

File E90700 Vol 3 Issued: 2005-08-09 Revised: 2009-06-26

FOLLOW-UP SERVICE PROCEDURE (TYPE R)

COMPONENT - OPTICAL ISOLATORS (FPQU2,FPQU8)

Manufacturer: SEE ADDENDUM FOR MANUFACTURING LOCATIONS

Applicant: FAIRCHILD SEMICONDUCTOR CORP

(725625-001) 3001 ORCHARD PKY SAN JOSE CA 95134

Recognized Company: SAME AS APPLICANT

(725625-001)

This Procedure authorizes the above manufacturer to use the marking specified by Underwriters Laboratories Inc.(UL), or any authorized licensee of UL, only on products covered by this Procedure, in accordance with the applicable UL Services Agreement.

The prescribed Mark or Marking shall be used only at the above manufacturing location on such products which comply with this Procedure and any other applicable requirements.

The Procedure contains information for the use of the above named Manufacturer and representatives of Underwriters Laboratories Inc. and is not to be used for any other purpose. It is lent to the Manufacturer with the understanding that it is not to be copied, either wholly or in part, and that it will be returned to Underwriters Laboratories Inc. (UL) or any authorized licensee of UL, upon request.

This PROCEDURE, and any subsequent revision, is the property of Underwriters Laboratories Inc.(UL) and the authorized licensee of UL and is not transferable.

Underwriters Laboratories Inc.

Stephen Hewson Senior Vice President

Global Follow-Up Service Operations

William R. Carney

Director

North American Certification Program

William R. Carrey

File E9	90700	Vol	3	ADDENDUM 'AUTHORIZATION	-	PAGE	1	ISSUED: REVISED:	2005-08-09 2009-06-26
				LOCATION					
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(248856-	-001)	11 FU-	YUAN N WU	GING DEVELOPME	,				

# 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.

# 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:

- 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



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.

File E90700 Vol. 3 Index Page 1 Issued: 2005-08-01 Revised: 2009-06-28

# INDEX

Cat. No	Section	USR/CNR?
Optical Isolators, Package Construction Code Y, Models FOD814, H11AA814, FOD817, FOD617, H11A817, and H11A617.	1	USR/CNR
Optical Isolators, Package Construction Code Y, Models FOD815, H11B815, and FOD816.	2	USR/CNR
Optical Isolators, Package Construction Code Y, Model FOD852.	3	USR/CNR
Double Protection Optical Isolator, Package Construction Code R, Models FODM and HMA, followed by 121, 124 or 2701, may be followed by any alphanumeric suffix. Models FODM, and HMAA, followed by 2705, may be followed by any alphanumeric suffix.	4	USR/CNR
Double Protection Optical Isolator, Package Construction Code D, Models FOD41XX, FOD42XX and FODCX, where X can be any number.	5	USR
Single Protection Optical Isolator, Models MCT6X and MCT9X, where X can be any letters or numbers.	6	USR
Single Protection Optical Isolators, Package Construction Code R, four-pin devices, model FODM30XX, where X may be any number or letter.	7	USR

File E90700 Vol. 3 Sec. Gen. Page 1 Issued: 2005-08-01 Revised: 2006-03-15

<u>G</u> <u>E</u> <u>N</u> <u>E</u> <u>R</u> <u>A</u> <u>L</u>

PRODUCT COVERED:

Component - Optical Isolators.

\*

Issued: 2005-08-01 Revised: 2006-03-15 File E90700 Vol. 3 Sec. Gen. Page 2

This page replaces page 2.

File E90700 Vol. 3 Sec. Gen. Page 3 Issued: 2005-08-01 Revised: 2006-03-15

#### FACTORY LOCATION AND IDENTIFICATION:

When more than one manufacturing location is indicated on the Authorization Page Addendum for the Procedure Volume, a factory identification code shall be assigned to identify each manufacturing facility. The absence of a factory identification code is an acceptable alternative for one of the manufacturers. The factory identification and associated manufacturing location are as follows:

Factory Location	Identification
(153559-001)	"2" or "Y"
(248856-001)	none

#### 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.

# RATINGS:

Specification Sheet - A specification sheet shall be provided with the product and contain the following information 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.
- 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.

