



Product Change Notification



Product Group: Opto Sensors & IRDC 02-DEC-2009 / PCN - OSI-360-2009 Rev. 0

TITLE: Product Discontinuation of IrDA Transceiver TFDU4300

DESCRIPTION OF CHANGE: The TFDU4300 will be discontinued because the old ASIC generation won't be available any longer. We are able to serve all confirmed orders but don't have enough lead frame material to accept further orders for LTB quantities. We are offering the successor part TFDU4301 with a new ASIC and lead frame with samples available in January 2010. Ramp-up is expected by end of 1st quarter 2010. As an intermediate solution a TFDU4300A with the new lead frame but the same ASIC as TFDU4300 will be activated. This part is a substitute for "LTB" quantities of TFDU4300. The specification of TFDU4300 and TFDU4300A is identical. There is no change in Form Fit Function. All taping variants are available. TFDU4300A is fully qualified. The qualification data and samples are available in December 2009. TFDU4300A is going to be discontinued after LTB- announced with this PCN. Please contact Regional Marketing for details like transition guide.

CLASSIFICATION OF CHANGE: Product Obsolescence

REASON FOR CHANGE: ASIC supplier announced by PCN to discontinue the production of existing ASIC and offers a new ASIC generation as replacement.

In addition we have to switch to a new leadframe supplier as a result of the economical crisis.

PRODUCT CATEGORY: IRDA® transceivers

PART NUMBERS / SERIES / FAMILIES AFFECTED:

TFDU4300-TR1
TFDU4300-TR3
TFDU4300-TT1
TFDU4300-TT3
TFDU4300A-TR1
TFDU4300A-TR3
TFDU4300A-TT1
TFDU4300A-TT3

VISHAY BRAND(s): VISHAY SEMICONDUCTORS

TIME SCHEDULE:

Last Time Buy Date: 31-MAR-2010

Last Time Shipment Date: 31-MAY-2010

SAMPLES AVAILABLE BEGINNING: 11-JAN-2010

We need samples for evaluation: Yes No

If Yes return this form to contact information below.

This PCN is considered approved, without further notification, unless we receive specific customer concerns before: 20-DEC-2009 or as specified by contract.

ISSUED BY:

PM: Bernd Ziganki, Product Marketing IRDC

Phone: +49 (0)7131-67.3304

Email: bernd.ziganki@vishay.com

For further Information, please contact your regional Vishay office.

CONTACT INFORMATION:

VISHAY Intertechnology Asia Pte. Ltd.

Regional Marketing Asia/Japan

25 Tampines Street 92

Keppel Building # 02-00

Singapore 528877

Phone: +65-6788-6668

Fax: +65-6788-3383

VISHAY Intertechnologies, Inc.

Regional Marketing The Americas - Opto

2201 Laurelwood Road

M/S 55

Santa Clara, CA 95014

USA

Phone: +1-408-567-8317

Fax: +1-408-567-8371

VISHAY Semiconductor GmbH

Regional Marketing Europe Opto

Theresienstr. 2

D-74025 Heilbronn

Germany

Phone: +49-7131-672976

Fax: +49-7131-673144



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Attached Part Number List:

Material List for PCN EOL TFDU4300-PTY / TFDU4300A-PTY

TFDU4300-TR1
TFDU4300-TR3
TFDU4300-TT1
TFDU4300-TT3
TFDU4300A-TR1
TFDU4300A-TR3
TFDU4300A-TT1
TFDU4300A-TT3

Transition from TFDU4300 to TFDU4301

The new transceiver TFDU4301 is the follower of TFDU4300 in the same package with little changes. It directly replaces TFDU4300 in existing circuit designs without layout or component change.

Changes:

- Removing the V_{logic} reference voltage input and referring the logic to the supply voltage.
In applications using the TFDU4300 when the supply voltage V_{CC1} (pin 6) and the I/O reference voltage V_{logic} (pin 7) are the same or tied together, no changes are required when switching to the TFDU4301.
Where V_{CC1} (pin 6) and V_{logic} (pin 7) were connected to different voltage levels, one has to check whether the I/O logic voltages are still compatible with the supply voltage (V_{CC1}). If the voltages are different, then contact Vishay for technical assistance.

- The time constant of the protection circuit from 300 μ s to 100 μ s.
This has no impact on the application.
- The output RXD mirrors directly the inverted TXD input signal, which formerly was defined as inactive but under some conditions mirrored also the input signal.
In former applications where spurious signals were suppressed correctly and presented no issues, nothing will need to be changed when switching to TFDU4301. However, in applications where spurious echoes were not being suppressed, echo suppression (by driver software) will need to be provided or introduced.

In the following table the specification/description changes are compiled (changed parameters are marked bold).

TFDU4300		TFDU4301		DESCRIPTION OF DIFFERENCES
PIN NUMBER	FUNCTION	PIN NUMBER	FUNCTION	
1	V_{CC2} IRED anode	1	V_{CC2} IRED anode	Connect IRED anode directly to the power supply (V_{CC2}). IRED current can be decreased by adding a resistor in series between the power supply and IRED anode. A separate unregulated power supply can be used at this pin. Stays unchanged
2	IRED cathode	2	IRED cathode	IRED cathode, internally connected to the driver transistor. Stays unchanged
3	TXD	3	TXD	“This Schmitt-Trigger input is used to transmit serial data when SD is low. An on-chip protection circuit disables the LED driver if the TXD pin is asserted for longer than 300 μs. The input threshold voltage adapts to and follows the logic voltage swing defined by the applied V_{logic} voltage. (pin 7).” Changed to: “This Schmitt-Trigger input is used to transmit serial data when SD is low. An on-chip protection circuit disables the LED driver if the TXD pin is asserted for longer than 100 μs . The input threshold voltage adapts to and follows the logic voltage swing defined by the applied supply voltage (pin 6).”
4	RXD	4	RXD	“Received data output, push-pull CMOS driver output capable of driving standard CMOS or TTL loads. During transmission the RXD output is inactive. No external pull-up or pull-down resistor is required. Floating with a weak pull-up of 500 kΩ (typ.) in shutdown mode. The voltage swing is defined by the applied V_{logic} voltage (pin 7).” Changed to: “Received data output, push-pull CMOS driver output capable of driving standard CMOS or TTL loads. During transmission the RXD output is active and mirrors the transmit signal. No external pull-up or pull-down resistor is required. Floating with a weak pull-up of 500 k Ω (typ.) in shutdown mode. The voltage swing is defined by the applied supply voltage (pin 6). ”
5	SD	5	SD	“Shutdown. The input threshold voltage adapts to and follows the logic voltage swing defined by the applied V_{logic} voltage (pin 7).” Changed to: “Shutdown. The input threshold voltage adapts to and follows the logic voltage swing defined by the applied supply voltage (pin 6).”
6	V_{CC1}	6	V_{CC1}	Supply voltage. Stays unchanged
7	V_{logic}	7	NC	“V_{logic} defines the logic voltage level of the I/O ports to adapt the logic voltage swing to the IR controller. The RXD output range is from 0 V to V_{logic}, for optimum noise suppression the inputs-logic decision level is 0.5 x V_{logic}.” Changed to: “Not connected”
8	GND	8	GND	Ground. Stays unchanged