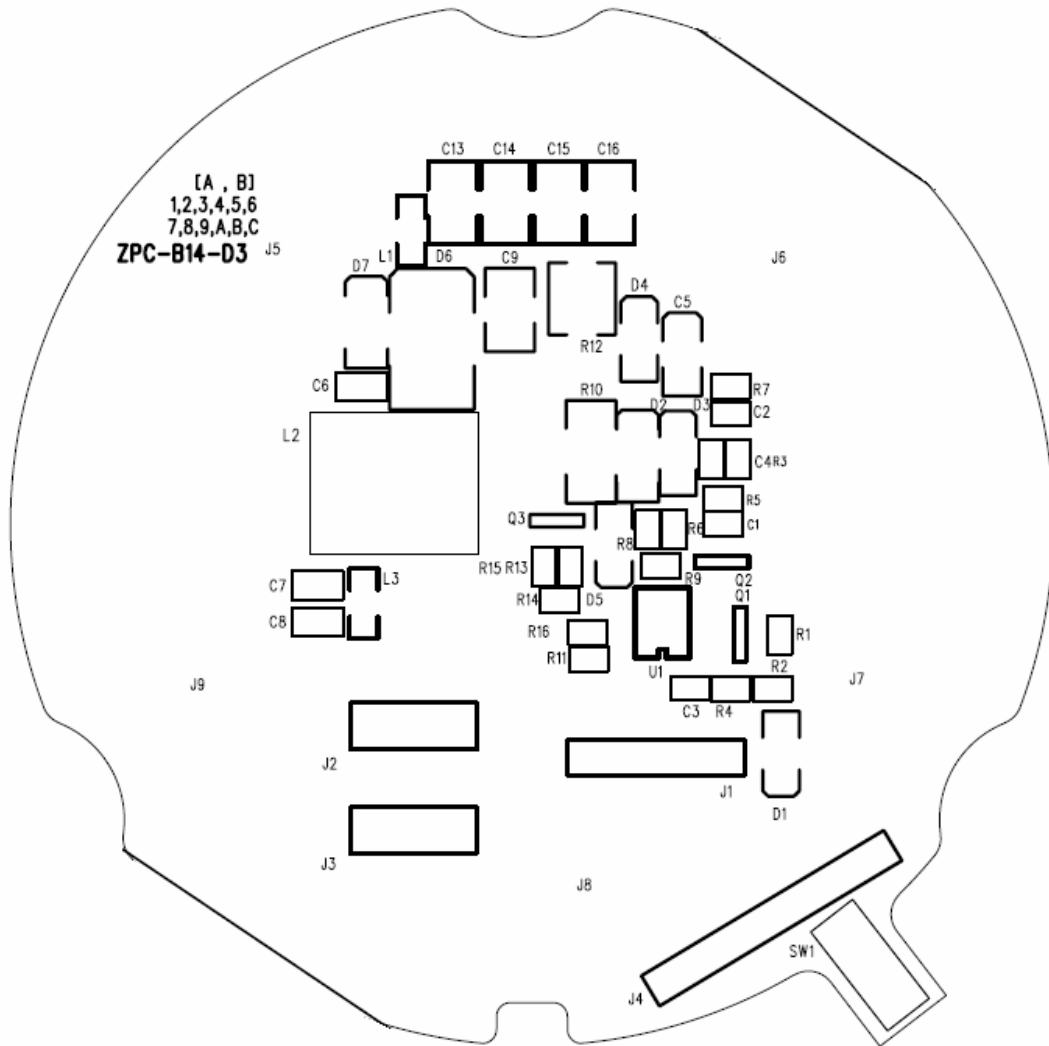


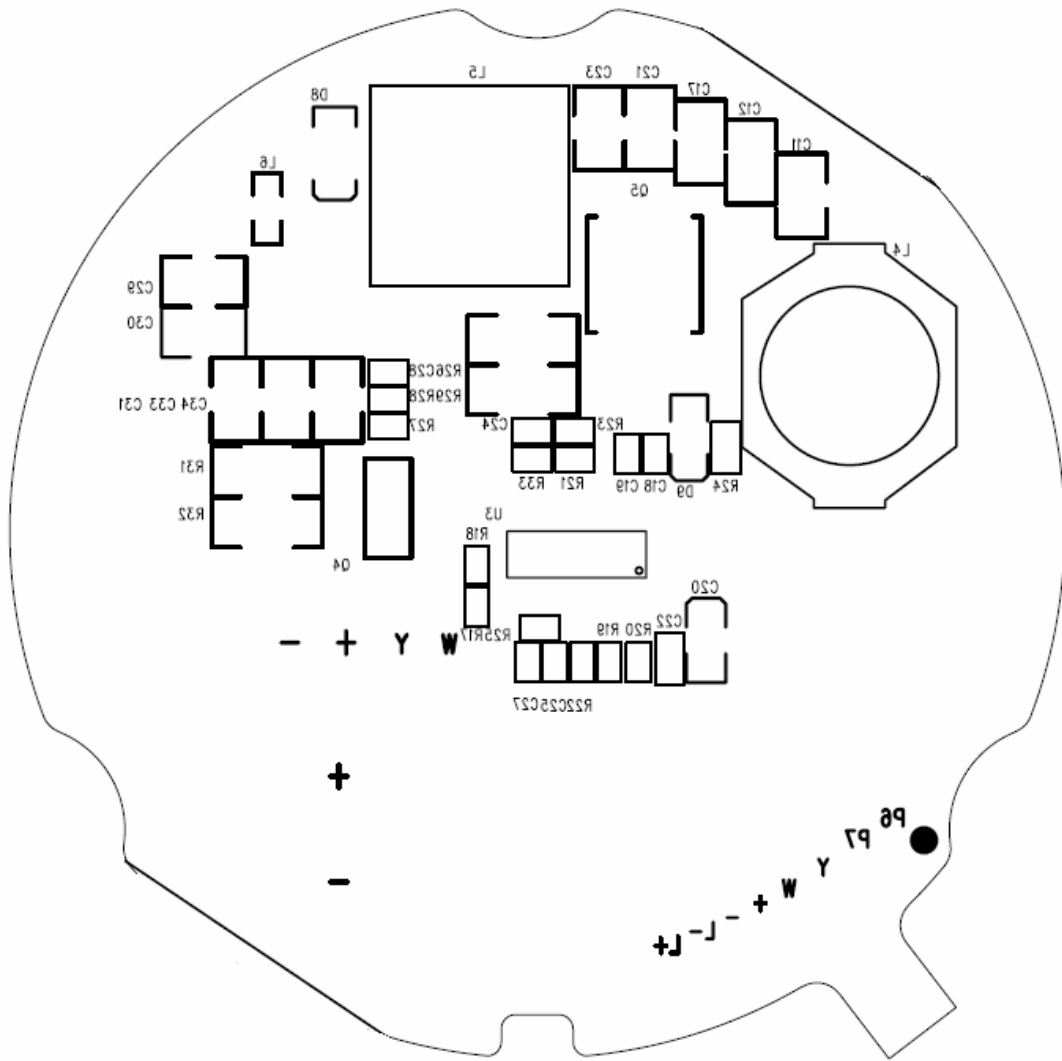


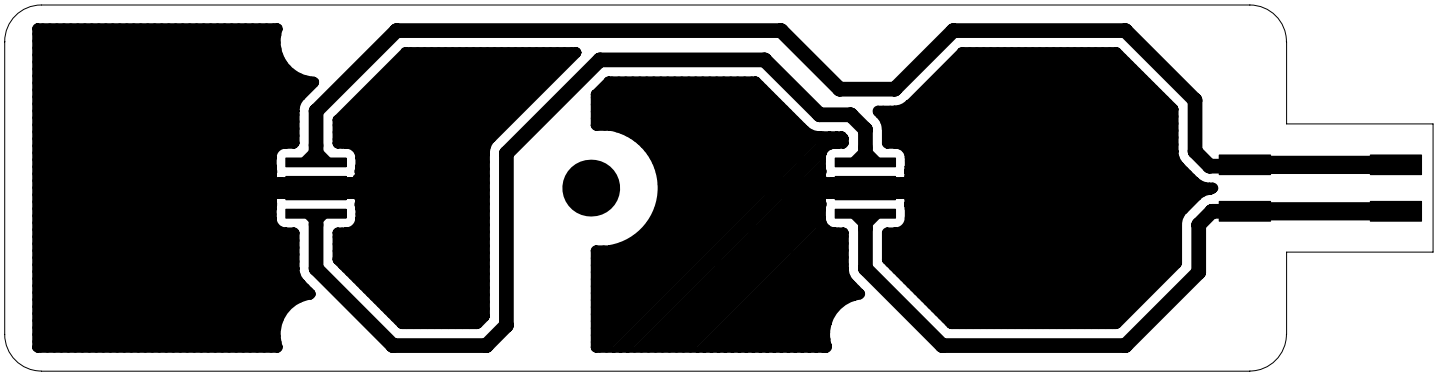


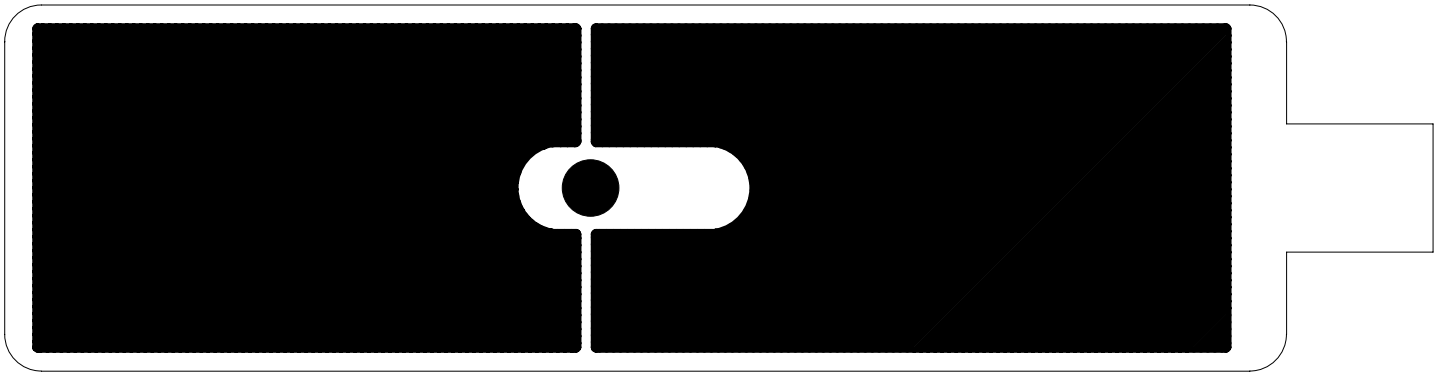


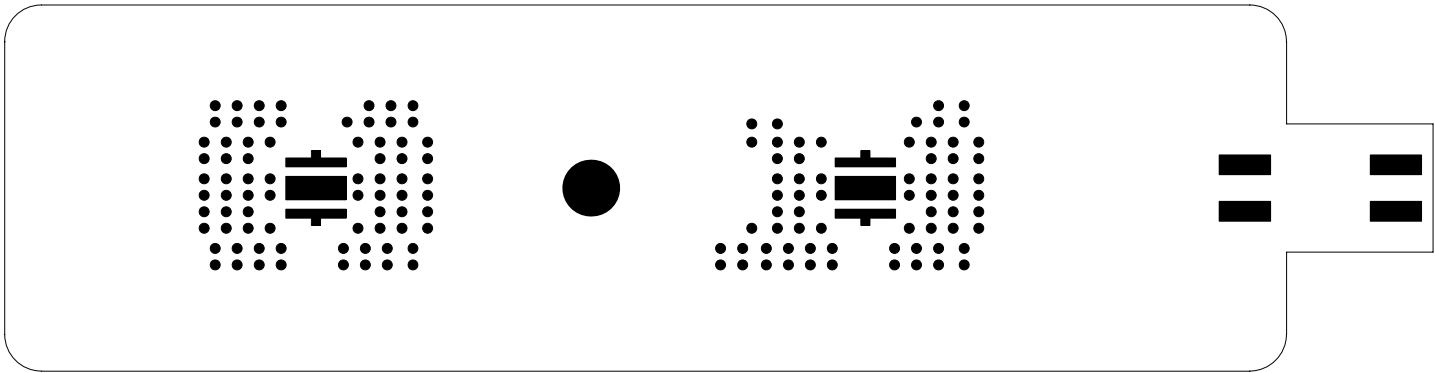


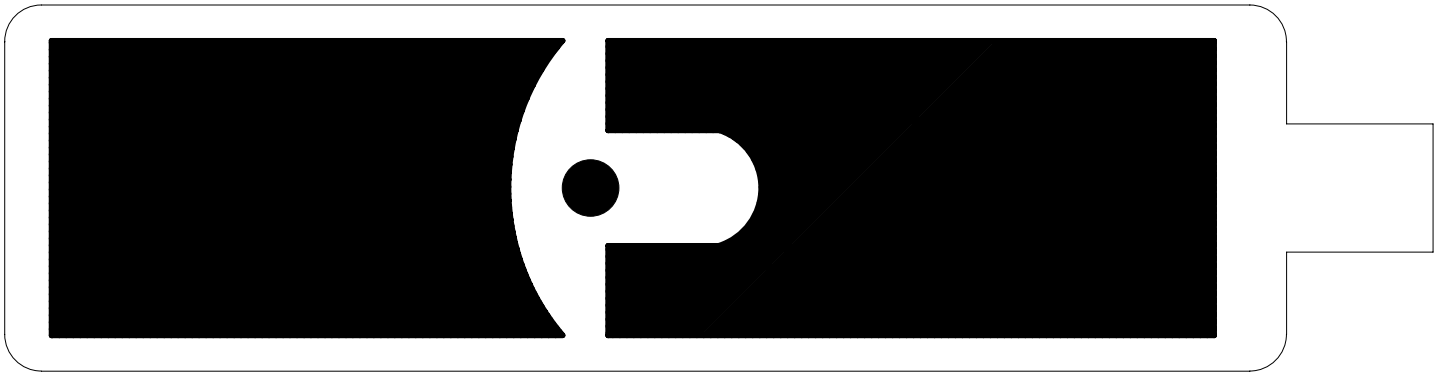




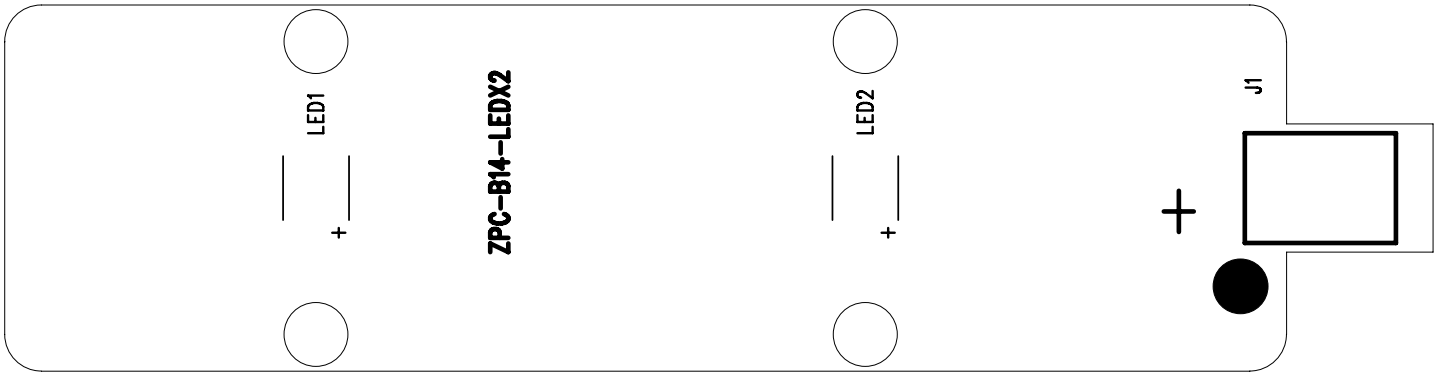














ITEM	DESCRIPTION	PACKAGE
PCB	ZPC-B14-D3	FR-4/1.6mm
R1	4.7K	0603
R2	4.7K	0603
R3	10K	0603
R4	6.8K	0603
R5	1.5K	0603
R6	3.3K	0603
