



File E214129

Vol 1

Auth. Page 1

Issued: 2001-02-27

Revised: 2017-05-25

FOLLOW-UP SERVICE PROCEDURE
(TYPE R)

COMPONENT - OPTICAL ISOLATORS
(FPQU2,FPQU8)

Manufacturer: SEE ADDENDUM FOR MANUFACTURER LOCATIONS

Applicant: 161116 (Party Site)
(812081-001) EVERLIGHT ELECTRONICS CO LTD
6-8 ZHONGHUA RD SHULIN DISTRICT
NEW TAIPEI
23860 TAIWAN

Recognized Company: 161116 (Party Site)
(812081-001) SAME AS APPLICANT

This Follow-Up Service Procedure authorizes the above Manufacturer(s) to use the marking specified by UL LLC, or any authorized licensee of UL LLC, including the UL Contracting Party, only on products when constructed, tested and found to be in compliance with the requirements of this Follow-Up Service Procedure and in accordance with the terms of the applicable service agreement with UL Contracting Party and any applicable Service Terms. The UL Contracting Party for Follow-Up Services is listed on addendum to this Follow-Up Service Procedure ("UL Contracting Party"). UL Contracting Party and UL LLC are referred to jointly herein as "UL."

UL further defines responsibilities, duties and requirements for both Manufacturers and UL representatives in the document titled, "UL Mark Surveillance Requirements" that can be located at the following web-site: <http://www.ul.com/fus> and in the document titled "UL and Subscriber Responsibilities" that can be located at the following website: <http://www.ul.com/responsibilities>. Manufacturers without Internet access may obtain the current version of these documents from their local UL customer service representative or UL field representative. For assistance, or to obtain a paper copy of these documents or the applicable Service Terms, please contact UL's Customer Service at <http://ul.com/aboutul/locations/>, select a location and enter your request, or call the number listed for that location.

The Applicant, the specified Manufacturer(s) and any Recognized Company in this Follow-Up Service Procedure must agree to receive Follow-Up Services from UL Contracting Party. If your applicable agreement is a Global Services Agreement ("GSA") with an effective date of January 1, 2012 or later and this Follow-Up Service Procedure is issued on or after that effective date, the Applicant, the specified Manufacturer(s) and any Recognized Company will be bound to a Service Agreement for Follow-Up Services upon the earliest by any Subscriber of use of the prescribed UL Mark, acceptance of the factory inspection, or payment of the Follow-Up Service fees which will incorporate such GSA, this Follow-Up Service Procedure and the Follow-Up Service Terms which can be accessed by clicking here: <http://www.ul.com/contracts/Terms-After-12-31-2011>. In all other events, Follow-Up Services will be governed by and incorporate the terms of your applicable service agreement and this Follow-Up Service Procedure.

It is the responsibility of the Recognized Company to make sure that only the products meeting the aforementioned requirements bear the authorized Marks of UL LLC, or any authorized licensee of UL LLC.

This Follow-Up Service Procedure contains information for the use of the above Manufacturer(s) and representatives of UL and is not to be used for any other purpose. It is provided to the Manufacturer with the understanding that it will be returned upon request and is not to be copied in whole or in part.

This Follow-Up Service Procedure, and any subsequent revisions, is the property of UL and is not transferable. This Follow-Up Service Procedure contains confidential information for use only by the above named Manufacturer(s) and representatives of UL and is not to be used for any other purpose. It is provided to the Subscribers with the understanding that it is not to be copied, either wholly or in part unless specifically allowed, and that it will be returned to UL, upon request.

Capitalized terms used but not defined herein have the meanings set forth in the GSA and the applicable Service Terms or any other applicable UL service agreement.

UL shall not incur any obligation or liability for any loss, expense or damages, including incidental, consequential or punitive damages arising out of or in connection with the use or reliance upon this Follow-Up Service Procedure to anyone other than the above Manufacturer(s) as provided in the agreement between UL LLC or an authorized licensee of UL LLC, including UL Contracting Party, and the Manufacturer(s).

UL LLC has signed below solely in its capacity as the accredited entity to indicate that this Follow-Up Service Procedure is in compliance with the accreditation requirements.

Bruce A. Mahrenholz
Director
North American Certification Program

LOCATION

164131 (Party Site)
(100105-150) EVERLIGHT ELECTRONIC (CHINA) CO LTD
2135 ZHONG SHAN NORTH RD
WUJIANG ECONOMY DEVELOPMENT ZONE
(YUN XI AREA), SONGLING TOWN
WUJIANG CITY,
JIANG SU 215000 CHINA

Factory ID: NONE
UL Contracting Party for above site is: UL AG

1732897 (Party Site)
Everlight Electronics Co Ltd Tongluo Plant
26 Zhongxing Rd
Tongluo Township
Miaoli Hsien
36647 TAIWAN

Factory ID: T
UL Contracting Party for above site is: UL AG

Recognized Component Marking Data Page (RCMDP)

(FILE IMMEDIATELY AFTER AUTHORIZATION PAGE)

RECOGNIZED COMPONENT MARKING

Products Recognized under UL's Component Recognition Service are identified by marking elements consisting of:

1. The Recognized Company's identification specified in this document.
2. A catalog, model or other applicable product designation specified in the descriptive sections of this document.
3. The UL Recognized Component Mark shown below is optional unless required elsewhere in the Procedure.

Only those components, which actually bear the Marking, should be considered as being covered under the Recognition Program. The UL Listing or Classification Mark is not authorized for use on or in connection with Recognized Components.

Recognized Component Mark



Minimum size of the Recognized Component Mark is not specified as long as it is legible. Minimum height of the registered symbol ® shall be 3/64 inch but may be omitted if it is out of proportion to the Recognized Component Mark or not legible to the naked eye.

The manufacturer may reproduce the Mark electronically. Any decision regarding the acceptability of the manufacturer's Mark reproduction will be made at the Reviewing Office.

THIS FORM PAGE IS TO BE REVISED BY THE NORTHBROOK LABEL DEPARTMENT ONLY

Recognized Component Marking Data Page (RCMDP)

(FILE IMMEDIATELY AFTER AUTHORIZATION PAGE)

RECOGNIZED COMPONENT MARKING

Products Recognized under UL's Component Recognition Service are identified by marking elements consisting of:

1. The Recognized Company's identification specified in this document.
2. A catalog, model or other applicable product designation specified in the descriptive sections of this document.
3. The UL Recognized Component Mark shown below:
 - (A) Recognized only to Canadian safety requirements, or;
 - (B) Recognized to both U.S. and Canadian safety requirements.

Only those components, which actually bear the Marking, should be considered as being covered under the Recognition Program. The UL Listing or Classification Mark is not authorized for use on or in connection with Recognized Components.

Recognized Component Mark

(A)



(B)



Minimum size of the Recognized Component Mark is not specified as long as it is legible. Minimum height of the registered symbol ® shall be 3/64 inch but may be omitted if it is out of proportion to the Recognized Component Mark or not legible to the naked eye.

The manufacturer may reproduce the Mark electronically. Any decision regarding the acceptability of the manufacturer's Mark reproduction will be made at the Reviewing Office.

THIS FORM PAGE IS TO BE REVISED BY THE NORTHBROOK LABEL DEPARTMENT ONLY

GENERAL

PRODUCT COVERED:

Component - Optical Isolators.

MANUFACTURING LOCATION and Identification:

(MULTIPLE) MANUFACTURING LOCATIONS:


The products in this Follow-Up Service Procedure are manufactured at more than one location. The Manufacturer's I.D. Marking shown below shall be marked on each unit to identify the unit as the product of a particular factory. Permanency of Marking is not required for the Manufacturer's ID Markings.

Please see the Addendum to Authorization Page for Factory Location and ID •

MARKING:

USR - Recognized company name or trademark, and model designation provided on each unit.

CNR - Recognized company name or trademark, model designation, and the

Recognized Component Mark for Canada , provided on each unit.

TRADEMARK DESIGNATION:

The following trademark or trade name, if any, may be used to identify products described in this Procedure in lieu of the Listee and/or Recognized Company name. The company identification is the Recognized Company's name or trademark.



