

TOSHIBA PHOTOCOUPLER

TLP721(D4)SERIES

ATTACHMENT : SPECIFICATIONS FOR VDE0884 OPTION : (D4)

Types : TLP721, TLP721F

Type designations for 'Option : (D4)', which are tested under VDE0884 requirements.

Ex. : TLP721 (D4-GR-LF4) D4 : VDE0884 option
 GR : CTR rank
 LF4 : lead bend

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

Ex. TLP721 (D4-GR-LF4) → TLP721



VDE0884 ISOLATION CHARACTERISTICS

DESCRIPTION	SYMBOL	RATING	UNIT
Application Classification (DIN VDE0110 Teil 1/01.89, Table 1) for rated mains voltage $\leq 300V_{rms}$ for rated mains voltage $\leq 600V_{rms}$		I-IV I-III	—
Climatic Classification (DIN IEC68 Teil 1/09.80)		40 / 100 / 21	—
Pollution Degree (DIN VDE0110 Teil 1/01.89)		2	—
Maximum Operating Insulation Voltage	TLP721	630	Vpk
	TLP721F	890	
Input to output Test Voltage, Method A $V_{pr} = 1.5 \times V_{IORM}$, Type and Sample Test $t_p = 60s$, Partial Discharge $< 5pC$	TLP721	945	Vpk
	TLP721F	1335	
Input to output Test Voltage, Method B $V_{pr} = 1.875 \times V_{IORM}$, 100% Production Test $t_p = 1s$, Partial Discharge $< 5pC$	TLP721	1180	Vpk
	TLP721F	1670	
Highest Permissible Overvoltage (Transient Overvoltage, $t_{pr} = 10s$)	V_{TR}	6000	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}	300	mA
	P_{si}	500	mW
	T_{si}	150	°C
Insulation Resistance, $V_{IO} = 500V$, $T_a = 25^\circ C$ $V_{IO} = 500V$, $T_a = T_{si}$	R_{si}	$\geq 10^{12}$ $\geq 10^9$	Ω

- This data sheet refers to TLP721 (D4, M), TLP721F (D4, M) that previously has a white-resin mold and have been changed. When designing new products please use black mold-resin devices.



INSULATION RELATED SPECIFICATIONS

			 7.62mm pitch TLP721	 10.16mm pitch TLP721F
Minimum Creepage Distance	(*)	Cr	7.0mm	8.0mm
Minimum Clearance	(*)	Cl	7.0mm	8.0mm
Minimum Insulation Thickness		ti	0.5mm	
Comperative Tracking Index (DIN IEC112/VDE0303, Part 1)		CTI	175 (VDE0110 Teil 1/01.89 Group III a)	

(*) in accordance with DIN VDE0110 Teil 1/01.89, Table 2, & 4)

- (*1) If a printed circuit is incorporated, the creepage distance and clearance may be reduced below this value (e. g. at a standard distance between soldering eye centres of 7.5mm). 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.

VDE Test sign : Marking on product
for VDE0884

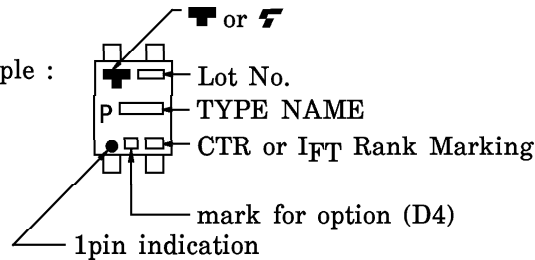
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Marking on packing
for VDE0884



0884

Marking Example :



● Gallium arsenide (GaAs) is a substance used in the products described in this document. GaAs dust and fumes are toxic. Do not break, cut or pulverize the product, or use chemicals to dissolve them. When disposing of the products, follow the appropriate regulations. Do not dispose of the products with other industrial waste or with domestic garbage.
 ● The products described in this document are subject to foreign exchange and foreign trade control laws.
 ● The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA CORPORATION for any infringements of intellectual property or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any intellectual property or other rights of TOSHIBA CORPORATION or others.
 ● The information contained herein is subject to change without notice.

Figure 1 Partial discharge measurement procedure according to VDE0884
Destructive test for qualification and sampling tests.

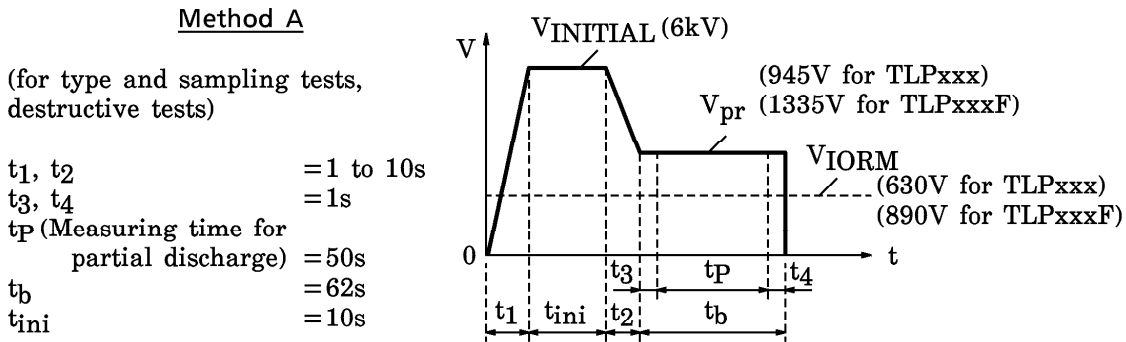


Figure 2 Partial discharge measurement procedure according to VDE0884
Non-destructive test for 100% inspection.

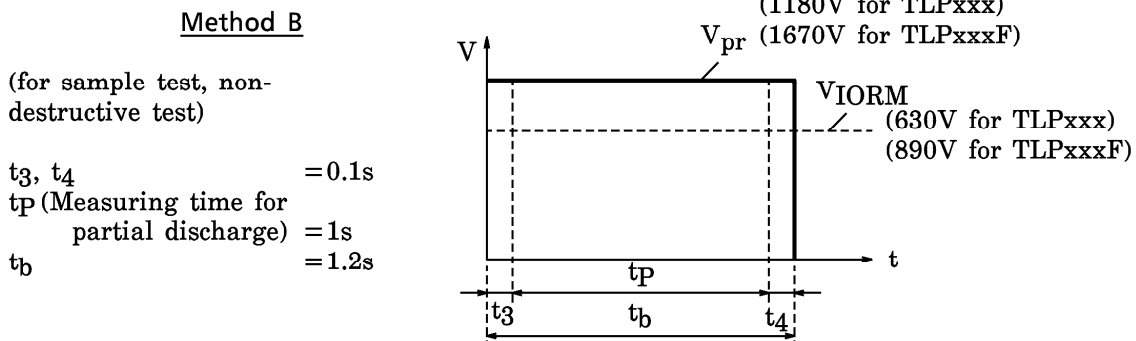


Figure 3 Dependency of maximum safety ratings on ambient temperature

