

TLP700F(D4,F) Datasheet



DiGi Electronics Part Number	TLP700F(D4,F)-DG
Manufacturer	Toshiba Semiconductor and Storage
Manufacturer Product Number	TLP700F(D4,F)
Description	OPTOISO 5KV 1CH GATE DVR 6SDIP
Detailed Description	2A Gate Driver Optical Coupling 5000Vrms 1 Channel 6-SDIP Gull Wing

<https://www.DiGi-Electronics.com>

This model TLP700F(D4,F) is available at DiGi Electronics.

DiGi Electronics offers a global database of semiconductor and electronic component datasheets.

We welcome your inquiries regarding pricing, lead time, or other product-related questions.

 [Request a Quote](#)

 [Datasheet Search](#)



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.

Purchase and inquiry

Manufacturer Product Number:

TLP700F(D4,F)

Series:

-

Technology:

Optical Coupling

Voltage - Isolation:

5000Vrms

Propagation Delay tpLH / tpHL (Max):

500ns, 500ns

Rise / Fall Time (Typ):

-

Current - Peak Output:

2A

Voltage - Output Supply:

15V ~ 30V

Mounting Type:

Surface Mount

Supplier Device Package:

6-SDIP Gull Wing

Base Product Number:

TLP700

Manufacturer:

Toshiba Semiconductor and Storage

Product Status:

Obsolete

Number of Channels:

1

Common Mode Transient Immunity (Min):

15kV/ μ s

Pulse Width Distortion (Max):

-

Current - Output High, Low:

-

Voltage - Forward (Vf) (Typ):

-

Operating Temperature:

-40°C ~ 100°C

Package / Case:

6-SOIC (0.268", 6.80mm Width)

Approval Agency:

-

Environmental & Export classification

ECCN:

EAR99

HTSUS:

8541.49.8000

TLP700F

Industrial inverters
 Inverter for air conditioners
 IGBT/Power MOSFET gate drive

The TLP700F consists of an infrared LED and an integrated photodetector. This unit is 6-lead SDIP package. The TLP700F is 50% smaller than the 8-pin DIP and meets the reinforced insulation class requirements of international safety standards. Therefore the mounting area can be reduced in equipment requiring safety standard certification.

The TLP700F is suitable for gate driving circuits for IGBTs or power MOSFETs. In particular, the TLP700 is capable of "direct" gate driving of low-power IGBTs.

- Peak output current: ± 2.0 A (max)
- Guaranteed performance over temperature: -40 to 100°C
- Supply current: 2.0 mA (max)
- Power supply voltage: 15 to 30 V
- Threshold input current: $I_{FLH} = 5$ mA (max)
- Switching time (t_{PLH} / t_{PHL}): 500 ns (max)
- Common mode transient immunity: ± 15 kV/ μs (min)
- Isolation voltage: 5000 Vrms (min)
- UL-recognized: UL 1577, File No.E67349
- cUL-recognized: CSA Component Acceptance Service No.5A
File No.E67349
- VDE-approved: EN 60747-5-5 , EN 62368-1 (Note 1)

Note 1 : When a VDE approved type is needed, please designate the **Option(D4)**.

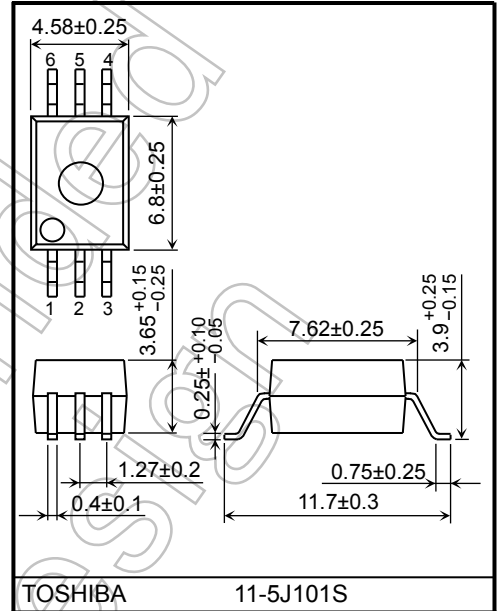
- Construction mechanical rating

	10.16-mm pitch TLPXXXF type
Creepage Distance	8.0 mm (min)
Clearance	8.0 mm (min)
Insulation Thickness	0.4 mm (min)

Truth Table

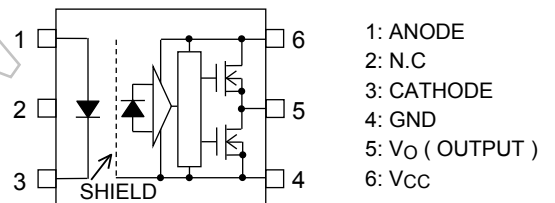
Input	LED	M1	M2	Output
H	ON	ON	OFF	H
L	OFF	OFF	ON	L

Unit: mm

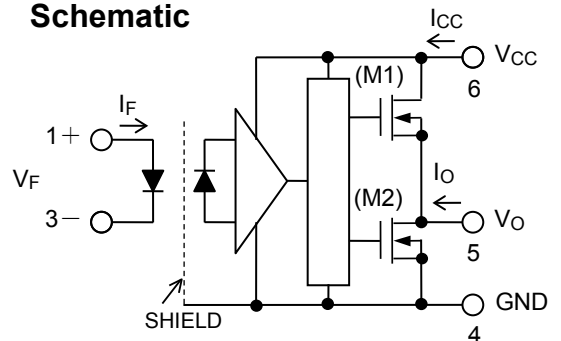


TOSHIBA 11-5J101S
 Weight: 0.26 g (typ.)

Pin Configuration (Top View)



Schematic



Note: A 0.1- μF bypass capacitor must be connected between pins 6 and 4.

Start of commercial production
 2007-08

Absolute Maximum Ratings (Ta = 25 °C)

Characteristics		Symbol	Rating	Unit	
LED	Forward current	I_F	20	mA	
	Forward current derating (Ta ≥ 85°C)	$\Delta I_F / \Delta T_a$	-0.54	mA/°C	
	Peak transient forward current (Note 1)	I_{FP}	1	A	
	Reverse voltage	V_R	5	V	
	Diode power dissipation	P_D	40	mW	
	Diode power dissipation derating (Ta ≥ 85°C)	$\Delta P_D / \Delta T_a$	-1.0	mW/°C	
	Junction temperature	T_j	125	°C	
Detector	"H" peak output current	Ta = -40 to 100 °C (Note 2)	I_{OPH}	-2.0	A
	"L" peak output current		I_{OPL}	2.0	A
	Output voltage	V_O	35	V	
	Supply voltage	V_{CC}	35	V	
	Power dissipation	P_C	400	mW	
	Junction temperature	T_j	125	°C	
	Operating frequency (Note 3)	f	50	kHz	
Operating temperature range	T_{opr}	-40 to 100	°C		
Storage temperature range	T_{stg}	-55 to 125	°C		
Lead soldering temperature (10 s) (Note 4)	T_{sol}	260	°C		
Isolation voltage (AC, 60 s, R.H. ≤ 60 %) (Note 5)	BV_S	5000	Vrms		

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Note: A ceramic capacitor (0.1 μF) should be connected from pin 6 to pin 4 to stabilize the operation of the high gain linear amplifier. Failure to provide the bypassing may impair the switching property.
The total lead length between capacitor and coupler should not exceed 1 cm.