Or



Or

EVERLIGHT®

Everlight , EL

RATINGS:

Specification Sheet - The rating information specified below shall appear in the manufacturer's specifications for the product and may be expressed in tabular or graphic format:

1. Maximum continuous power, a current, and voltage rating for both the photo-emitter and the photo-sensor circuits.
2. A dielectric insulation-voltage rating between input and output terminals, specified in volts rms, or dc, as applicable.
3. The maximum operating temperature.
4. Derating specifications related to ambient temperatures.

GENERAL CONSTRUCTION:

Corrosion Protection - All ferrous parts are of corrosion resistant material or are plated or painted as corrosion protection.

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Revised: 2006-04-18

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| Model Numbers | Section | Date | Requirements Evaluated to (US and/or CN) |
|---|---------|------------|--|
| <p>Double Protection Optical isolators, Models 817, CNY75, CQY80, EL101, EL101L, EL101XH, EL111, EL121, EL121N, EL124, EL124N, EL151, EL161, EL354, EL354L, EL354N, EL355, EL355L, EL356, EL356N, EL357, EL357L, EL357N, EL357NH, EL357NL, EL3571N, EL359, EL610, EL617, EL7X7, EL8X4, EL8X5, EL8X6, EL8X7, EL8X9, EL844, EL845, EL847, EL2501, EL2514, EL2561, EL2701, EL2701N, EL2705, EL2705N, EL817H, EL817L, EL8171, EL9001, HS817, K233, K817P, TCDT110, TCDT111, TCDT112, TCET110, TCET111, TCET120, VO610A, and, VO615A. "X" may be 0 to 9.</p> <p>Double Protection Optical isolators, Models 4N, MCT2, CNY17, MOC811, H11A, MOC810, TIL11, CNX3 and SL55.</p> <p>Double Protection Optical Isolators, Models EL3010, EL3011, EL3012, EL3013, EL3014, EL3020, EL3021, EL3022, EL3023, EL3024, EL3050, EL3051, EL3052, EL3053, EL3054, EL3030, EL3031, EL3032, EL3033, EL3034, EL3040, EL3041, EL3042, EL3043, EL3044, EL3060, EL3061, EL3062, EL3063, EL3064, EL3070, EL3071, EL3072, EL3073, EL3074, EL3080, EL3081, EL3082, EL3083, EL3084, EL3161, EL3162, EL3163, ELM4, ELM6, H11AA1, H11AA2, H11AA3, H11AA4, 4N29, 4N30, 4N31, 4N32, 4N33, H11B1, H11B2, H11B3, H11B255, H11L1, H11L2, H11L3, MOC119, MOC8020, MOC8021, MOC8030, MOC8050, MOC8080, TIL113.</p> <p>Double Protection Optical isolators, Models EL280, EL281, EL2801, EL3H4, EL3H7, EL3H7H, EL3H7L, EL3H7U, and EL3H71.</p> <p>Double Protection Optical Isolators, Models EL205, EL206, EL207, EL208, EL211, EL212, EL213, EL215, EL216, EL217, ELD205, ELD206, ELD207, ELD208, ELD211, ELD213, and ELD217.</p> <p>Double Protection Optical Isolators, Models ELD3H4, ELD3H5, ELD3H6, ELD3H7, ELQ3H4, ELQ3H5, ELQ3H7.</p> <p>All Models may be followed by any letters or numbers.</p> | 1 | 2001-02-27 | US, CN |

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| Model Numbers | Section | Date | Requirements Evaluated to (US and/or CN) |
|--|---------|------------|--|
| Double Protection Optical Isolator, Models 4N5, 6N135, 6N136, 6N137, 6N138, 6N139, CNY64, CNY65, EL050L, EL060L, EL061A, EL061N, EL0200, EL0201, EL0202, EL01210, EL0211, EL0212, EL0452, EL0453, EL0454, EL0500, EL0501, EL0600, EL0601, EL0611, EL070L, EL071L, EL0700, EL0701, EL250L, EL253L, EL260L, EL261A, EL261N, EL263A, EL263L, EL263N, EL371, EL725, EL851, EL852, EL2200, EL2201, EL2202, EL2219, EL2211, EL2212, EL2231, EL2232, EL2502, EL2503, EL2530, EL2531, EL2601, EL2611, EL2630, EL2631, EL2730, EL2731, EL4502, EL4503, EL4504, EL4534, EL4661, ELD851, ELD852, ELL300, ELW135, ELW136, ELW137, ELW138, ELW139, ELW250L, ELW260L, ELW2200, ELW2201, ELW2202, ELW2211, ELW2212, ELW2219, ELW2601, ELW2611, ELW3120, ELW3140, ELW3150, ELW3180, ELW3184, ELW4502, ELW4503, ELW4504, H11D, H11G1, H11G2, H11G3. Models may be followed by any suffix. | 2 | 2008-08-12 | US, CN |
| Double Protection, Optical Isolator, Models EL351, EL352, EL451, EL452, EL053L, EL0530, EL0531, EL0533, EL0551, EL063A, EL063L, EL063N, EL083L, EL086L, EL0630, EL0631, EL0661, EL0730, EL0731, ELM60U, ELM61U, ELM80L, ELM81L, ELM314, ELM452, ELM452L, ELM453, ELM453L, ELM454, ELM600, ELM600L, ELM601, ELM601L, ELM611, ELM611L, ELM3010, ELM3011, ELM3012, ELM3013, ELM3014, ELM3020, ELM3021, ELM3022, ELM3023, ELM3024, ELM3030, ELM3031, ELM3032, ELM3033, ELM3034, EL3040, ELM3041, ELM3042, ELM3043, ELM3044, ELM3050, ELM3051, ELM3052, ELM3053, ELM3054, ELM3060, ELM3061, ELM3062, ELM3063, ELM3064, ELM3070, ELM3071, ELM3072, ELM3073, ELM3074, ELM3080, ELM3081, ELM3082, ELM3083, ELM3084. All models may be followed by any letters or numbers. | 3 | 2010-08-26 | US, CN |
| | | | |

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| Model Numbers | Section | Date | Requirements Evaluated to (US and/or CN) |
|--|---------|------------|--|
| <p>Double Protection, Optical Isolator, Models ELR0223, ELR1223, ELR2223, ELR3202, ELR3203, ELR3212, ELR3213, ELR3222, ELR3223, ELR3232, ELR3233, ELR3502, ELR3503, ELR3512, ELR3513, ELR3522, ELR3523, ELR3532, ELR3533, ELR3702, ELR3703, ELR3712, ELR3713, ELR3722, ELR3723, ELR3732, ELR3733.</p> <p>Double Protection, Optical Isolator, Models ELR3402, ELR3403, ELR3412, ELR3413, ELR3422, ELR3423, ELR3432, ELR3433, ELR3602, ELR3603, ELR3612, ELR3613, ELR3622, ELR3623, ELR3632, ELR3633, ELR3802, ELR3803, ELR3812, ELR3813, ELR3822, ELR3823, ELR3832, ELR3833.</p> | 4 | 2010-09-17 | US, CN |
| <p>Double Protection Optical Isolator, ELT3010, ELT3011, ELT3012, ELT3013, ELT3014, ELT3020, ELT3021, ELT3022, ELT3023, ELT3024, ELT3030, ELT3040, ELT3050, ELT3051, ELT3052, ELT3053, ELT3054, ELT3031, ELT3032, ELT3033, ELT3034, ELT3041, ELT3042, ELT3043, ELT3060, ELT3044, ELT3061, ELT3062, ELT3063, ELT3064, ELT3070, ELT3071, ELT3072, ELT3073, ELT3074, ELT3080, ELT3081, ELT3082, ELT3083, and ELT3084, may be followed by any letters or numbers.</p> | 5 | 2011-09-02 | US, CN |
| <p>* Single Protection Optical Isolator, ELM440A, ELM460A, ELM640A, ELM660A, ELM840A, ELM860A. All models may be followed by any letters or numbers.</p> <p>Double Protection Optical Isolator, Models EL3120, EL3140, EL3150, EL3180, EL3184, EL406X, EL410X, EL420X, EL425X, EL435X, EL440X, EL460X, EL606X, EL610X, EL620X, EL625X, EL635X, EL640X, EL660X, EL806A, EL810A, EL820A, EL825A, EL835A, EL840A, EL860A, ELS500, ELS501, ELS511, ELS050L, ELS051L, ELS052L, ELS060L, ELS061L, ELS062L, ELS60U, ELS61U, ELS62U, ELS270, ELS271, ELS272, ELS600, ELS601, ELS611 where X may be A or B. All models may be followed by any letters or numbers, except A or B.</p> | 6 | 2012-02-22 | US, CN |