File E90700 Project 05CA30325

August 1, 2005

REPORT

on

OPTICAL ISOLATORS - COMPONENT

FAIRCHILD SEMICONDUCTOR CORP

3001 ORCHARD PKY SAN JOSE 95134 US

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File E90700 Vol. 3 Sec. 1 Page 1 Issued: 2005-08-01 and Report Revised: 2009-01-23

# DESCRIPTION

# PRODUCT COVERED:

USR, CNR - Optical Isolator, Package Construction Code Y, Models FOD814, H11AA814 may be followed by A.

\*Models FOD817, FOD617, H11A817, H11A617, may be followed by A, B,  $\bf C$ , D or  $\bf X$ . These devices have been investigated for double protection.

# RATINGS:

Current (mA) Power (mW)		W)					
Model	Emitter	Sensor	Emitter	Sensor	Isoation Voltage	Max Operating Temp (°C)	Max Junction Temp (°C)
FOD814	50	50	70	150	5000	105	125
H11AA814	50	50	70	150	5000	105	125
FOD817	50	50	70	150	5000	110	125
H11A817	50	50	70	150	5000	110	125
FOD617	50	50	70	150	5000	110	125
H11A617	50	50	70	150	5000	110	125

\*

# and Report

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

<u>General</u> - These devices are photocoupled isolators consisting of a photo-emitter, such as light emitting diode, optically coupled to a photo detector, such as a transistor. 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.

USR indicates investigation to the US Standard, Optical Isolators, UL 1577,  $4^{\rm th}$  Edition.

CNR indicates investigation to the Canadian Standard, CSA Component Acceptance Service No. 5A.

<u>Conditions of Acceptability</u> - When installed in the final use equipment, the following are among the considerations to be made.

- 1. These devices are intended for factory installation in compliance with the enclosure, spacing, and segregation requirements of the ultimate application.
- 2. The device shall be used within the ratings specified in this report.
- 3. The short circuit interrupting capacity or behavior under short circuit conditions has not been evaluated for these devices. Accordingly, the end use circuit should contain suitable impedance to eliminate the need for such testing or appropriate tests should be conducted.
- 4. The electrical and temperature ratings recorded above shall be acceptable in the ultimate application.
- 5. The suitability of use when exposed to oil, chemicals and the like has not been determined by this investigation.
- 6. If a particular end use application requires evaluation of "as received" case material, properties not contemplated under the scope of this investigation, such properties will have to be separately investigated.
- 7. The suitability of the connections shall be determined in the end use application.
- 8. The capability of the device to control a load has not been investigated.
- 9. The suitability of the device to be mounted over dead metal of opposite polarity has not been investigated.

10. For Double Protected Models Only - The optical isolator enclosure is considered acceptable for only one level of protection. The double protection requirements for the end-use product are to be given further consideration with regards to the optical isolator enclosure.

File E90700 Vol. 3 Sec. 1 Page 4 Issued: 2005-08-01 and Report

# CONSTRUCTION DETAILS:

For Engineering Use Only - See ILL. 1 for functional block diagram.

# File E90700 Project 05CA30325

August 2, 2005

REPORT

on

OPTICAL ISOLATORS - COMPONENT

FAIRCHILD SEMICONDUCTOR CORP

3001 ORCHARD PKY SAN JOSE 95134 US

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File E90700 Vol. 3 Sec. 2 Page 1 Issued: 2005-08-02 and Report Revised: 2005-10-20

# DESCRIPTION

# PRODUCT COVERED:

USR, CNR Component - Optical Isolators, Package Construction Code Y, Models FOD815, H11B815, FOD816.

# RATINGS:

	Current (mA)		Power (mW)				
Model	Emitter	Sensor	Emitter	Sensor	Isoation Voltage	Max Operating Temp (°C)	Max Junction Temp (°C)
FOD815	50	80	70	150	5000	105	125
H11B815	50	80	70	150	5000	105	125
FOD816	50	80	70	150	5000	110	125

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

These devices are optically coupled isolating switches with gallium arsenide light emitting diodes optically coupled to photo detectors. The solid-state portion of these devices is encapsulated in a silicon or epoxy compound. The light emitting diode and detector are separated by an insulating window. Internal "chips" are provided with terminals molded into the enclosure.

 $\underline{\text{Use}}$  - For use only in products where the acceptability of the combination is determined by Underwriters Laboratories Inc.