Note 1: Pulse width $P_W \leq 1 \mu s$, 300 pps

Note 2: Exponential waveform pulse width $P_W \leq 0.3 \mu s$, $f \leq 15 \text{ kHz}$

Note 3: Exponential waveform $I_{OPH} \geq -1.5 \text{ A}$ ($\leq 0.3 \mu s$), $I_{OPL} \leq +1.5 \text{ A}$ ($\leq 0.3 \mu s$), $T_a = 100 \text{ °C}$

Note 4: For the effective lead soldering area

Note 5: Device considered a two-terminal device: pins 1, 2 and 3 paired with pins 4, 5 and 6 respectively.

Recommended Operating Conditions

Characteristics	Symbol	Min	Typ.	Max	Unit
Input current, ON (Note 1)	I_F (ON)	7.5	—	10	mA
Input voltage, OFF	V_F (OFF)	0	—	0.8	V
Supply voltage (Note 2)(Note 3)	V_{CC}	15	—	30	V
Peak output current	I_{OPH} / I_{OPL}	—	—	±1.5	A
Operating temperature	T_{opr}	-40	—	100	°C

Note: Recommended operating conditions are given as a design guideline to obtain expected performance of the device. Additionally, each item is an independent guideline respectively. In developing designs using this product, please confirm specified characteristics shown in this document.

Note 1: Input signal rise time (fall time) $\leq 0.5 \mu s$.

Note 2: This item denotes operating ranges, not meaning of recommended operating conditions.

Note 3: If the V_{CC} rise slope is sharp, an internal circuit might not operate with stability. Please design the V_{CC} rise slope under 3.0 V/μs.

Electrical Characteristics (Ta = -40 to 100 °C, unless otherwise specified)

Characteristics		Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit	
Forward voltage		V _F	—	I _F = 10 mA, Ta = 25 °C	—	1.57	1.75	V	
Temperature coefficient of forward voltage		ΔV _F /ΔTa	—	I _F = 10 mA	—	-1.8	—	mV/°C	
Input reverse current		I _R	—	V _R = 5 V, Ta = 25 °C	—	—	10	μA	
Input capacitance		C _T	—	V = 0 V, f = 1 MHz, Ta = 25 °C	—	100	—	pF	
Output current (Note 1)	“H” Level	I _{OPH1}	1	V _{CC} = 15 V I _F = 5 mA	V ₆₋₅ = 3.5 V	—	-1.4	-1.0	A
		I _{OPH2}			V ₆₋₅ = 7 V	—	—	-1.5	
	“L” Level	I _{OPL1}	2	V _{CC} = 15 V I _F = 0 mA	V ₅₋₄ = 2.5 V	1.0	1.4	—	
		I _{OPL2}			V ₅₋₄ = 7 V	1.5	—	—	
Output voltage	“H” Level	V _{OH}	3	V _{CC1} = +15 V, V _{EE1} = -15V R _L = 200 Ω, I _F = 5 mA	11	13.7	—	V	
	“L” Level	V _{OL}	4	V _{CC1} = +15V, V _{EE1} = -15V R _L = 200 Ω, V _F = 0.8 V	—	-14.9	-12.5		
Supply current	“H” Level	I _{CCH}	5	V _{CC} = 30 V V _O = Open	I _F = 10 mA	—	1.3	2.0	mA
	“L” Level	I _{CCL}	6		I _F = 0 mA	—	1.3	2.0	
Threshold input current		L → H	I _{FLH}	—	V _{CC} = 15 V, V _O > 1 V	—	1.8	5	mA
Threshold input voltage		H → L	V _{FHL}	—	V _{CC} = 15 V, V _O < 1 V	0.8	—	—	V
Supply voltage		V _{CC}	—	—	15	—	30	V	
UVLO thresh hold		V _{UVLO+}	—	V _O > 2.5V, I _F = 5 mA	11.0	12.5	13.5	V	
		V _{UVLO-}	—	V _O < 2.5V, I _F = 5 mA	9.5	11.0	12.0	V	
UVLO hysteresis		V _{UVLOHYS}	—	—	—	1.5	—	V	

Note: All typical values are at Ta = 25 °C

Note: This product is more sensitive than conventional products to electrostatic discharge (ESD) owing to its low power consumption design. It is therefore all the more necessary to observe general precautions regarding ESD when handling this component.

Note 1: Duration of I_O time ≤ 50 μs, 1 pulse

Isolation Characteristics (Ta = 25 °C)

Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Capacitance input to output	C _S	V _S = 0 V, f = 1 MHz	—	1.0	—	pF
Isolation resistance	R _S	R.H. ≤ 60 %, V _S = 500 V	10 ¹²	10 ¹⁴	—	Ω
Isolation voltage	BV _S	AC, 60 s	5000	—	—	V _{rms}

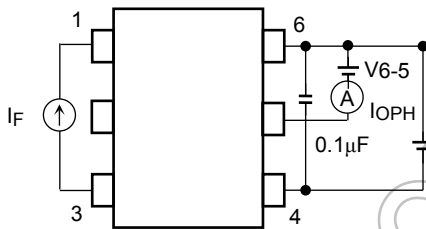
Note : Device considered a two-terminal device: pins 1, 2 and 3 paired with pins 4, 5 and 6 respectively.