File E214129
Project 00CA06189

February 27, 2001

REPORT

ON

COMPONENT - OPTICAL ISOLATORS

Everlight Electronics Co., Ltd.
Tucheng, Taipei, Taiwan

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DESCRIPTION

PRODUCT COVERED:

USR, CNR Component - Double Protection Optical isolators, Models 817, CNY75, CQY80, EL101, EL101L, EL101XH, EL111, EL121, EL121N, EL124, EL124N, EL151, EL161, EL354, EL354L, EL354N, EL355, EL355L, EL356, EL356N, EL357, EL357L, EL357N, EL357NH, EL357NL, EL3571N, EL359, EL610, EL617, EL7X7, EL8X4, EL8X5, EL8X6, EL8X7, EL8X9, EL844, EL845, EL847, EL2501, EL2514, EL2561, EL2701, EL2701N, EL2705, EL2705N, EL817H, EL817L, EL8171, EL9001, HS817, K233, K817P, TCDT110, TCDT111, TCDT112, TCET110, TCET111, TCET120, VO610A, and, VO615A. "X" may be 0 to 9.

USR, CNR Component - Double Protection Optical isolators, Models 4N, MCT2, CNY17, MOC811, H11A, MOC810, TIL11, CNX3 and SL55.

USR, CNR Component - Double Protection Optical Isolators, Models EL3010, EL3011, EL3012, EL3013, EL3014, EL3020, EL3021, EL3022, EL3023, EL3024, EL3050, EL3051, EL3052, EL3053, EL3054, EL3030, EL3031, EL3032, EL3033, EL3034, EL3040, EL3041, EL3042, EL3043, EL3044, EL3060, EL3061, EL3062, EL3063, EL3064, EL3070, EL3071, EL3072, EL3073, EL3074, EL3080, EL3081, EL3082, EL3083, EL3084, EL3161, EL3162, EL3163, ELM4, ELM6, H11AA1, H11AA2, H11AA3, H11AA4, 4N29, 4N30, 4N31, 4N32, 4N33, H11B1, H11B2, H11B3, H11B255, H11L1, H11L2, H11L3, MOC119, MOC8020, MOC8021, MOC8030, MOC8050, MOC8080, TIL113.

USR, CNR Component - Double Protection Optical isolators, Models EL280, EL281, EL2801, EL3H4, EL3H7, EL3H7H, EL3H7L, **EL3H7U**, and EL3H71.

USR, CNR Component - Double Protection Optical Isolators, Models EL205, EL206, EL207, EL208, EL211, EL212, EL213, EL215, EL216, EL217, ELD205, ELD206, ELD207, ELD208, ELD211, ELD213, and ELD217.

USR, CNR Component - Double Protection Optical Isolators, Models ELD3H4, ELD3H5, ELD3H6, ELD3H7, ELQ3H4, ELQ3H5, ELQ3H7.

All Models may be followed by any letters or numbers.

GENERAL:

These devices are photocoupled isolators consisting of a gallium arsenide light emitting diode, optically coupled to a silicone phototransistor. They are intended to be used in applications where the suitability of the combination has been determined by Underwriters Laboratories Inc. Only the insulating function, for the rated dielectric insulation voltage, between the input and output of the device has been investigated.

MAXIMUM RATINGS CONTINUED (at nominal operating temperature) Cont'd:

| Model | Current (mA) | | Power (mW) | | Isolation Voltage | Max Operating Temp (°C) | Max Junction Temp (°C) | Max Storage Temp (°C) |
|--|--------------|-----------|------------|------------|-------------------|-------------------------|------------------------|-----------------------|
| | Emitter | Sensor | Emitter | Sensor | | | | |
| EL101 | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| EL101L | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| EL101XH | 60 | 50 | 100 | 150 | 5000 | 125 | 130 | 150 |
| EL111 | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| EL121, EL121N | 50 | 50 | 70 | 150 | 3750 | 110 | 125 | 125 |
| EL124, EL124N | 50 | 50 | 70 | 150 | 3750 | 110 | 125 | 125 |
| EL205 | 60 | 150 | 90 | 150 | 3750 | 110 | 125 | 150 |
| EL151 | 60 | 100 | 100 | 150 | 5000 | 110 | 125 | 125 |
| EL161 | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| ELD205 | 60 | 150 | 90 | 150 | 3750 | 110 | 125 | 150 |
| EL206 | 60 | 150 | 90 | 150 | 3750 | 110 | 125 | 150 |
| ELD206 | 60 | 150 | 90 | 150 | 3750 | 110 | 125 | 150 |
| EL207 | 60 | 150 | 90 | 150 | 3750 | 110 | 125 | 150 |
| ELD207 | 60 | 150 | 90 | 150 | 3750 | 110 | 125 | 150 |
| EL208 | 60 | 150 | 90 | 150 | 3750 | 110 | 125 | 150 |
| ELD208 | 60 | 150 | 90 | 150 | 3750 | 110 | 125 | 150 |
| EL211 | 60 | 150 | 90 | 150 | 3750 | 110 | 125 | 150 |
| ELD211 | 60 | 150 | 90 | 150 | 3750 | 110 | 125 | 150 |
| EL212 | 60 | 150 | 90 | 150 | 3750 | 110 | 125 | 150 |
| EL213 | 60 | 150 | 90 | 150 | 3750 | 110 | 125 | 150 |
| ELD213 | 60 | 150 | 90 | 150 | 3750 | 110 | 125 | 150 |
| EL215 | 60 | 150 | 90 | 150 | 3750 | 110 | 125 | 150 |
| EL216 | 60 | 150 | 90 | 150 | 3750 | 110 | 125 | 150 |
| EL217 | 60 | 150 | 90 | 150 | 3750 | 110 | 125 | 150 |
| ELD217 | 60 | 150 | 90 | 150 | 3750 | 110 | 125 | 150 |
| EL3H4 | 50 | 50 | 70 | 150 | 3750 | 110 | 125 | 125 |
| EL3H7 | 50 | 50 | 70 | 150 | 3750 | 110 | 125 | 125 |
| EL3H7H | 50 | 50 | 70 | 150 | 3750 | 125 | 130 | 150 |
| EL3H7L | 50 | 50 | 70 | 150 | 3750 | 110 | 125 | 125 |
| EL3H7U | 50 | 50 | 70 | 150 | 3750 | 125 | 130 | 150 |
| EL3H7I | 50 | 50 | 70 | 150 | 3750 | 110 | 125 | 125 |
| EL280 | 50 | 50 | 70 | 150 | 3750 | 110 | 125 | 125 |
| EL281 | 50 | 50 | 70 | 150 | 3750 | 110 | 125 | 125 |
| EL354, EL354N | 50 | 50 | 70 | 150 | 3750 | 110 | 125 | 125 |
| EL354L | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| EL355 | 50 | 80 | 70 | 150 | 3750 | 110 | 125 | 125 |
| EL355L | 60 | 100 | 100 | 150 | 5000 | 110 | 125 | 125 |
| EL356, EL356N | 50 | 50 | 70 | 150 | 3750 | 110 | 125 | 125 |
| EL357, EL357N | 50 | 50 | 70 | 150 | 3750 | 110 | 125 | 125 |
| EL357L | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| EL357NH | 50 | 50 | 70 | 150 | 3750 | 125 | 130 | 150 |
| EL357NL | 50 | 50 | 70 | 150 | 3750 | 110 | 125 | 125 |
| EL357IN | 50 | 50 | 70 | 150 | 3750 | 110 | 125 | 125 |
| EL359 | 50 | 50 | 70 | 150 | 3750 | 110 | 125 | 125 |
| EL610 | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| EL617 | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| EL7X7 | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| 4N | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| MCT2 | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| CNY17 | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| MOC811 | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| H11A | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| MOC810 | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| TIL11 | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| CNX3 | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| SL55 | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| EL8X4 | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| EL8X5 | 60 | 80 | 100 | 150 | 5000 | 110 | 125 | 125 |
| EL8X6 | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| EL8X7, EL2501, EL2514, EL2561, 817 | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| EL817H | 60 | 50 | 100 | 150 | 5000 | 125 | 130 | 150 |
| EL817L | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| EL8X9 | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| EL2701, EL2701N | 50 | 50 | 70 | 150 | 3750 | 110 | 125 | 125 |
| EL2705, EL2705N | 50 | 50 | 70 | 150 | 3750 | 110 | 125 | 125 |
| EL2801 | 50 | 50 | 70 | 150 | 3750 | 110 | 125 | 125 |