R7	1.5K	0603
R8	220K	0603
R9	2.7K	0603
R10	1K	MELF0207, 1/2W
R11	6.8K	0603
R12	1K	1218, 3/4W
R13	6.8K	0603
R14	6.8K	0603
R15	2.7K	0603
R16	2.7K	0603
R17	1K	0603
R18	18K	0603
R19	10K	0603
R20	680K	0603
R21	1K	0603
R22	1.8K	0603
R23	100R	0603
R24	120R	0805
R25	20K	0603
R26	0.1R	2010
R27	56K	0603
R28	1.5K	0603
R29	0.15R	2010
R30	X	X
R31	0.75R	2010
R32	0.75R	2010
R33	18K	0603
D1	1N4148	SMD1206
D2	1N4007	DA214AC(SMA)
D3	Z6.2V	1206
D4	Z5.1V	1206
D5	Z5.1V	1206
D6	S5M	DO-214AB(SMC)
D7	X	X
D8	BR320	DO-214AA(SMB)
D9	Z36V	1206
C1	0.1u/50V	0603
C2	0.1u/50V	0603
C3	0.1u/50V	0603
C4	0.1u/50V	0603
C5	10u16V	SMA
C6	1n/50V	0805

Approval	Date	Designer	Date
JAMES	2012/09/10	TONY	2012/09/10



ITEM	DESCRIPTION	PACKAGE
C7	1n/50V	0805
C8	X	X
C9	2.2uF/50V	1210
C10	x	x
C11	2.2uF/50V	1210
C12	2.2uF/50V	1210
C13	2.2uF/50V	1210
C14	2.2uF/50V	1210
C15	2.2uF/50V	1210
C16	2.2uF/50V	1210