Switching Characteristics (Ta = -40 to 100 °C, unless otherwise specified)

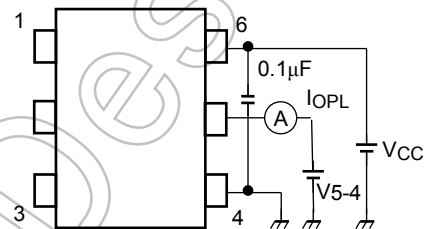
Characteristics		Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit	
Propagation delay time	L → H	t_{pLH}	7	$V_{CC} = 30\text{ V}$ $R_g = 20\ \Omega$ $C_g = 10\text{ nF}$	$I_F = 0 \rightarrow 5\text{ mA}$	50	—	500	ns
	H → L	t_{pHL}			$I_F = 5 \rightarrow 0\text{ mA}$	50	—	500	
Output rise time (10-90 %)		t_r			$I_F = 0 \rightarrow 5\text{ mA}$	—	50	—	
Output fall time (90-10 %)		t_f			$I_F = 5 \rightarrow 0\text{ mA}$	—	50	—	
Switching time dispersion between ON and OFF		$ t_{pHL} - t_{pLH} $			$I_F = 0 \leftrightarrow 5\text{ mA}$	—	—	250	
Common mode transient immunity at HIGH level output		CM_H	8	$V_{CM} = 1000\text{ Vp-p}$ $T_a = 25\text{ }^\circ\text{C}$ $V_{CC} = 30\text{ V}$	$I_F = 5\text{ mA}$ $V_O(\text{min}) = 26\text{ V}$	-15	—	—	kV/ μs
Common mode transient immunity at LOW level output		CM_L			$I_F = 0\text{ mA}$ $V_O(\text{max}) = 1\text{ V}$	15	—	—	

Note: All typical values are at Ta = 25 °C.

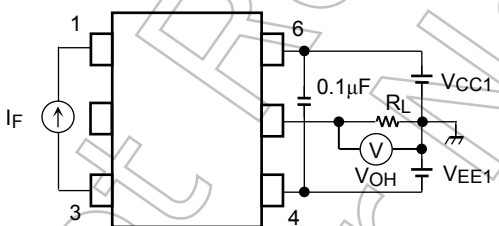
Test Circuit 1: IOPH



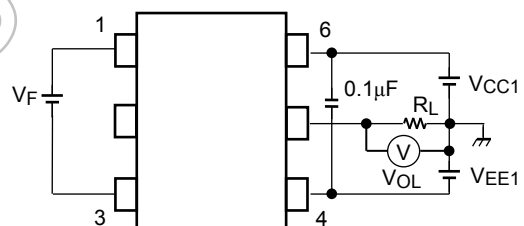
Test Circuit 2: IOPL



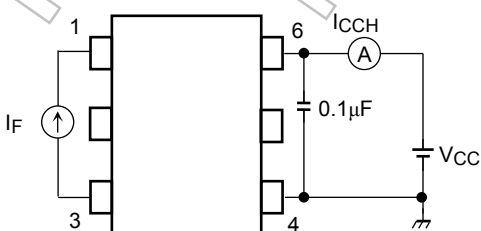
Test Circuit 3: VOH



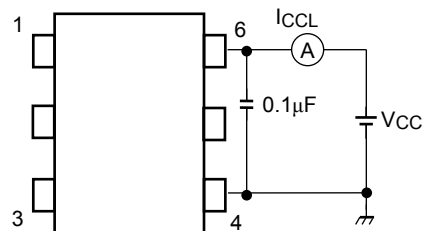
Test Circuit 4: VOL



Test Circuit 5: ICCH

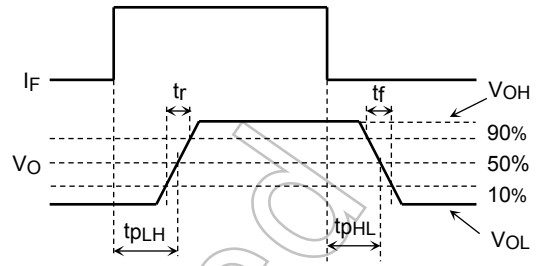
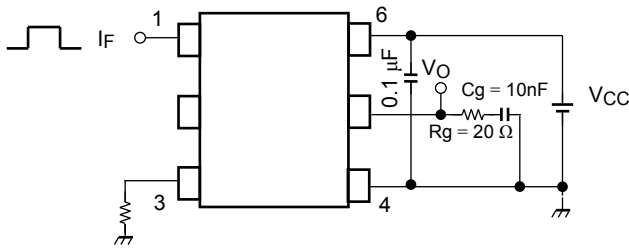


Test Circuit 6: ICCL

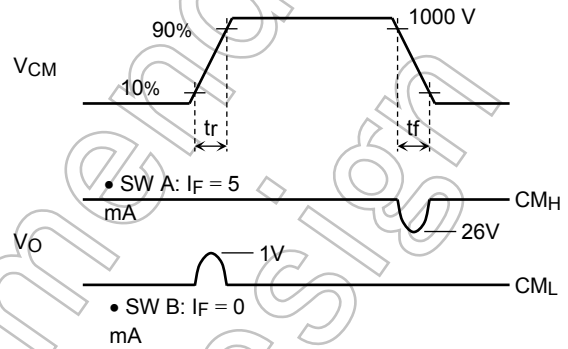
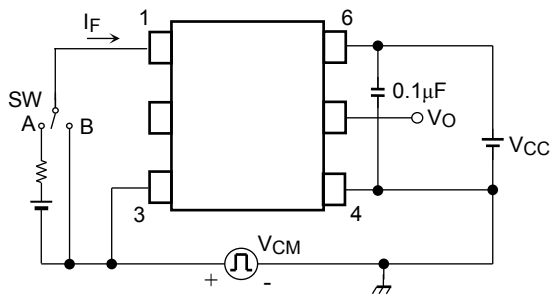


Test Circuit 7: t_{pLH} , t_{pHL} , t_r , t_f , | $t_{pHL}-t_{pLH}$ |

($f=25\text{kHz}$, $\text{duty}=50\%$, less than $t_r=t_f=5\text{ns}$)