MAXIMUM RATINGS CONTINUED (at nominal operating temperature) Cont'd:

| Model | Current (mA) | | Power (mW) | | Isolation Voltage | Max Operating Temp (°C) | Max Junction Temp (°C) | Max Storage Temp (°C) |
|---|--------------|------------|------------|------------|-------------------|-------------------------|------------------------|-----------------------|
| | Emitter | Sensor | Emitter | Sensor | | | | |
| EL8171 | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| EL9001 | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| H11AA1, H11AA2, H11AA3, H11AA4 | 60 | 50 | 120 | 150 | 5000 | 100 | 125 | 125 |
| 4N29, 4N30, 4N31, 4N32, 4N33, H11B1, H11B2, H11B3, H11B255, TIL113, MOC119, MOC8020, MOC8021, MOC8030, MOC8050, MOC8080 | 60 | 150 | 120 | 150 | 5000 | 100 | 125 | 125 |
| EL3010, EL3011, EL3012, EL3013, EL3014, EL3021, EL3022, EL3020, EL3023, EL3024, EL3050, EL3051, EL3052, EL3053, EL3054, EL3070, EL3071, EL3072, EL3073, EL3074 | 60 | 100 | 100 | 300 | 5000 | 100 | 125 | 125 |
| EL3030, EL3031, EL3032, EL3033, EL3034, EL3040, EL3041, EL3042, EL3043, EL3044, EL3061, EL3062, EL3063, EL3060, EL3161, EL3064, EL3162, EL3163, EL3080, EL3081, EL3082, EL3083, EL3084, ELM4, ELM6 | 60 | 100 | 100 | 300 | 5000 | 100 | 125 | 125 |
| H11L1, H11L2, H11L3 | 60 | 50 | 120 | 150 | 5000 | 100 | 125 | 125 |
| HS817, K817P, TCET110, TCET111, TCET120, VO610A, VO615A | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| CNY75, CQY80, K233, TCDT110, TCDT111, TCDT112 | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| ELD3H4, ELD3H6, ELD3H7, | 60 | 50 | 100 | 150 | 3750 | 110 | 125 | 125 |
| ELD3H5 | 60 | 100 | 100 | 150 | 3750 | 110 | 125 | 125 |
| ELQ3H4, ELQ3H7 | 60 | 50 | 100 | 150 | 3750 | 110 | 125 | 125 |
| ELQ3H5 | 60 | 100 | 100 | 150 | 3750 | 110 | 125 | 125 |
| EL844 | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |
| EL845 | 60 | 100 | 100 | 150 | 5000 | 110 | 125 | 125 |
| EL847 | 60 | 50 | 100 | 150 | 5000 | 110 | 125 | 125 |

- See ILL. 3 for the Derating Curves of representative models.

ENGINEERING CONSIDERATIONS: (Not for Field Representative's Use)

Use - For use only in (or with) complete equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.

Special Considerations - The following items are considerations that were used when evaluating this product.

USR indicates investigation to the U.S. Standard for Safety for Optical Isolators, UL 1577, **5th Edition**.

CNR indicates investigation to the Canadian Standard, CAN/CSA Component Acceptance Service Notice No. 5.

File E214129
Project 08CA17258

August 12, 2008

REPORT

ON

COMPONENT - OPTICAL ISOLATORS

Everlight Electronics Co Ltd
TUCHENG, TAIPEI, TAIWAN

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DESCRIPTION

USR, CNR - Double Protection Optical Isolator, Models 4N5, 6N135, 6N136, 6N137, 6N138, 6N139, CNY64, CNY65, EL050L, EL060L, EL061A, EL061N, **EL0200, EL0201, EL0202, EL0210, EL0211, EL0212**, EL0452, EL0453, EL0454, EL0500, EL0501, EL0600, EL0601, EL0611, EL070L, EL071L, EL0700, EL0701, EL250L, EL253L, EL260L, EL261A, EL261N, EL263A, EL263L, EL263N, EL371, EL725, EL851, EL852, EL2200, EL2201, EL2202, EL2219, EL2211, EL2212, EL2231, EL2232, EL2502, EL2503, EL2530, EL2531, EL2601, EL2611, EL2630, EL2631, EL2730, EL2731, EL4502, EL4503, EL4504, EL4534, EL4661, ELD851, ELD852, **ELL300**, ELW135, ELW136, ELW137, ELW138, ELW139, ELW250L, ELW260L, ELW2200, ELW2201, ELW2202, ELW2211, ELW2212, ELW2219, ELW2601, ELW2611, ELW3120, ELW3140, ELW3150, ELW3180, ELW3184, ELW4502, ELW4503, ELW4504, H11D, H11G1, H11G2, H11G3. Models may be followed by any suffix.

MAXIMUM RATINGS (per channel at nominal operating temperature):

| Model | Current (mA) | | Power (mW) | | Isolation Voltage | Max Operating (Ambient) Temp (°C) | Max Junction Temp (°C) | Max Storage Temp (°C) |
|--------|--------------|--------|-------------|--------------|-------------------|-----------------------------------|------------------------|-----------------------|
| | Emitter | Sensor | Emitter | Sensor | | | | |
| 4N5 | 80 | 100 | 150 | 300 | 5300 | 100 | 125 | 150 |
| 6N135 | 25 | 8 | 45 @ 1 Mbps | 100 @ 1 Mbps | 5000 | 100 | 125 | 125 |
| 6N136 | 25 | 8 | 45 @ 1 Mbps | 100 @ 1 Mbps | 5000 | 100 | 125 | 125 |
| 6N137 | 20 | 50 | 40 @10 Mbps | 85 @10 Mbps | 5000 | 100 | 125 | 125 |
| 6N138 | 20 | 60 | 35 | 100 | 5000 | 100 | 125 | 125 |
| 6N139 | 20 | 60 | 35 | 100 | 5000 | 100 | 125 | 125 |
| CNY64 | 75 | 50 | 120 | 150 | 8200 | 110 | 125 | 125 |
| CNY65 | 75 | 50 | 120 | 150 | 8200 | 110 | 125 | 125 |
| EL371 | 60 | 150 | 100 | 300 | 5000 | 100 | 125 | 125 |
| EL725 | 60 | 150 | 100 | 300 | 5000 | 100 | 125 | 125 |
| EL851 | 80 | 100 | 150 | 300 | 5300 | 100 | 125 | 150 |
| EL852 | 60 | 150 | 100 | 300 | 5000 | 100 | 125 | 125 |
| EL2200 | 20 | 25 | 40 | 150 | 5000 | 100 | 125 | 125 |
| EL2201 | 20 | 25 | 40 | 150 | 5000 | 100 | 125 | 125 |
| EL2202 | 20 | 25 | 40 | 150 | 5000 | 100 | 125 | 125 |
| EL2219 | 20 | 25 | 40 | 150 | 5000 | 100 | 125 | 125 |
| EL2211 | 20 | 25 | 40 | 150 | 5000 | 100 | 125 | 125 |
| EL2212 | 20 | 25 | 40 | 150 | 5000 | 100 | 125 | 125 |
| EL2231 | 20 | 25 | 40 | 110 | 5000 | 100 | 125 | 125 |
| EL2232 | 20 | 25 | 40 | 110 | 5000 | 100 | 125 | 125 |
| | | | | | | | | |

