



File E90700

Vol 1

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FOLLOW-UP SERVICE PROCEDURE  
(TYPE R)

COMPONENT - OPTICAL ISOLATORS  
(FPQU2)

Manufacturer: LITE-ON ELECTRONICS (THAILAND) CO LTD  
(153559-001) 38/4 MOO 1 RANGSIT-ONGKARAK RD  
BUNGYEETOH  
TANYABURI  
PATHUMTHANI 12130 THAILAND

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. only on products covered by this Procedure, in accordance with the applicable Follow-Up Service 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. upon request.

This PROCEDURE, and any subsequent revisions, is the property of UNDERWRITERS LABORATORIES INC. and is not transferable.

UNDERWRITERS LABORATORIES INC.

A handwritten signature in cursive script, appearing to read 'A.W. Schaefer'.

A.W. Schaefer  
Vice President and General Manager  
US and Canadian Operations

Marking - (Ink stamped label) Each device is marked with the Recognized Company name or Trademark and designation type.

- F** - Denotes Company Trademark.&
- 4N25 - Denotes Designation Type.
- V - Denotes VDE Approved Part.
- Y - Denotes One or Two Digit Year Code.
- WK - Denotes Two Digit Week Code.
- P - Denotes Package Code.



& Note: The space between the V and the Y may vary.

TRADE NAME/TRADEMARK:

The following trade name or trademark, "Q" or "QTC" or **F**, if any, may be used in lieu of the company name to identify Recognized Components covered by this procedure.

D E S C R I P T I O NPRODUCT COVERED:

Double Protection Optical Isolator (Isolation Voltage 3500 V ac),  
Package Construction Codes E, F, K, N, T, L, and T1.

GENERAL:

These devices are optically coupled isolating switches consisting of light emitting diodes and silicon photo transistors. Only the insulating function for the rated isolation 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.

RATINGS:

Package Code	Max. Current mA		Max. Power, mW		Isolation Voltage	Maximum Operating Temp°C	Junction Temp°C
	Diode	Detector	Diode	Detector			
* E, K	100	100	<b>150</b>	400	5300	100°	125°
F, N	100	100	100	300	5300	100°	125°
T(4 pin)	100	100	100	300	5300	100°	125°
T(8 pin)	50	60	100	300	5300	85°	125°
	50	50	230	210	5300	85°	125°
L	100	100	100	400	2500	100°	125°
T1	100	100	100	300	2500	100°	125°
	50	50	230	210	2500	85°	125°

ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):Conditions of Acceptability -

1. 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.
2. The device shall be installed in compliance with the enclosure, mounting, spacings, and segregation requirements of the ultimate application. No spacings are specified for the device.
3. The outer surface temperature ratings recorded below shall be acceptable in the ultimate application.
4. The suitability of use when exposed to oil, chemicals and the like has not been determined by this investigation.
5. These devices are intended for factory wiring only.
6. The suitability of the connections shall be determined in the end-use application.
7. The capability of the device to control a load has not been investigated.
8. The suitability of the device to be mounted over dead metal or metal of opposite polarity has not been investigated.
9. The suitability of the device to be mounted over dead metal or metal of opposite polarity has not been investigated.

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PACKAGE CODE "E" DEVICES:

<u>Device Family</u>	<u>Device Types</u>
CNG35	CNG35, CNG36.
H11CX	H11C1, H11C2, H11C3, H11C4, H11C5, H11C6, H74C1, H74C2, 4N39, 4N40, CNY30, CNY34.
H11DX	CNY33, H11D1, H11D2, H11D3, H11D4, 4N38, 4N38A.
H11FX	H11F1, H11F2, H11F3.
H11GX	H11G1, H11G2, H11G3, H11G45, H11G46.
H11LX	H11L1, H11L2, H11L3.
H11NX	H11N1, H11N2, H11N3.
H11PX	GE3009, GE3010, GE3011, GE3012, GE3020, GE3021, GE3022, GE3023, H11J1, H11J2, H11J3, H11J4, MOC3009, MOC3010, MOC3011, MOC3012, MOC3020, MOC3021, MOC3022, MOC3023, MCP3009, MCP3010, MCP3011, MCP3012, MCP3020, MCP3021, MCP3022, MCP3023, MCP3030, MCP3031, MCP3032, MCP3040, MCP3041, MCP3042.
H11AAX	CNY35, H11AA1, H11AA2, H11AA3, H11AA4.
H11AGX	MCT5200, MCT5201, MCT5210, MCT5211, H11AG1, H11AG2, H11AG3, PO40/44A.
740L60XXS	740L6000S, 740L6001S, 740L6010S, 740L6011S.
H11AD6X	MCT6, MCT61, MCT62, MCT66, H11AD6, H11AD61, H11AD62, H11AD66.
H11AD9X	MCT9001, H11AD9001.
H11BD6X	MCA60XX, H11BD60XX.
H11GD6X	MCA61XX, H11GD61XX.
H11BD9X	MCA90XX, H11BD90XX.
H11GD9X	MCA91XX, H11GD91XX.
H11AAD2XX	H11AAD250, H11AAD251, H11AAD252, H11AAD255.
H11AAD6XX	H11AAD620, H11AAD620-1.
*H11ADB6X	H11ADB6, H11ADB61, H11ADB62