Test Circuit 8: CMH, CML



• SW A: $I_F = 5$ mA

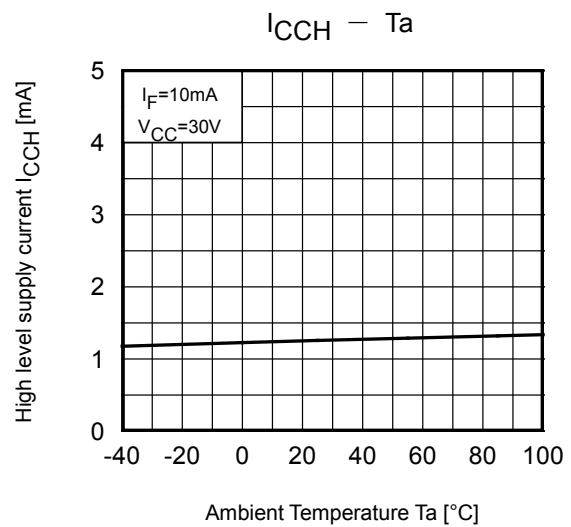
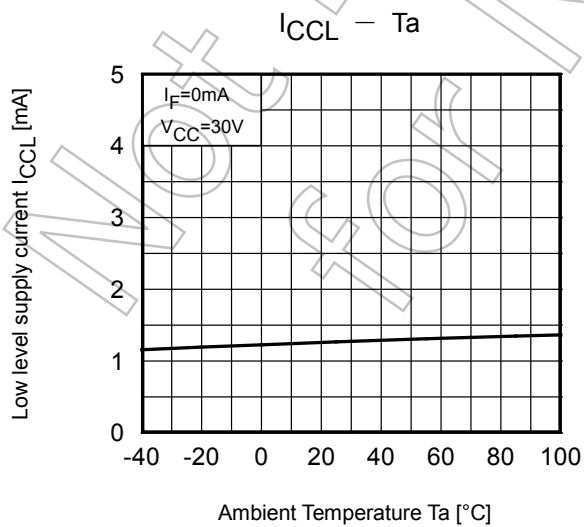
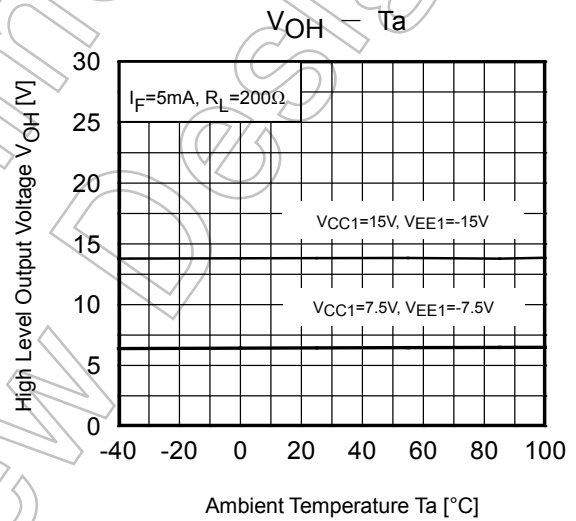
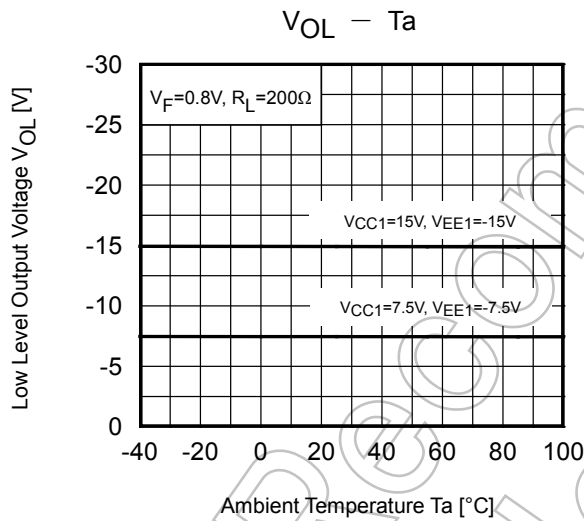
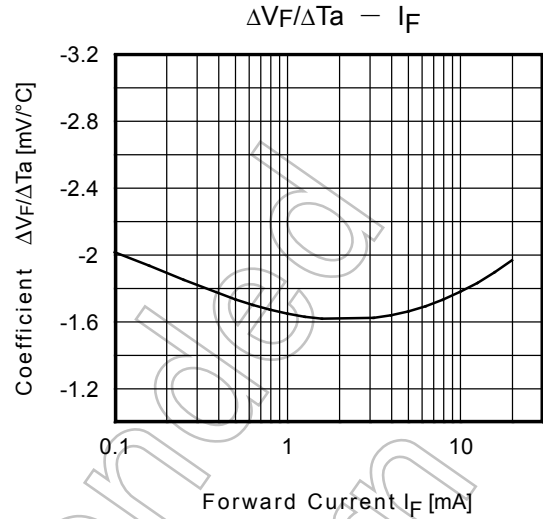
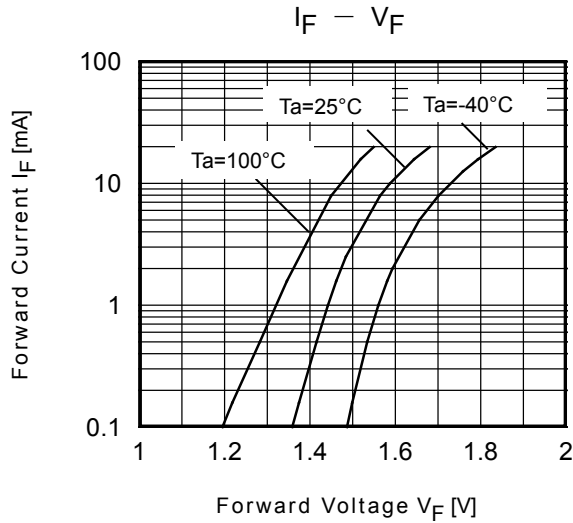
$$CM_H = \frac{800 \text{ V}}{t_f (\mu\text{s})}$$

• SW B: $I_F = 0$ mA

$$CML = \frac{800 \text{ V}}{t_r (\mu\text{s})}$$

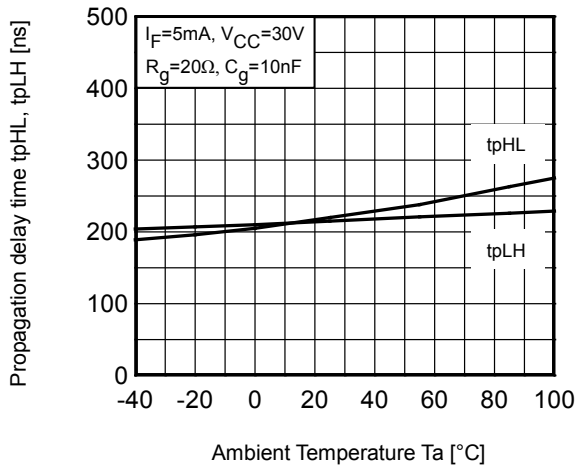
Note: CML (CMH) is the maximum rate of rise (fall) of the common mode voltage that can be sustained with the output voltage in the LOW (HIGH) state.