| Model | Current (mA) | | Power (mW) | | Isolation Voltage | Max Operating (Ambient) Temp (°C) | Max Junction Temp (°C) | Max Storage Temp (°C) |
|---------------|--------------|------------|-------------|--------------|-------------------|-----------------------------------|------------------------|-----------------------|
| | Emitter | Sensor | Emitter | Sensor | | | | |
| EL250L | 25 | 8 | 45 @ 1 Mbps | 100 @ 1 Mbps | 5000 | 100 | 125 | 125 |
| EL2502 | 25 | 8 | 45 @ 1 Mbps | 100 @ 1 Mbps | 5000 | 100 | 125 | 125 |
| EL2503 | 25 | 8 | 45 @ 1 Mbps | 100 @ 1 Mbps | 5000 | 100 | 125 | 125 |
| EL253L | 25 | 8 | 45 @ 1 Mbps | 35 @ 1 Mbps | 5000 | 100 | 125 | 125 |
| EL2530 | 25 | 8 | 45 @ 1 Mbps | 35 @ 1 Mbps | 5000 | 100 | 125 | 125 |
| EL2531 | 25 | 8 | 45 @ 1 Mbps | 35 @ 1 Mbps | 5000 | 100 | 125 | 125 |
| EL260L | 20 | 50 | 40 @10 Mbps | 85 @10 Mbps | 5000 | 100 | 125 | 125 |
| EL2601 | 20 | 50 | 40 @10 Mbps | 85 @10 Mbps | 5000 | 100 | 125 | 125 |
| EL2611 | 20 | 50 | 40 @10 Mbps | 85 @10 Mbps | 5000 | 100 | 125 | 125 |
| EL2630 | 20 | 50 | 40 @10 Mbps | 60 @10 Mbps | 5000 | 100 | 125 | 125 |
| EL2631 | 20 | 50 | 40 @10 Mbps | 60 @10 Mbps | 5000 | 100 | 125 | 125 |
| EL2730 | 20 | 60 | 35 | 100 | 5000 | 100 | 125 | 125 |
| EL2731 | 20 | 60 | 35 | 100 | 5000 | 100 | 125 | 125 |
| EL261A | 20 | 50 | 40 @10 Mbps | 85 @10 Mbps | 5000 | 100 | 125 | 125 |
| EL261N | 20 | 50 | 40 @10 Mbps | 85 @10 Mbps | 5000 | 100 | 125 | 125 |
| EL2611 | 20 | 50 | 40 @10 Mbps | 85 @10 Mbps | 5000 | 100 | 125 | 125 |
| EL263A | 20 | 50 | 40 @10 Mbps | 60 @10 Mbps | 5000 | 100 | 125 | 125 |
| EL263L | 20 | 50 | 40 @10 Mbps | 60 @10 Mbps | 5000 | 100 | 125 | 125 |
| EL263N | 20 | 50 | 40 @10 Mbps | 60 @10 Mbps | 5000 | 100 | 125 | 125 |
| EL2630 | 20 | 50 | 40 @10 Mbps | 60 @10 Mbps | 5000 | 100 | 125 | 125 |
| EL2631 | 20 | 50 | 40 @10 Mbps | 60 @10 Mbps | 5000 | 100 | 125 | 125 |
| EL2730 | 20 | 60 | 35 | 100 | 5000 | 100 | 125 | 125 |
| EL2731 | 20 | 60 | 35 | 100 | 5000 | 100 | 125 | 125 |
| EL4502 | 25 | 8 | 45 | 100 | 5000 | 100 | 125 | 125 |
| EL4503 | 25 | 8 | 45 | 100 | 5000 | 100 | 125 | 125 |
| EL4504 | 25 | 8 | 45 | 100 | 5000 | 100 | 125 | 125 |
| EL4534 | 25 | 8 | 45 | 35 | 5000 | 100 | 125 | 125 |
| EL4661 | 20 | 50 | 40 | 60 | 5000 | 100 | 125 | 125 |
| H11D | 80 | 100 | 150 | 300 | 5300 | 100 | 125 | 150 |
| H11G1 | 60 | 150 | 100 | 200 | 5000 | 100 | 125 | 125 |
| H11G2 | 60 | 150 | 100 | 200 | 5000 | 100 | 125 | 125 |
| H11G3 | 60 | 150 | 100 | 200 | 5000 | 100 | 125 | 125 |

| Model | Current (mA) | | Power (mW) | | Isolation Voltage | Max Operating (Ambient) Temp (°C) | Max Junction Temp (°C) | Max Storage Temp (°C) |
|----------------|--------------|------------|------------|------------|-------------------|-----------------------------------|------------------------|-----------------------|
| | Emitter | Sensor | Emitter | Sensor | | | | |
| * | | | | | | | | |
| EL0200 | 20 | 50 | 40 | 85 | 3750 | 100 | 125 | 125 |
| EL0201 | 20 | 50 | 40 | 85 | 3750 | 100 | 125 | 125 |
| EL0202 | 20 | 50 | 40 | 85 | 3750 | 100 | 125 | 125 |
| EL0210 | 20 | 50 | 40 | 85 | 3750 | 100 | 125 | 125 |
| EL0211 | 20 | 50 | 40 | 85 | 3750 | 100 | 125 | 125 |
| EL0212 | 20 | 50 | 40 | 85 | 3750 | 100 | 125 | 125 |
| EL050L | 25 | 8 | 45 | 100 | 3750 | 100 | 125 | 125 |
| EL0500 | 25 | 8 | 45 | 100 | 3750 | 100 | 125 | 125 |
| EL0501 | 25 | 8 | 45 | 100 | 3750 | 100 | 125 | 125 |
| EL0452 | 25 | 8 | 45 | 100 | 3750 | 100 | 125 | 125 |
| EL0453 | 25 | 8 | 45 | 100 | 3750 | 100 | 125 | 125 |
| EL0454 | 25 | 8 | 45 | 100 | 3750 | 100 | 125 | 125 |
| EL060L | 20 | 50 | 40 | 85 | 3750 | 100 | 125 | 125 |
| EL0600 | 20 | 50 | 40 | 85 | 3750 | 100 | 125 | 125 |
| EL0601 | 20 | 50 | 40 | 85 | 3750 | 100 | 125 | 125 |
| EL061A | 20 | 50 | 40 | 85 | 3750 | 100 | 125 | 125 |
| EL061N | 20 | 50 | 40 | 85 | 3750 | 100 | 125 | 125 |
| EL0611 | 20 | 50 | 40 | 85 | 3750 | 100 | 125 | 125 |
| EL070L | 20 | 50 | 40 | 85 | 3750 | 100 | 125 | 125 |
| EL071L | 20 | 50 | 40 | 85 | 3750 | 100 | 125 | 125 |
| EL0700 | 20 | 60 | 35 | 100 | 3750 | 100 | 125 | 125 |
| EL0701 | 20 | 60 | 35 | 100 | 3750 | 100 | 125 | 125 |
| ELD851 | 80 | 100 | 150 | 300 | 5300 | 100 | 125 | 150 |
| ELD852 | 60 | 150 | 100 | 300 | 5000 | 100 | 125 | 125 |
| ELL300 | 60 | 300 | 100 | 550 | 5000 | 110 | 125 | 125 |
| ELW135 | 40 | 16 | 80 | 100 | 5000 | 100 | 125 | 125 |
| ELW136 | 40 | 16 | 80 | 100 | 5000 | 100 | 125 | 125 |
| ELW137 | 40 | 50 | 80 | 85 | 5000 | 100 | 125 | 125 |
| ELW138 | 40 | 60 | 80 | 100 | 5000 | 100 | 125 | 125 |
| ELW139 | 40 | 60 | 80 | 100 | 5000 | 100 | 125 | 125 |
| ELW250L | 40 | 16 | 80 | 100 | 5000 | 100 | 125 | 125 |
| ELW260L | 40 | 50 | 80 | 85 | 5000 | 100 | 125 | 125 |
| ELW2200 | 20 | 25 | 40 | 150 | 5000 | 100 | 125 | 125 |
| ELW2201 | 20 | 25 | 40 | 150 | 5000 | 100 | 125 | 125 |
| ELW2202 | 20 | 25 | 40 | 150 | 5000 | 100 | 125 | 125 |
| ELW2211 | 20 | 25 | 40 | 150 | 5000 | 100 | 125 | 125 |
| ELW2212 | 20 | 25 | 40 | 150 | 5000 | 100 | 125 | 125 |
| ELW2219 | 20 | 25 | 40 | 150 | 5000 | 100 | 125 | 125 |
| ELW2601 | 40 | 50 | 80 | 85 | 5000 | 100 | 125 | 125 |
| ELW2611 | 40 | 50 | 80 | 85 | 5000 | 100 | 125 | 125 |
| ELW3120 | 50 | 300 | 100 | 300 | 5000 | 110 | 125 | 125 |
| ELW3140 | 50 | 300 | 100 | 300 | 5000 | 110 | 125 | 125 |
| ELW3150 | 50 | 300 | 100 | 300 | 5000 | 110 | 125 | 125 |
| ELW3180 | 50 | 300 | 100 | 300 | 5000 | 110 | 125 | 125 |
| ELW3184 | 50 | 300 | 100 | 300 | 5000 | 110 | 125 | 125 |
| ELW4502 | 40 | 16 | 80 | 100 | 5000 | 100 | 125 | 125 |
| ELW4503 | 40 | 16 | 80 | 100 | 5000 | 100 | 125 | 125 |
| ELW4504 | 40 | 16 | 80 | 100 | 5000 | 100 | 125 | 125 |