USR indicates investigation to the US Standard, Optical Isolators, UL 1577,  $\mathbf{4}^{\text{th}}$  Edition.

CNR indicates investigation to the Canadian Standard, CSA Component Acceptance Service No. 5A.

<u>Conditions of Acceptability</u> - Each device shall be reviewed with respect to the following conditions of acceptability:

- 1. The capability of the device to control a load has not been investigated.
- 2. These devices should be installed in a suitable end product enclosure.

File E90700 Vol. 3 Sec. 2 Page 2 Issued: 2005-08-02 and Report Revised: 2005-10-20

- 3. The maximum temperature on the case should not exceed the maximum operating temperature rating specified in the ratings table.
- 4. For single protection devices, the insulation to the case has not been evaluated. For double protection devices, the insulation to the case has been evaluated to the isolation voltage specified in the ratings table.
- 5. In addition to meeting single protection requirements, double protection optical isolators have also been investigated for use in up to 250 V, 50/60 Hz circuits in audio, video, and similar equipment in applications in which breakdown of the optical isolator may result in a risk of fire, electrical shock, or injury to persons.

\*

# CONSTRUCTION DETAILS:

General - The general design, shape and arrangement shall be as illustrated in the following descriptive pages. All dimensions are approximate.

<u>Specification Sheet</u> - Specification sheet is provided and contains the following information:

- 1. Maximum continuous power, a current and a voltage rating for both the photo-emitter and the photo-sensor.
- 2. A dielectric insulation-voltage rating between input and output terminals. This should be the same as the isolation VAC in ratings above.
- 3. The maximum operating temperature as specified in above ratings.
- 4. Derating specification related to ambient temperatures.

For Engineering Use Only - See ILL. 1 for functional block diagram.

# File E90700 Project 05CA30325

August 3, 2005

REPORT

on

OPTICAL ISOLATORS - COMPONENT

FAIRCHILD SEMICONDUCTOR CORP

3001 ORCHARD PKY SAN JOSE 95134 US

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File E90700 Vol. 3 Sec. 3 Page 1 Issued: 2005-08-03 and Report Revised: 2005-10-20

DESCRIPTION

# PRODUCT COVERED:

USR, CNR - Optical Isolator, Package Construction Code Y, Model FOD852. This model has been investigated for double protection.

# RATINGS:

	Current (mA) Power (mW)						
Model					Isoation	Max Operating Temp	Max Junction Temp
	Emitter	Sensor	Emitter	Sensor	Voltage	(°C)	(°C)
FOD852	60	50	100	150	5000	100	100

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

These devices are optically coupled isolating switches with gallium arsenide light emitting diodes optically coupled to photo detectors. The solid state portion of these devices is encapsulated in a silicon or epoxy compound. The light emitting diode and detector are separated by an insulating window. Internal "chips" are provided with terminals molded into the enclosure.

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

USR indicates investigation to UL 1577, the Standard for Optical Isolators,  $\mathbf{4}^{\text{th}}$  Edition.

CNR indicates investigation to the Canadian Standard, CSA Component Acceptance Service No. 5A.

File E90700 Vol. 3 Sec. 3 Page 2 Issued: 2005-08-03 and Report Revised: 2005-10-20

Conditions of Acceptability - Each device shall be reviewed with respect to the following conditions of acceptability:

- 1. The capability of the device to control a load has not been investigated.
- 2. These devices should be installed in a suitable end product enclosure.
- 3. The maximum temperature on the case should not exceed the maximum operating temperature rating specified in the Ratings table.
- 4. For single protection devices, the insulation to the case has not been evaluated. For double protection devices, the insulation to the case has been evaluated to the isolation voltage specified in the ratings table.
- 5. In addition to meeting single protection requirements, double protection optical isolators have also been investigated for use in up to 250 V, 50/60 Hz circuits in audio, video, and similar equipment in applications in which breakdown of the optical isolator may result in a risk of fire, electrical shock, or injury to persons.
- 6. For Double Protected Models Only The optical isolator enclosure is considered acceptable for only one level of protection. The double protection requirements for the end-use product are to be given further consideration with regards to the optical isolator enclosure.

\*

#### CONSTRUCTION DETAILS:

General - The general design, shape, and arrangement shall be as illustrated in the following descriptive pages and illustrations. All dimensions are approximate.