Not Recommended for New

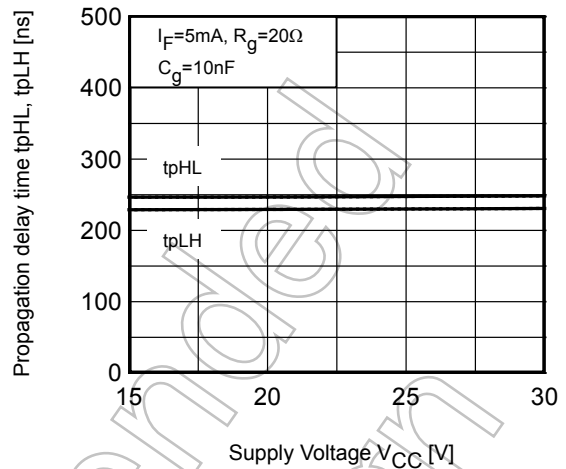


NOTE: The above characteristics curves are presented for reference only and not guaranteed by production test, unless otherwise noted.

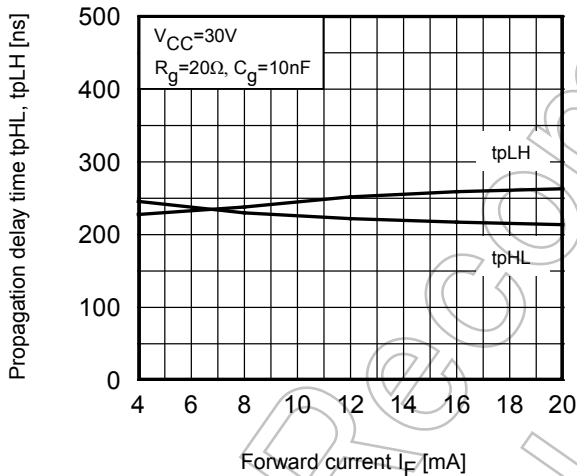
tpHL, tpLH - Ta



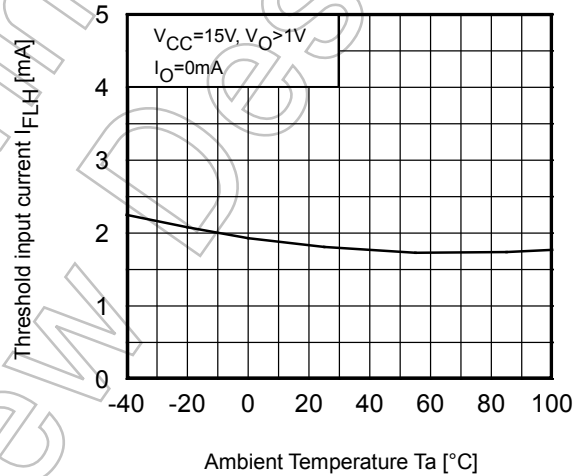
tpHL, tpLH - VCC



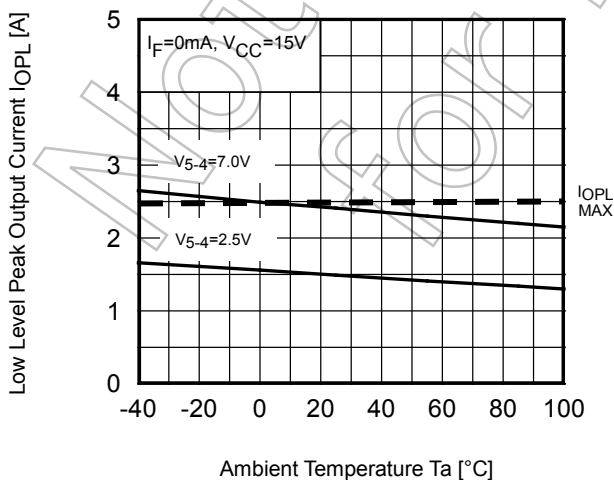
tpHL, tpLH - IF



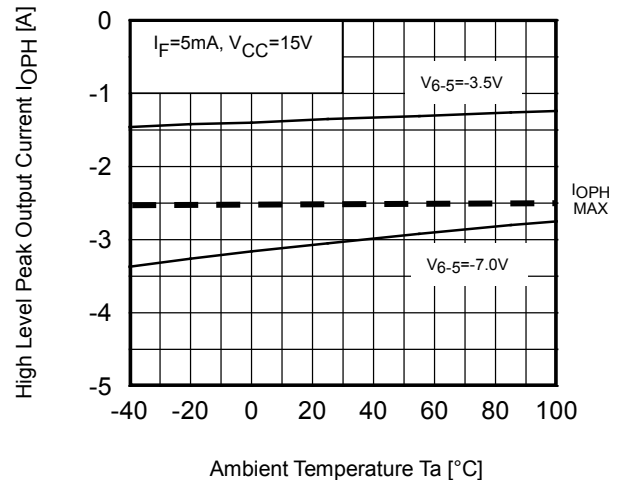
IFLH - Ta



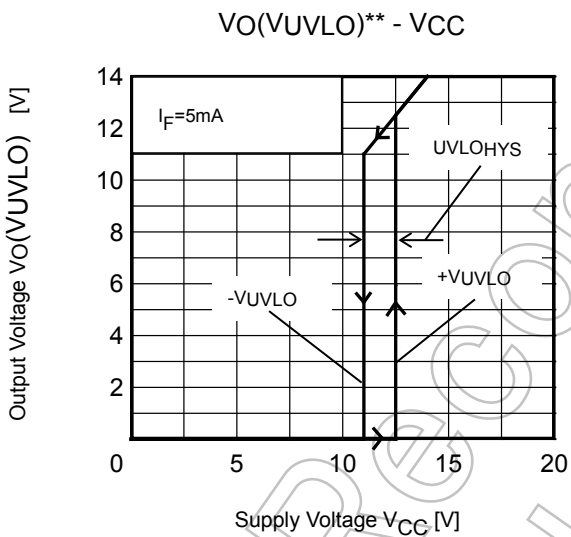
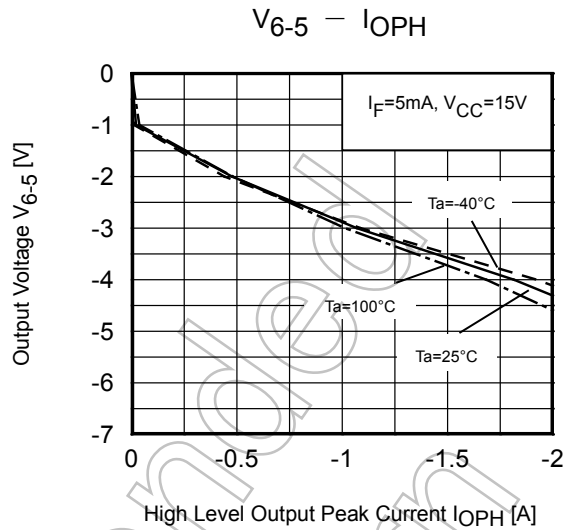
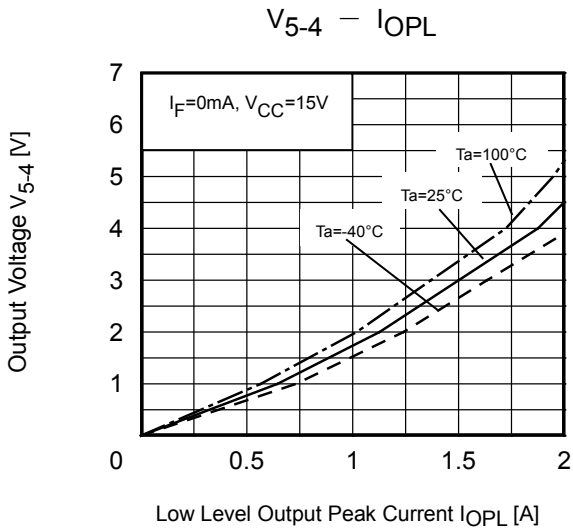
IOPL - Ta