GENERAL:

These devices are photocoupled isolators consisting of a photo-emitter such as a light emitting diode, optically coupled to a photo-sensor , such as a transistor. The emitter and sensor are separated by an insulating window. Internal "chips" are connected to lead frames that are molded into the enclosure.

ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

Use - For use only in products where the acceptability of the combination is determined by Underwriters Laboratories Inc.

*USR indicates this product was investigated under the UL Standard for Safety for Optical Isolators, UL 1577, **Fifth** Edition.

*CNR indicates this product was investigated under the Canadian Certification Notice, CSA Component Acceptance Service No. 5A.

File E214129
Project 09CA63111

August 26, 2010

Revised: July 14, 2011
REPORT

on

*COMPONENT - OPTICAL ISOLATORS

Everlight Electronics Co Ltd
TAIPEI, TAIWAN

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DESCRIPTION

PRODUCT COVERED:

USR, CNR - Double Protection, Optical Isolator, Models EL351, EL352, EL451, EL452, EL053L, EL0530, EL0531, EL0533, EL0551, EL063A, EL063L, EL063N, EL083L, EL086L, EL0630, EL0631, EL0661, EL0730, EL0731, **ELM60U, ELM61U**, ELM80L, ELM81L, ELM314, ELM452, ELM452L, ELM453, ELM453L, ELM454, ELM600, ELM600L, ELM601, ELM601L, ELM611, ELM611L, ELM3010, ELM3011, ELM3012, ELM3013, ELM3014, ELM3020, ELM3021, ELM3022, ELM3023, ELM3024, ELM3030, ELM3031, ELM3032, ELM3033, ELM3034, EL3040, ELM3041, ELM3042, ELM3043, ELM3044, ELM3050, ELM3051, ELM3052, ELM3053, ELM3054, ELM3060, ELM3061, ELM3062, ELM3063, ELM3064, ELM3070, ELM3071, ELM3072, ELM3073, ELM3074, ELM3080, ELM3081, ELM3082, ELM3083, ELM3084.

All models may be followed by any letters or numbers.

MAXIMUM RATINGS (at nominal operating temperature):

| Model | Current (mA) | | Power (mW) | | Isolation Voltage | Max Operating (Ambient) Temp (°C) | Max Junction Temp (°C) | Max Storage Temp (°C) |
|---------|--------------|--------|------------|--------|-------------------|-----------------------------------|------------------------|-----------------------|
| | Emitter | Sensor | Emitter | Sensor | | | | |
| EL351 | 80 | 100 | 150 | 300 | 3750 | 110 | 125 | 150 |
| EL352 | 60 | 150 | 100 | 300 | 3750 | 110 | 125 | 150 |
| EL451 | 80 | 100 | 150 | 300 | 3750 | 110 | 125 | 150 |
| EL452 | 60 | 150 | 100 | 300 | 3750 | 110 | 125 | 150 |
| EL0551 | 25 | 8 | 45 | 100 | 3750 | 100 | 125 | 125 |
| EL053L | 25 | 8 | 45 | 100 | 3750 | 100 | 125 | 125 |
| EL0530 | 25 | 8 | 45 | 100 | 3750 | 100 | 125 | 125 |
| EL0531 | 25 | 8 | 45 | 100 | 3750 | 100 | 125 | 125 |
| EL0533 | 25 | 8 | 45 | 100 | 3750 | 100 | 125 | 125 |
| EL063A | 20 | 50 | 40 | 85 | 3750 | 100 | 125 | 125 |
| EL063L | 20 | 50 | 40 | 85 | 3750 | 100 | 125 | 125 |
| EL063N | 20 | 50 | 40 | 85 | 3750 | 100 | 125 | 125 |
| EL083L | 20 | 50 | 40 | 85 | 3750 | 100 | 125 | 125 |
| EL086L | 20 | 50 | 40 | 85 | 3750 | 100 | 125 | 125 |
| EL0630 | 20 | 50 | 40 | 85 | 3750 | 100 | 125 | 125 |
| EL0631 | 20 | 50 | 40 | 85 | 3750 | 100 | 125 | 125 |
| EL0730 | 20 | 60 | 35 | 100 | 3750 | 100 | 125 | 125 |
| EL0731 | 20 | 60 | 35 | 100 | 3750 | 100 | 125 | 125 |
| ELM3010 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3011 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3012 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3013 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3014 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3020 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3021 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3022 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3023 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3024 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3050 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3051 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |

| Model | Current (mA) | | Power (mW) | | Isolation Voltage | Max Operating (Ambient) Temp (°C) | Max Junction Temp (°C) | Max Storage Temp (°C) |
|--|--------------|-----------|------------|-----------|-------------------|-----------------------------------|------------------------|-----------------------|
| | Emitter | Sensor | Emitter | Sensor | | | | |
| ELM3052 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3053 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3054 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3030 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3031 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3032 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3033 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3034 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3040 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3041 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3042 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3043 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3044 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3060 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3061 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3062 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3063 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3064 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3070 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3071 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3072 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3073 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3074 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3080 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3081 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3082 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3083 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM3084 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| * | | | | | | | | |
| ELM314 | 60 | 100 | 100 | 300 | 3750 | 110 | 125 | 150 |
| ELM452, ELM452L, ELM453, ELM453L | 50 | 16 | 45 | 100 | 3750 | 100 | 125 | 125 |
| ELM454 | 50 | 16 | 45 | 100 | 3750 | 100 | 125 | 125 |
| ELM60U | 50 | 50 | 100 | 85 | 3750 | 100 | 125 | 125 |
| ELM61U | 50 | 50 | 100 | 85 | 3750 | 100 | 125 | 125 |
| ELM600, ELM600L, ELM601, ELM601L, ELM611, ELM611L | 50 | 50 | 100 | 85 | 3750 | 100 | 125 | 125 |
| ELM80L | 50 | 50 | 100 | 85 | 3750 | 100 | 125 | 125 |
| ELM81L | 50 | 50 | 100 | 85 | 3750 | 100 | 125 | 125 |

GENERAL:

These devices are photocoupled isolators consisting of a photo-emitter such as a light emitting diode, optically coupled to a photo-sensor, such as a transistor. The emitter and sensor are separated by an insulating window. Internal "chips" are connected to lead frames that are molded into the enclosure.

ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

Use - For use only in products where the acceptability of the combination is determined by Underwriters Laboratories Inc.

*USR indicates this product was investigated under the UL Standard for Safety for Optical Isolators, UL 1577, **Fifth** Edition.

CNR indicates this product was investigated under the Canadian Certification Notice, CSA Component Acceptance Service No. 5A.

File E214129
Project 10CA27658

September 17, 2010

REPORT

On

COMPONENT - OPTICAL ISOLATORS - COMPONENT

Everlight Electronics Co Ltd
Taipei, Taiwan

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DESCRIPTION

PRODUCT COVERED:

USR, CNR - Double Protection Optical Isolator, Models **ELR0223**, **ELR1223**, **ELR2223**, ELR3202, ELR3203, ELR3212, ELR3213, ELR3222, ELR3223, ELR3232, ELR3233, ELR3502, ELR3503, ELR3512, ELR3513, ELR3522, ELR3523, ELR3532, ELR3533, ELR3702, ELR3703, ELR3712, ELR3713, ELR3722, ELR3723, ELR3732, ELR3733.

*USR, CNR - Double Protection Optical Isolator, Models ELR3402, ELR3403, ELR3412, ELR3413, ELR3422, ELR3423, ELR3432, ELR3433, ELR3602, ELR3603, ELR3612, ELR3613, ELR3622, ELR3623, ELR3632, ELR3633, ELR3802, ELR3803, ELR3812, ELR3813, ELR3822, ELR3823, ELR3832, ELR3833.

MAXIMUM RATINGS (at nominal operating temperature):

| Model | Current (mA) | | Power (mW) | | Isolation Voltage (Vac) | Max Operating (Ambient) Temp (°C) | Max Junction Temp (°C) | Max Storage Temp (°C) |
|--|--------------|------------|------------|-------------|-------------------------|-----------------------------------|------------------------|-----------------------|
| | Emitter | Sensor | Emitter | Sensor | | | | |
| ELR0223 | 60 | 300 | 100 | 2000 | 5000 | 100 | 125 | 125 |
| ELR1223 | 60 | 600 | 100 | 2000 | 5000 | 100 | 125 | 125 |
| ELR2223 | 60 | 900 | 100 | 2000 | 5000 | 100 | 125 | 125 |
| ELR3202, ELR3203, ELR3212, ELR3213, ELR3222, ELR3223, ELR3232, ELR3233, ELR3502, ELR3503, ELR3512, ELR3513, ELR3522, ELR3523, ELR3532, ELR3533, ELR3702, ELR3703, ELR3712, ELR3713, ELR3722, ELR3723, ELR3732, ELR3733 | 60 | 1200 | 100 | 2000 | 5000 | 100 | 125 | 125 |
| ELR3402, ELR3403, ELR3412, ELR3413, ELR3422, ELR3423, ELR3432, ELR3433, ELR3602, ELR3603, ELR3612, ELR3613, ELR3622, ELR3623, ELR3632, ELR3633, ELR3802, ELR3803, ELR3812, ELR3813, ELR3822, ELR3823, ELR3832, ELR3833 | 60 | 1200 | 100 | 2000 | 5000 | 100 | 125 | 125 |

GENERAL:

These devices are photocoupled isolators consisting of a photo-emitter such as a light emitting diode, optically coupled to a photo-sensor, such as a transistor. The emitter and sensor are separated by an insulating window. Internal "chips" are connected to lead frames that are molded into the enclosure.

ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

Use - For use only in products where the acceptability of the combination is determined by Underwriters Laboratories Inc.

*USR indicates this product was investigated under the UL Standard for Safety for Optical Isolators, UL 1577, **Fifth** Edition.

CNR indicates this product was investigated under the Canadian Certification Notice, CSA Component Acceptance Service No. 5A.

File E214129
Project 11CA21212

September 02, 2011

REPORT

On

COMPONENT - OPTICAL ISOLATORS

Everlight Electronics Co Ltd
Taipei, Taiwan

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DESCRIPTION

PRODUCT COVERED:

USR, CNR - Double Protection Optical Isolator, ELT3010, ELT3011, ELT3012, ELT3013, **ELT3014**, **ELT3020**, ELT3021, ELT3022, ELT3023, ELT3024, **ELT3030**, **ELT3040**, **ELT3050**, ELT3051, ELT3052, ELT3053, ELT3054, ELT3031, ELT3032, ELT3033, ELT3034, ELT3041, ELT3042, ELT3043, ELT3044, **ELT3060**, ELT3061, ELT3062, ELT3063, ELT3064, **ELT3070**, **ELT3071**, **ELT3072**, **ELT3073**, **ELT3074**, **ELT3080**, ELT3081, ELT3082, ELT3083, and ELT3084, may be followed by any letters or numbers.

MAXIMUM RATINGS (at nominal operating temperature):

| Model | Current (mA) | | Power (mW) | | Isolation Voltage (Vac) | Max Operating (Ambient) Temp (°C) | Max Junction Temp (°C) | Max Storage Temp (°C) |
|----------------|--------------|--------|------------|--------|-------------------------|-----------------------------------|------------------------|-----------------------|
| | Emitter | Sensor | Emitter | Sensor | | | | |
| ELT3010 | 60 | 100 | 100 | 300 | 5000 | 110 | 125 | 125 |
| ELT3011 | | | | | | | | |
| ELT3012 | | | | | | | | |
| ELT3013 | | | | | | | | |
| ELT3014 | | | | | | | | |
| ELT3020 | | | | | | | | |
| ELT3021 | | | | | | | | |
| ELT3022 | | | | | | | | |
| ELT3023 | | | | | | | | |
| ELT3024 | | | | | | | | |
| ELT3040 | | | | | | | | |
| ELT3050 | | | | | | | | |
| ELT3051 | | | | | | | | |
| ELT3070 | | | | | | | | |
| ELT3071 | | | | | | | | |
| ELT3072 | | | | | | | | |
| ELT3073 | | | | | | | | |
| ELT3074 | | | | | | | | |
| ELT3052 | | | | | | | | |
| ELT3053 | | | | | | | | |
| ELT3054 | | | | | | | | |
| * | | | | | | | | |

MAXIMUM RATINGS (at nominal operating temperature) cont.:

| Model | Current (mA) | | Power (mW) | | Isolation Voltage (Vac) | Max Operating (Ambient) Temp (°C) | Max Junction Temp (°C) | Max Storage Temp (°C) |
|---------|--------------|--------|------------|--------|-------------------------|-----------------------------------|------------------------|-----------------------|
| | Emitter | Sensor | Emitter | Sensor | | | | |
| ELT3030 | 60 | 100 | 100 | 300 | 5000 | 110 | 125 | 125 |
| ELT3031 | | | | | | | | |
| ELT3032 | | | | | | | | |
| ELT3033 | | | | | | | | |
| ELT3034 | | | | | | | | |
| ELT3040 | | | | | | | | |
| ELT3041 | | | | | | | | |
| ELT3042 | | | | | | | | |
| ELT3043 | | | | | | | | |
| ELT3044 | | | | | | | | |
| ELT3060 | | | | | | | | |
| ELT3061 | | | | | | | | |
| ELT3062 | | | | | | | | |
| ELT3063 | | | | | | | | |
| ELT3064 | | | | | | | | |
| ELT3080 | | | | | | | | |
| ELT3081 | | | | | | | | |
| ELT3082 | | | | | | | | |
| ELT3083 | | | | | | | | |
| ELT3084 | | | | | | | | |

GENERAL:

These devices are photocoupled isolators consisting of a photo-emitter such as a light emitting diode, optically coupled to a photo-sensor, such as a transistor. The emitter and sensor are separated by an insulating window. Internal "chips" are connected to lead frames that are molded into the enclosure.

ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

Use - For use only in products where the acceptability of the combination is determined by Underwriters Laboratories Inc.