C17	2.2uF/50V	1210
C18	0.1u/50V	0603
C19	1u/16V	0603
C20	10u16V	SMA
C21	2.2uF/50V	1210
C22	0.47u/50V	0805
C23	2.2uF/50V	1210
C24	1n/50V	0603
C25	0.1u/50V	0603
C26	X	X
C27	1n/50V	0603
C28	0.01u/50V	0603
C29	2.2uF/50V	1210
C30	2.2uF/50V	1210
C31	2.2uF/50V	1210
C32	X	X
C33	2.2uF/50V	1210
C34	2.2uF/50V	1210
L1	SMB321611-E2-190P	1206
L2	121006A-301	12x10x6mm
L3	X	X
L4	47uH	DRR11206
L5	47uH	DR0804
L6	SMB321611-E2-190P	1206
Q1	BTA1036N3	SOT-23
Q2	BTC2411N3	SOT-23
Q3	BTC2411N3	SOT-23
Q4	GL9971	SOT-223
Q5	STU20L01	SOT-223
U1	PIC12F629	SO-8
U2	X	X
U3	SM8205SL	SOIC-16
J1	X	X
J2	805570BL2	250 SERIES FASTON TABS
J3	805570BL2	250 SERIES FASTON TABS
J4	X	X
J5	25401S1	SW25401S1G002A104 (L=1.8cm)
J6	25401S1	SW25401S1G002A104 (L=1.8cm)
J7	25401S1	SW25401S1G002A104 (L=1.8cm)
J8	25401S1	SW25401S1G002A104 (L=1.8cm)

Approval	Date	Designer	Date
JAMES	2012/09/10	TONY	2012/09/10