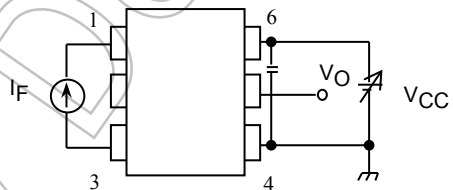
IOPH - Ta



NOTE: The above characteristics curves are presented for reference only and not guaranteed by production test, unless otherwise noted.



**Test Circuit : $V_O(V_{UVLO}) - V_{CC}$



*: The above graphs show typical characteristics.

NOTE: The above characteristics curves are presented for reference only and not guaranteed by production test, unless otherwise noted.

Soldering and Storage

(1) Precautions for Soldering

The soldering temperature should be controlled as closely as possible to the conditions shown below, irrespective of whether a soldering iron or a reflow soldering method is used.

1) When Using Soldering Reflow

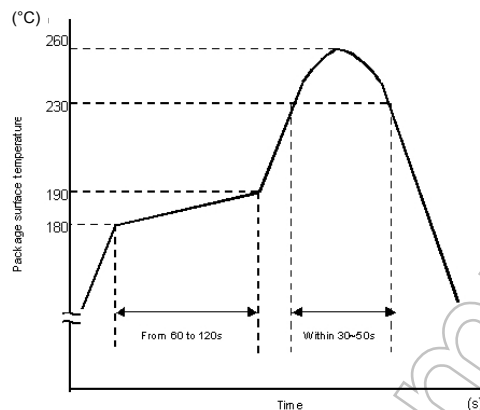
The soldering temperature profile is based on the package surface temperature.

(See the figure shown below, which is based on the package surface temperature.)

Reflow soldering must be performed once or twice.

The mounting should be completed with the interval from the first to the last mountings being 2 weeks.

- An example of a temperature profile when lead(Pb)-free solder is used:



This profile is based on the device's maximum heat resistance guaranteed value.

Set the preheat temperature/heating temperature to the optimum temperature corresponding to the solder paste type used by the customer within the described profile.

2) When using soldering Flow

- Preheat the device at a temperature of 150 °C (package surface temperature) for 60 to 120 seconds.
- Mounting condition of 260 °C or less within 10 seconds is recommended.
- Flow soldering must be performed once

3) When using soldering Iron (Applicable to both eutectic solder and Lead(Pb)-Free solder)

- Complete soldering within 10 seconds for lead temperature not exceeding 260 °C or within 3 seconds not exceeding 350 °C.
- Heating by soldering iron must be only once per 1 lead

(2) Precautions for General Storage

- 1) Do not store devices at any place where they will be exposed to moisture or direct sunlight.
- 2) When transportation or storage of devices, follow the cautions indicated on the carton box.
- 3) The storage area temperature should be kept within a temperature range of 5 °C to 35 °C, and relative humidity should be maintained at between 45% and 75%.
- 4) Do not store devices in the presence of harmful (especially corrosive) gases, or in dusty conditions.
- 5) Use storage areas where there is minimal temperature fluctuation. Because rapid temperature changes can cause condensation to occur on stored devices, resulting in lead oxidation or corrosion, as a result, the solderability of the leads will be degraded.
- 6) When repacking devices, use anti-static containers.
- 7) Do not apply any external force or load directly to devices while they are in storage.
- 8) If devices have been stored for more than two years, even though the above conditions have been followed, it is recommended that solderability of them should be tested before they are used.

Not Recommended
for New Design

EN 60747-5-5 Option (D4) Specification

Types : TLP700F

Type designations for "option: (D4)", which are tested under EN 60747 requirements.

Ex.: TLP700F (D4-TP,F) D4 : EN 60747 option
 TP : Standard tape & reel type
 F : [[G]]/RoHS COMPATIBLE (Note 1)

Note: Use TOSHIBA standard type number for safety standard application.

Ex.: TLP700F (D4-TP,F) → TLP700F


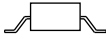
Note 1: Please contact your TOSHIBA sales representative for details as to environmental matters such as the RoHS compatibility of Product.

RoHS is the Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

EN 60747 Isolation Characteristics

Description		Symbol	Rating	Unit
Application classification for rated mains voltage $\leq 300V_{rms}$ for rated mains voltage $\leq 600V_{rms}$			I-IV I-III	—
Climatic classification			40/ 100 / 21	—
Pollution degree			2	—
Maximum operating insulation voltage	TLPxxx type	V_{IORM}	890	Vpk
	TLPxxxFtype		1140	
Input to output test voltage, method A $V_{pr}=1.6 \times V_{IORM}$, type and sample test $t_p=10$ s, partial discharge <5 pC	TLPxxx type	V_{pr}	1424	Vpk
	TLPxxxFtype		1824	
Input to output test voltage, method B $V_{pr}=1.875 \times V_{IORM}$, 100 % production test $t_p=1$ s, partial discharge < 5 pC	TLPxxx type	V_{pr}	1670	Vpk
	TLPxxxFtype		2140	
Highest permissible overvoltage (transient overvoltage, $t_{pr} = 60$ s)		V_{TR}	8000	Vpk
Safety limiting values (max. permissible ratings in case of fault, also refer to thermal derating curve) current (input current I_F , $P_{si} = 0$) power (output or total power dissipation) temperature		I_{si} P_{si} T_s	300 700 150	mA mW °C
Insulation resistance,	$V_{IO}=500$ V, $T_a = 25$ °C $V_{IO}=500$ V, $T_a = 100$ °C $V_{IO}=500$ V, $T_a = T_s$	R_{si}	$\geq 10^{12}$ $\geq 10^{11}$ $\geq 10^9$	Ω