 $\mbox{{\tt Marking}}$  - Recognized company name or trademark, and type designation provided on each unit.

Specification Sheet - specification sheet is provided and contains the following information in tabular or graphic format.

- 1. Maximum continuous power, a current and a voltage rating for both the photo-emitter and the photo-sensor.
- 2. A dielectric insulation-voltage rating between input and output terminals. This should be the same as the isolation VAC.
- 3. The maximum operating temperature.
- 4. Derating specification related to ambient temperatures.

Abbreviation - R/C - Recognized Component.

For Engineering Use Only - See ILL. 1 for functional block diagram.

# File E90700 Project 06CA12346

March 15, 2006

REPORT

on

COMPONENT - Optical Isolators, Optical Isolators Certified for Canada

FAIRCHILD SEMICONDUCTOR CORP San Jose, CA., USA

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File E90700 Vol. 3 Sec. 4 Page 1 Issued: 2006-03-15 and Report Revised: 2006-08-25

#### DESCRIPTION

# PRODUCT COVERED:

USR, CNR Component - Double Protection Optical Isolator, Package Construction Code R, Models FODM, and HMA, followed by 121, 124 or 2701, may be followed by any alphanumeric suffix. Models FODM, and HMAA, followed by 2705, may be followed by any alphanumeric suffix.

# MAXIMUM RATINGS (at nominal operating temperature):

	Current	(mA)	Power (m	ıW )	Isolation	Max	Max	Max
Model					Voltage	Operating	Junction	Storage
	Emitter	Sensor	Emitter	Sensor	(AC)	Temp (°C)	Temp(°C)	Temp(°C)
FODM/HMA121,	50	80	70	150	3750	110	125	125
-124, -2701								
FODM/HMAA2705	50	80	70	150	3750	110	125	125

#### **GENERAL:**

These devices are photocoupled isolators consisting of a photo-emitter such as a light emitting diode, optically coupled to a photo detector, such as a transistor. The light emitting diode and sensor are separated by an insulating window. Internal "chips" are provided with terminals 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.

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

Conditions of Acceptability - Each device shall be reviewed with respect to the following conditions of acceptability:

- 1. The capability of the device to control a load has not been investigated.
- 2. These devices should be installed in a suitable end product enclosure.
- 3. The maximum temperature on the case should not exceed the maximum operating temperature rating specified in the ratings table.
- 4. For single protection devices, the insulation to the case has not been evaluated. For double protection devices, the insulation to the case has been evaluated to an isolation voltage of 1000 V.
- 5. In addition to meeting single protection requirements, double protection optical isolators have also been investigated for use in up to 250 V, 50/60 Hz circuits in audio, video, and similar equipment in applications in which breakdown of the optical isolator may result in a risk of fire, electrical shock, or injury to persons.
- 6. For Double Protected Models Only The optical isolator enclosure is considered acceptable for only one level of protection. The double protection requirements for the end-use product are to be given further consideration with regards to the optical isolator enclosure. A 1000 V Dielectric Voltage Withstand Test was performed between the terminals and the case.

#### CONSTRUCTION DETAILS:

General - The product shall be constructed in accordance with the following description. All dimensions are approximate, unless specified as "max" or "min".

File E90700 Vol. 3 Sec. 5 Page 1 Issued: 2006-08-09 and Report

#### DESCRIPTION

#### PRODUCT COVERED:

USR Component - Double Protection Optical Isolator, Package Construction Code D, Models FOD41XX, FOD42XX and FODCX, where X can be any number.

MAXIMUM RATINGS (at nominal operating temperature):

	Current (mA)		Power	( mW )	Isolation	Max	Max	Max
Model					Voltage	Operating	Junction	Storage
	Emitter	Sensor	Emitter	Sensor	(AC)	Temp (°C)	Temp(°C)	Temp(°C)
FOD41XX	60	300	100	600	5000	110	125	150
FOD42XX	60	300	100	600	5000	110	125	150
FODCX	60	300	100	400	5000	110	125	150

# GENERAL:

These devices are photocoupled isolators consisting of a photo-emitter such as a light emitting diode, optically coupled to a photo detector, such as a transistor. The light emitting diode 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.