## PRODUCT LISTING FOR PACKAGING CODE "K":

<u>Device Family</u>	<u>Device Types</u>
H11AX	CNX35, CNX36, CNX35U, CNX36U, CNX38U, CNX39U, CNY17I, CNY17II, CNY17III, CNY17IV, CNY17-1, CNY17-2, CNY17-3, CNY17-4, CNY17F-1, CNY17F-2, CNY17F-3, CNY17F-4, CNY32, CNY47, CNY47A, CNY51, CQY80, GFH600I, GFH600II, GFH600III, GFH601I, GFH601II, GFH601III, GFH601IV, H11A1, H11A2, H11A3, H11A4, H11A5, H11A521, H11A550, H11A5100, H11AV1, H11AV2, H11AV1A, H11AV2A, H11AV3A, 4N25, 4N25A, 4N26, 4N27, 4N28, 4N35, 4N36, 4N37, 4N38, 4N38A, MCT2, MCT2E, MCT26, MCT210, MCT270, MCT271, MCT2200, MCT2201, MCT2202, OF4075, OF4114, OF4204, OF715, OF905, OF967, OF805, OF924, OF988, SL5500, SL5501, SL5504, SL5511, MOC8111, MOC8112, MOC8113, TIL111, H74A1, GEPS2001, CNX62A, CNX71A, CNX72A, CNX82A, CNX83A, SL5582, SL5583, CNY17G-1, CNY17G-2, CNY17G-3, CNY17G-4, CNY17GF-1, CNY17GF-2, CNY17GF-3, CNY17GF-4, CNG82A, CNG83A, MOC8101, MOC8102, MOC8103, MOC8104, MOC8105, MOC8106, MOC8107, MOC8108, OF4232, OF4821, OF4822.
H11AAX	H11AA1, H11AA2, H11AA3, H11AA4.
H11AGX	H11AG1, H11AG2, H11AG3, CNG35, CNG36, PO40, PO44A, MCT5200, MCT5201, MCT5210, MCT5211.

## PRODUCT LISTING FOR PACKAGING CODE "K" (Continued):

<u>Device Family</u>	<u>Device Types</u>
H11BX	H11B1, H11B2, H11B3, H11B255, 4N29, 4N29A, 4N30, 4N31, 4N32, 4N32A, 4N33, CNY48, MCA230, MCA231, MCA255, CNX48U, CNX48, MCA2230, MCA2231, MCA2255, MOC8020, MOC8021, MOC8030, MOC8050, MOC8080, TIL113, MOC119.
H11DX	* H11D1, H11D2, H11D3, H11D4, 4N38, 4N38A, CNY33, <b>MOC8204</b> .
H11GX	H11G1, H11G2, H11G3, H11G45, H11G46, CNG40.
H11CX	H11C1, H11C2, H11C3, H11C4, H11C5, H11C6, 4N39, 4N40, H74C1, H74C2, CNY30, CNY34, MCS2, MCS2400, MCS21, MCS2401.
H11FX	H11F1, H11F2, H11F3.
H11LX	H11L1, H11L2, H11L3.
H11NX	H11N1, H11N2, H11N3.

Package Options:

- Option "S" = Surface Mount.
- Option "W" = 10.16 mm (0.4 inch) Lead Spacing.
- VDE 0884 = V.