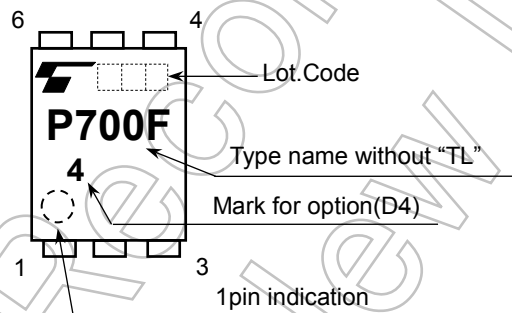
Insulation Related Specifications

		 7.62mm pitch TLPxxx type	 10.16mm pitch TLPxxxF type
Minimum creepage distance	Cr	7.0mm	8.0mm
Minimum clearance	Cl	7.0mm	8.0mm
Minimum insulation thickness	ti	0.4mm	
Comperative tracking index	CTI	175	

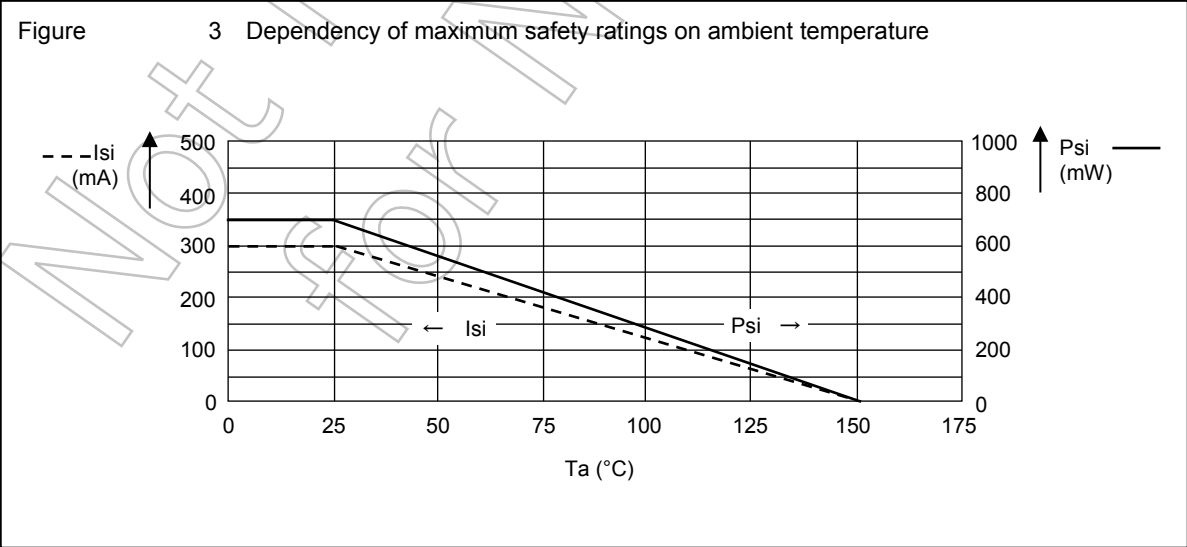
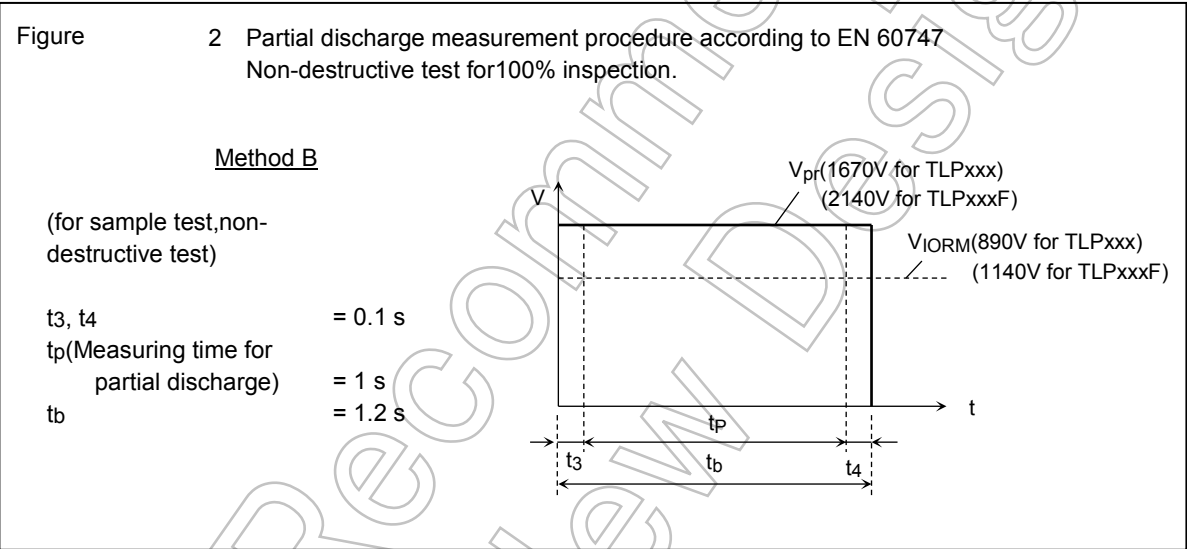
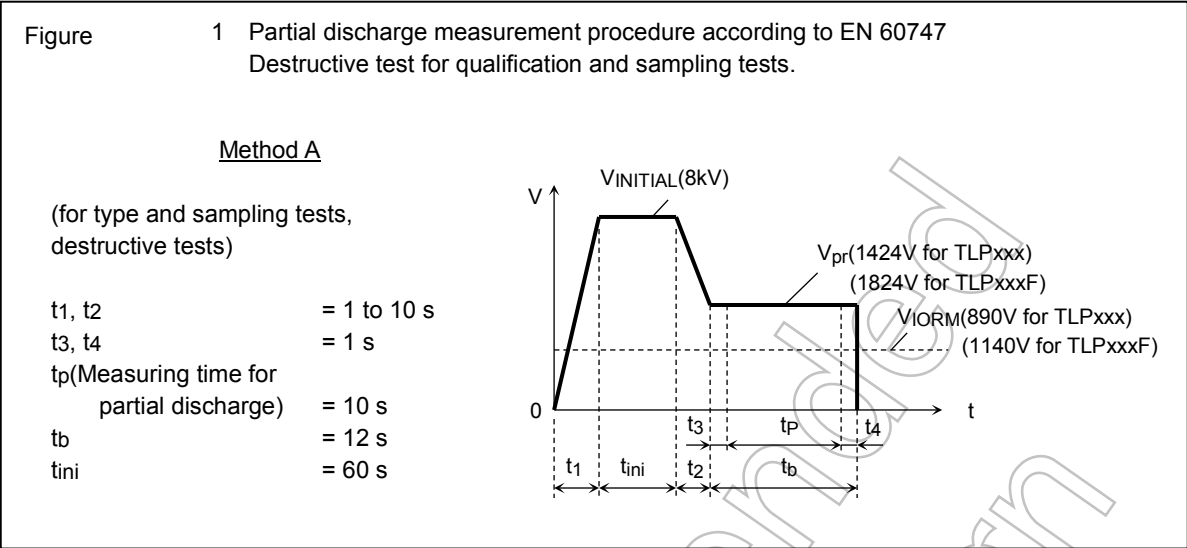
1. If a printed circuit is incorporated, the creepage distance and clearance may be reduced below this value. If this is not permissible, the user shall take suitable measures.
2. This photocoupler is suitable for 'safe electrical isolation' only within the safety limit data. Maintenance of the safety data shall be ensured by means of protective circuits.