Conditions of Acceptability - Each device shall be reviewed with respect to the following conditions of acceptability:

- The capability of the device to control a load has not been investigated.
- 2. These devices should be installed in a suitable end product enclosure.
- 3. The maximum temperature on the case should not exceed the maximum operating temperature rating specified in the ratings table.
- 4. For single protection devices, the insulation to the case has not been evaluated. For double protection devices, the insulation to the case has been evaluated to the isolation voltage specified in the ratings table.
- 5. In addition to meeting single protection requirements, double protection optical isolators have also been investigated for use in up to 250 V, 50/60 Hz circuits in audio, video, and similar equipment in applications in which breakdown of the optical isolator may result in a risk of fire, electrical shock, or injury to persons.

# CONSTRUCTION DETAILS:

General - The product shall be constructed in accordance with the following description. All dimensions are approximate, unless specified as "max" or "min".

# File E90700 Project 07CA23784

May 22, 2007

REPORT

on

COMPONENT - OPTICAL ISOLATORS

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File E90700 Vol. 3 Sec. 6 Page 1 Issued: 2007-05-22 and Report

# DESCRIPTION

# PRODUCT COVERED:

USR Component - Single Protection Optical Isolator, Models MCT6X and MCT9X, where X can be any letters or numbers.

# MAXIMUM RATINGS (at nominal operating temperature):

	Current	(mA)	Power (mW)		Isolation	Max	Max	Max
Model					Voltage	Operating	Junction	Storage
	Emitter	Sensor	Emitter	Sensor	(AC)	Temp (°C)	Temp(°C)	Temp(°C)
MCT6,	60	30	100	150	5000	100	125	125
MCT9								

#### GENERAL:

These devices are photocoupled isolators consisting of a photo-emitter such as a light emitting diode, optically coupled to a photo detector, such as a transistor. The light emitting diode 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.

Conditions of Acceptability - Each device shall be reviewed with respect to the following conditions of acceptability:

- The capability of the device to control a load has not been investigated.
- 2. These devices should be installed in a suitable end product enclosure.
- 3. The maximum temperature on the case should not exceed the maximum operating temperature rating specified in the ratings table.
- 4. For single protection devices, the insulation to the case has not been evaluated. For double protection devices, the insulation to the case has been evaluated to the isolation voltage specified in the ratings table.
- 5. In addition to meeting single protection requirements, double protection optical isolators have also been investigated for use in up to 250 V, 50/60 Hz circuits in audio, video, and similar equipment in applications in which breakdown of the optical isolator may result in a risk of fire, electrical shock, or injury to persons.

# CONSTRUCTION DETAILS:

General - The product shall be constructed in accordance with the following description. All dimensions are approximate, unless specified as "max" or "min".

File E90700 Project 06CA38737

January 05, 2007

REPORT

ON

COMPONENT - OPTICAL ISOLATORS

Fairchild Semiconductor Corp. San Jose, California

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File E90700 Vol. 3 Sec. 7 Page 1 Issued: 2007-01-05 and Report

# DESCRIPTION

# PRODUCT COVERED:

USR, CNR - Single Protection Optical Isolators, Package Construction Code R, four-pin devices, model FODM30XX, where X may be any number or letter.

### GENERAL:

This device is a photocoupled isolator consisting of a photo-emitter such as a light emitting diode, optically coupled to a photo detector such as a transistor. They are intended to be used in applications where the suitability of the combination has been determined by Underwriters Laboratories Inc. Only the insulation function for the rated dielectric insulation voltage between the input and output of the device has been investigated.

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

# Maximum Electrical Ratings:

Model	Curren	t (mA)	Power	( mW )	Isolatio	Max	Max	Max
					n	Operatin	Junctio	Storage
	Emitte	Sensor	Emitte	Senso	Voltage	g Temp	n	Temp(°C
	r		r	r	(AC)	(°C)	Temp(°C	)
							)	
Package	60	70	100	300	3750	100	125	150
Code R,								
Model								
FODM30XX								

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

These devices are optically coupled isolating switches with light emitting diodes optically coupled to photo detectors. The solid state portion of these devices is encapsulated in a silicon or epoxy compound. The light emitting diode and detector are separated by an insulating window. Internal "chips" are provided with terminals molded into the enclosure.

Conditions of Acceptability - Each device shall be reviewed with respect to the following conditions of acceptability:

- 1. The capability of the device to control a load has not been investigated.
- 2. These devices should be installed in a suitable end product enclosure.
- 3. The maximum temperature on the case should not exceed the maximum operating temperature rating specified in the ratings table.
- 4. The insulation to the case has not been evaluated.