## PRODUCT LISTING FOR PACKAGING CODE "K" (Continued):

<u>Device Family</u>	<u>Device Types</u>
H11PX	H11J1, H11J2, H11J3, H11J4, H11J5 GE3009, GE3010, GE3011, GE3012, GE3020, GE3021, GE3022, GE3023, MOC3009, MOC3010, MOC3011, MOC3012, MOC3020, MOC3021, MOC3022, MOC3023, MCP3009, MCP3010, MCP3011, MCP3012, MCP3020, MCP3021, MCP3022, MCP3023, MOC3051, MOC3052, MOC3053.
H11ZX	MCP3030, MCP3031, MCP3032, MCP3040, MCP3041, MCP3042, MOC3030, MOC3031, MOC3032, MOC3033, MOC3040, MOC3041, MOC3042, MOC3043, MOC3061, MOC3062, MOC3063, MOC3081, MOC3082, MOC3083, MOC3162, MOC3163
740L60XX	740L6000, 740L6001, 740L6010, 740L6011, 740L6000S, 740L6001S, 740L6010S, 7406011S.

## Package Options:

- SMD = Option "S".
- VDE 0884 = V.
- RM 10.16 mm = Option "W" (Lead Spacing 10.16 mm).



\*PACKAGE CODE "T" DEVICE TYPES AS DECLARED BELOW:

<u>Device Family</u>	<u>Device Type</u>	<u>Package Description</u>
H11A817X	H11A817, H11A817A/B/C/D	PhotoTransiftor Ouput.
H11AA814X	H11AA814, H11AA814A	AC Input, PhotoTransistor Output.
H11B815X	H11B815	PhotoDarlington Ouput.
H11A617X	H11A617A/B/C/D	Phototransistor Output.

Package Options:

- Option "S" = Surface Mount.
- Option "W" = 10.16 mm (0.4 in.) Lead Spacing.
- VDE 0884 = V.

DEVICE NAME - PACKAGE CODE "T":

<u>Device Family</u>	<u>Device Types</u>
MID400	MID400
MCL250X	6N135, 6N136, HCPL2501, HCPL2502, HCPL2503.
MCL250XK	HCPL4502, HCPL4503.
MCL260X	6N137, HCPL2601, HCPL2611.
MCC67X	6N138, 6N139.
MCL22XX	HCPL2200, HCPL2219.
MCL23XX	HCPL2300
MCL24XX	HCPL2400
MCL37XX	HCPL3700
MCL253X	HCPL2530, HCPL2531, HCPL2533, HCPL4534.
MCL263X	HCPL2630, HCPL2631, HCPL4661.
MCL273X	HCPL2730, HCPL2731.

Package Options:

- Option "S". = Surface Mount.
- Option "W". = 10.16 mm (0.4 in.) Lead Spacing.
- VDE 0884 = V.

## DEVICE NAME - PACKAGE CODE "T1":

<u>Device Family</u>	<u>Device Types</u>
MID400	MID400.
MCL250X	6N135, 6N136, HCPL2501, HCPL2502, HCPL2503.
MCL250XK	HCPL4502, HCPL4503.
MCL260X	6N137, HCPL2601, HCPL2611.
MCC67X	6N138, 6N139.
MCL22XX	HCPL2200, HCPL2219.
MCL23XX	HCPL2300.
MCL24XX	HCPL2400.
MCL37XX	HCPL3700.
MCL253X	HCPL2530, HCPL2531, HCPL2533, HCPL4534.
MCL263X	HCPL2630, HCPL2631, HCPL4661.
MCL273X	HCPL2730, HCPL2731.
H11AD6X (MCT6X)	MCT6, MCT61, MCT62, MCT66, HQQAD6, H11AD61, H11AD62, H11AD66.
H11AD9X (MCT90XX)	MCT9001, H11AD9001.
H11BD6X (MCA60XX)	MCA60XX, H11BD60XX.
H11GD6X (MCA61XX)	MCA61XX, H11GD61XX.
H11BD9X (MCA90XX)	MCA90XX, H11BD90XX.
H11GD9X (MCA91XX)	MCA91XX, H11GD91XX.
H11AAD2XX	H11AAD250, H11AAD251, H11AAD252, H11AAD255.
H11AADXXX	H11AAD620, H11AAD620-1.
H11ADB6X	H11ADB6, H11ADB61, H11ADB62

## Package Options:

- Option "S" = Surface Mount.
- Option "W" = 10.16 mm (0.4 in.) Lead Spacing.
- VDE 0884 = V.