Marking on product for EN 60747 : **4**

Marking Example:



Not for New Design



RESTRICTIONS ON PRODUCT USE

Toshiba Corporation and its subsidiaries and affiliates are collectively referred to as "TOSHIBA". Hardware, software and systems described in this document are collectively referred to as "Product".

- TOSHIBA reserves the right to make changes to the information in this document and related Product without notice.
- This document and any information herein may not be reproduced without prior written permission from TOSHIBA. Even with TOSHIBA's written permission, reproduction is permissible only if reproduction is without alteration/omission.
- Though TOSHIBA works continually to improve Product's quality and reliability, Product can malfunction or fail. Customers are responsible for complying with safety standards and for providing adequate designs and safeguards for their hardware, software and systems which minimize risk and avoid situations in which a malfunction or failure of Product could cause loss of human life, bodily injury or damage to property, including data loss or corruption. Before customers use the Product, create designs including the Product, or incorporate the Product into their own applications, customers must also refer to and comply with (a) the latest versions of all relevant TOSHIBA information, including without limitation, this document, the specifications, the data sheets and application notes for Product and the precautions and conditions set forth in the "TOSHIBA Semiconductor Reliability Handbook" and (b) the instructions for the application with which the Product will be used with or for. Customers are solely responsible for all aspects of their own product design or applications, including but not limited to (a) determining the appropriateness of the use of this Product in such design or applications; (b) evaluating and determining the applicability of any information contained in this document, or in charts, diagrams, programs, algorithms, sample application circuits, or any other referenced documents; and (c) validating all operating parameters for such designs and applications. **TOSHIBA ASSUMES NO LIABILITY FOR CUSTOMERS' PRODUCT DESIGN OR APPLICATIONS.**
- **PRODUCT IS NEITHER INTENDED NOR WARRANTED FOR USE IN EQUIPMENTS OR SYSTEMS THAT REQUIRE EXTRAORDINARILY HIGH LEVELS OF QUALITY AND/OR RELIABILITY, AND/OR A MALFUNCTION OR FAILURE OF WHICH MAY CAUSE LOSS OF HUMAN LIFE, BODILY INJURY, SERIOUS PROPERTY DAMAGE AND/OR SERIOUS PUBLIC IMPACT ("UNINTENDED USE").** Except for specific applications as expressly stated in this document, Unintended Use includes, without limitation, equipment used in nuclear facilities, equipment used in the aerospace industry, lifesaving and/or life supporting medical equipment, equipment used for automobiles, trains, ships and other transportation, traffic signaling equipment, equipment used to control combustions or explosions, safety devices, elevators and escalators, and devices related to power plant. **IF YOU USE PRODUCT FOR UNINTENDED USE, TOSHIBA ASSUMES NO LIABILITY FOR PRODUCT.** For details, please contact your TOSHIBA sales representative or contact us via our website.
- Do not disassemble, analyze, reverse-engineer, alter, modify, translate or copy Product, whether in whole or in part.
- Product shall not be used for or incorporated into any products or systems whose manufacture, use, or sale is prohibited under any applicable laws or regulations.
- The information contained herein is presented only as guidance for Product use. No responsibility is assumed by TOSHIBA for any infringement of patents or any other intellectual property rights of third parties that may result from the use of Product. No license to any intellectual property right is granted by this document, whether express or implied, by estoppel or otherwise.
- **ABSENT A WRITTEN SIGNED AGREEMENT, EXCEPT AS PROVIDED IN THE RELEVANT TERMS AND CONDITIONS OF SALE FOR PRODUCT, AND TO THE MAXIMUM EXTENT ALLOWABLE BY LAW, TOSHIBA (1) ASSUMES NO LIABILITY WHATSOEVER, INCLUDING WITHOUT LIMITATION, INDIRECT, CONSEQUENTIAL, SPECIAL, OR INCIDENTAL DAMAGES OR LOSS, INCLUDING WITHOUT LIMITATION, LOSS OF PROFITS, LOSS OF OPPORTUNITIES, BUSINESS INTERRUPTION AND LOSS OF DATA, AND (2) DISCLAIMS ANY AND ALL EXPRESS OR IMPLIED WARRANTIES AND CONDITIONS RELATED TO SALE, USE OF PRODUCT, OR INFORMATION, INCLUDING WARRANTIES OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, ACCURACY OF INFORMATION, OR NONINFRINGEMENT.**
- GaAs (Gallium Arsenide) is used in Product. GaAs is harmful to humans if consumed or absorbed, whether in the form of dust or vapor. Handle with care and do not break, cut, crush, grind, dissolve chemically or otherwise expose GaAs in Product.
- Do not use or otherwise make available Product or related software or technology for any military purposes, including without limitation, for the design, development, use, stockpiling or manufacturing of nuclear, chemical, or biological weapons or missile technology products (mass destruction weapons). Product and related software and technology may be controlled under the applicable export laws and regulations including, without limitation, the Japanese Foreign Exchange and Foreign Trade Law and the U.S. Export Administration Regulations. Export and re-export of Product or related software or technology are strictly prohibited except in compliance with all applicable export laws and regulations.
- Please contact your TOSHIBA sales representative for details as to environmental matters such as the RoHS compatibility of Product. Please use Product in compliance with all applicable laws and regulations that regulate the inclusion or use of controlled substances, including without limitation, the EU RoHS Directive. **TOSHIBA ASSUMES NO LIABILITY FOR DAMAGES OR LOSSES OCCURRING AS A RESULT OF NONCOMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS.**

OUR CERTIFICATE

DiGi provide top-quality products and perfect service for customer worldwide through standardization, technological innovation and continuous improvement. DiGi through third-party certification, we stricly control the quality of products and services. Welcome your RFQ to

Email: Info@DiGi-Electronics.com



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.