# CONSTRUCTION DETAILS:

General - The product shall be constructed in accordance with the following description. All dimensions are approximate unless specified as "max" or "min".

The general design, shape and arrangement shall be as illustrated, except where variations are specifically described.

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

Markings - See Section General for Markings.

Model Differences - All models have identical insulation systems. The only difference is the leadframe design or the size of the IC devices.

Abbreviation - R/C - Recognized Component



File E90700 Vol 3 Auth. Page 1 Issued: 2005-08-09 Revised: 2011-11-18

FOLLOW-UP SERVICE PROCEDURE (TYPE R)

COMPONENT - OPTICAL ISOLATORS (FPQU2, FPQU8)

Manufacturer: SEE ADDENDUM FOR MANUFACTURER LOCATIONS

Applicant: FAIRCHILD SEMICONDUCTOR CORP

(725625-001) 3030 ORCHARD PKY SAN JOSE CA 95134

Recognized Company: SAME AS APPLICANT

(725625-001)

This Procedure authorizes the above manufacturer to use the marking specified by Underwriters Laboratories Inc.(UL), or any authorized licensee of UL, only on products when constructed, tested and found to be in compliance with the requirements of this Procedure and in accordance with the terms of the applicable UL Services Agreement and Follow-Up Service Terms and Conditions. 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: <a href="http://www.ul.com/fus">http://www.ul.com/fus</a> and in accordance with the applicable Terms and Conditions at <a href="http://www.ul.com/responsibilities">http://www.ul.com/responsibilities</a>. Manufacturers without Internet access may obtain the current version of this document from their local UL customer service representative or UL field representative. For assistance, or to obtain a paper copy of the Terms and Conditions, please contact UL's Customer Service at <a href="http://www.ul.com/aboutul/locations/">http://www.ul.com/aboutul/locations/</a>, select a location and enter your request, or call the number listed for that location.

The Applicant, the specified manufacturer(s) and any Listee will be considered to have agreed to Follow-Up Services and the terms of this Follow-Up Service Procedure upon the earliest use of the prescribed UL Mark, acceptance of the factory inspection, or payment of the Follow-Up Service fees in accordance with the Follow-Up Services Terms and Conditions. Follow-Up Services will be governed by and incorporate by reference such GSA and the Follow-Up Service Terms which can be accessed by clicking here: <a href="http://www.ul.com/contracts/newfusterms">http://www.ul.com/contracts/newfusterms</a>. In all other events, such Follow-Up Services will be governed by and incorporate the terms of the applicable agreement and any applicable Program Terms and Conditions.

It is the responsibility of the Listee to make sure that only the products meeting the aforementioned requirements bear the authorized Marks of UL, or any authorized licensee of UL. The Applicant and the specified manufacturer(s) in this Follow-Up Services Procedure must agree to the Follow-Up Services as required by UL's Contracting Party.

This Procedure contains information for the use of the above Manufacturer(s) and representatives of UL or any licensee of UL, and is not to be used for any other purpose. It is lent 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 Procedure, and any subsequent revisions, is the property of UL and any authorized licensee of UL, and is not transferable. This 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 lent 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.

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 Procedure to anyone other than the above Manufacturer(s) as provided in the agreement between UL or an authorized licensee of UL, and the Manufacturer(s).

File E90700	Vol 3 Addendum To Page 1 Authorization Page	2005-08-09 2011-11-18
(100551-979)	LOCATION LITE-ON OPTO TECHNOLOGY (CHANGZHOU) CO LTD A1 88 YANGHU RD WUJIN HI-TECH IND DEVELOPMENT ZONE CHANGZHOU JIANGSU CHINA	
Factory ID:	"A" or "2"	
(153559-001) Factory ID:	LITE-ON ELECTRONICS (THAILAND) CO LTD 38/4 MOO 1 RANGSIT-ONGKARAK RD BUNGYEETOH TANYABURI PHATHUM THANI 12130 THAILAND None	
(248856-001)	LITE-ON ELECTRONIC (TIANJIN) CO LTD	

11 FU-YUAN RD

TIANJIN CHINA Factory ID: "AJ" or "3"

TIANJIN WUGING DEVELOPMENT AREA