USR indicates this product was investigated under the UL Standard for Safety for Optical Isolators, UL 1577, Fourth Edition last revised January 20, 2010.

CNR indicates this product was investigated under the Canadian Certification Notice, CSA Component Acceptance Service No. 5A dated January 23, 1998.

File E214129
Project 11CA38812

February 22, 2012

REPORT

ON

COMPONENT - OPTICAL ISOLATORS

Everlight Electronics Co Ltd
TUCHENG, TAIPEI, TAIWAN

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DESCRIPTION

PRODUCT COVERED:

USR, CNR - Single Protection Optical Isolator, Models ELM440A, ELM460A, ELM640A, ELM660A, ELM840A, and ELM860A. All models may be followed by any letters or numbers.

*USR, CNR - Double Protection Optical Isolator, Models EL3120, EL3140, EL3150, EL3180, EL3184, EL406X, EL410X, EL420X, EL425X, EL435X, EL440X, EL460X, EL606X, EL610X, EL620X, EL625X, EL635X, EL640X, EL660X, EL806A, EL810A, EL820A, EL825A, EL835A, EL840A, EL860A, ELS500, ELS050L, ELS051L, ELS052L, **ELS60U, ELS61U, ELS62U, ELS270, ELS271, ELS272, ELS501, ELS511**, ELS600, ELS601, ELS611, ELS060L, ELS061L, ELS062L where X may be A or B. All models may be followed by any letters or numbers, except A or B.

MAXIMUM RATINGS (per channel at room temperature):

| Model | Current (mA) | | Power (mW) | | Isolation Voltage (Vrms) | Max Operating (Ambient) Temp (°C) | Max Junction Temp (°C) | Max Storage Temp (°C) |
|--------|--------------|--------|------------|--------|--------------------------|-----------------------------------|------------------------|-----------------------|
| | Emitter | Sensor | Emitter | Sensor | | | | |
| EL3120 | 50 | 3000# | 100 | 300 | 5000 | 110 | 125 | 125 |
| EL3140 | 50 | 3000# | 100 | 300 | 5000 | 110 | 125 | 125 |
| EL3150 | 50 | 3000# | 100 | 300 | 5000 | 110 | 125 | 125 |
| EL3180 | 50 | 3000# | 100 | 300 | 5000 | 110 | 125 | 125 |
| EL3184 | 50 | 3000# | 100 | 300 | 5000 | 110 | 125 | 125 |
| EL406X | 50 | 550 | 75 | 500 | 5000 | 85 | 125 | 125 |
| EL410X | 50 | 320 | 75 | 500 | 5000 | 85 | 125 | 125 |
| EL420X | 50 | 180 | 75 | 500 | 5000 | 85 | 125 | 125 |
| EL425X | 50 | 150 | 75 | 500 | 5000 | 85 | 125 | 125 |
| EL435X | 50 | 130 | 75 | 500 | 5000 | 85 | 125 | 125 |
| EL440X | 50 | 120 | 75 | 500 | 5000 | 85 | 125 | 125 |
| EL460X | 50 | 50 | 75 | 500 | 5000 | 85 | 125 | 125 |
| EL606X | 50 | 550 | 75 | 500 | 5000 | 85 | 125 | 125 |
| EL610X | 50 | 320 | 75 | 500 | 5000 | 85 | 125 | 125 |
| EL620X | 50 | 180 | 75 | 500 | 5000 | 85 | 125 | 125 |
| EL625X | 50 | 150 | 75 | 500 | 5000 | 85 | 125 | 125 |
| EL635X | 50 | 130 | 75 | 500 | 5000 | 85 | 125 | 125 |
| EL640X | 50 | 120 | 75 | 500 | 5000 | 85 | 125 | 125 |
| EL660X | 50 | 50 | 75 | 500 | 5000 | 85 | 125 | 125 |
| EL806A | 50 | 550 | 75 | 500 | 5000 | 85 | 125 | 125 |
| EL810A | 50 | 320 | 75 | 500 | 5000 | 85 | 125 | 125 |
| EL820A | 50 | 180 | 75 | 500 | 5000 | 85 | 125 | 125 |
| EL825A | 50 | 150 | 75 | 500 | 5000 | 85 | 125 | 125 |
| EL835A | 50 | 130 | 75 | 500 | 5000 | 85 | 125 | 125 |

| Model | Current (mA) | | Power (mW) | | Isolation Voltage (Vrms) | Max Operating (Ambient) Temp (°C) | Max Junction Temp (°C) | Max Storage Temp (°C) |
|----------------|--------------|-----------|------------|------------|--------------------------|-----------------------------------|------------------------|-----------------------|
| | Emitter | Sensor | Emitter | Sensor | | | | |
| EL840A | 50 | 120 | 75 | 500 | 5000 | 85 | 125 | 125 |
| EL860A | 50 | 50 | 75 | 500 | 5000 | 85 | 125 | 125 |
| ELM440A | 50 | 120 | 75 | 500 | 3750 | 100 | 125 | 125 |
| ELM460A | 50 | 50 | 75 | 500 | 3750 | 100 | 125 | 125 |
| ELM640A | 50 | 120 | 75 | 500 | 3750 | 100 | 125 | 125 |
| ELM660A | 50 | 50 | 75 | 500 | 3750 | 100 | 125 | 125 |
| ELM840A | 50 | 120 | 75 | 800 | 3750 | 100 | 125 | 125 |
| ELM860A | 50 | 50 | 75 | 800 | 3750 | 100 | 125 | 125 |
| ELS050L | 50 | 8 | 100 | 100 | 5000 | 100 | 125 | 125 |
| ELS051L | 50 | 8 | 100 | 100 | 5000 | 100 | 125 | 125 |
| ELS052L | 50 | 8 | 100 | 100 | 5000 | 100 | 125 | 125 |
| ELS060L | 50 | 50 | 100 | 100 | 5000 | 100 | 125 | 125 |
| ELS061L | 50 | 50 | 100 | 100 | 5000 | 100 | 125 | 125 |
| ELS062L | 50 | 50 | 100 | 100 | 5000 | 100 | 125 | 125 |
| ELS60U | 50 | 50 | 100 | 100 | 5000 | 100 | 125 | 125 |
| ELS61U | 50 | 50 | 100 | 100 | 5000 | 100 | 125 | 125 |
| ELS62U | 50 | 50 | 100 | 100 | 5000 | 100 | 125 | 125 |
| ELS270 | 50 | 50 | 100 | 100 | 5000 | 100 | 125 | 125 |
| ELS271 | 50 | 50 | 100 | 100 | 5000 | 100 | 125 | 125 |
| ELS272 | 50 | 50 | 100 | 100 | 5000 | 100 | 125 | 125 |
| * | | | | | | | | |
| ELS500 | 50 | 8 | 100 | 100 | 5000 | 100 | 125 | 125 |
| ELS501 | 50 | 8 | 100 | 100 | 5000 | 100 | 125 | 125 |
| ELS511 | 50 | 8 | 100 | 100 | 5000 | 100 | 125 | 125 |
| ELS600 | 50 | 50 | 100 | 100 | 5000 | 100 | 125 | 125 |
| ELS601 | 50 | 50 | 100 | 100 | 5000 | 100 | 125 | 125 |
| ELS611 | 50 | 50 | 100 | 100 | 5000 | 100 | 125 | 125 |
| * | | | | | | | | |

Note: This is the client's declared peak value of the output current at a maximum pulse width of 10 μ s with maximum duty cycle of 1.1%.

GENERAL:

These devices are photocoupled isolators consisting of a photo-emitter such as a light emitting diode, optically coupled to a photo-sensor, such as a transistor. The emitter and sensor are separated by an insulating window. Internal "chips" are connected to lead frames that are molded into the enclosure.

ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

Use - For use only in products where the acceptability of the combination is determined by Underwriters Laboratories Inc.

USR indicates this product was investigated under the UL Standard for Safety for Optical Isolators, UL 1577, **Fifth Edition**.

CNR indicates this product was investigated under the Canadian Certification Notice, CSA Component Acceptance Service No. 5A.