TOSHIBA PHOTOCOUPLER

TLP731(D4)SERIES, TLP741(D4)SERIES

ATTACHMENT: SPECIFICATIONS FOR $\underline{VDE0884}$ OPTION: (D4)

Types: TLP731, TLP732, TLP741G, TLP741J

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

Ex. : TLP732 (D4-GR-LF2) D4VDE0884 option

> GR CTR rank LF2 lead bend

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

Ex. TLP732 (D4-GR-LF2) \rightarrow TLP732

VDE0884 ISOLATION CHARACTERISTICS

DESCRIPTION	SYMBOL	RATING	UNIT
$ \begin{array}{c} \textbf{Application Classification} \\ \textbf{(DIN VDE0109/12.83, Table 1)} \\ \textbf{for rated mains voltage} \leqq 300 V_{rms} \\ \textbf{for rated mains voltage} \leqq 600 V_{rms} \\ \end{array} $		I-IV I-III	
Climatic Classification (DIN IEC68 Teil 1/09.80)		55/100/21	_
Pollution Degree (DIN VDE0109/12.83)		2	_
Maximum Operating Insulation Voltage	$v_{ m IORM}$	630	Vpk
Input to output Test Voltage, Method A Vpr=1.2×V _{IORM} , Type and Sample Test tp=60s, Partial Discharge<5pC	Vpr	760	Vpk
Input to output Test Voltage, Method B Vpr=1.6×V _{IORM} , 100% Production Test tp=1s, Partial Discharge<5pC	Vpr	1000	Vpk
Highest Permissible Overvoltage (Transient Overvoltage, t _{pr} =10s)	$v_{ m TR}$	6000	Vpk
Safety Limiting Values (Max. permissible ratings in case of fault, also refer to thermal derating curve)			
Current (Input current I_F , $P_{Si} = 0$)	I_{si}	400	mA
Power (Output or Total Power Dissipation) Temperature	$egin{array}{c} ext{P}_{ ext{si}} \ ext{T}_{ ext{si}} \end{array}$	700 150	$^{\circ}\mathrm{C}$
Insulation Resistance at Tsi, V _{IO} =500V	R_{si}	\geq 10^{9}	Ω

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INSULATION RELATED SPECIFICATIONS

		7.62mm pitch standard type	10.16mm pitch (LF2) type
Minimum Creepage Distance (*)	Cr	7.0mm	8.0mm
Minimum Clearance (*)	Cl	7.0mm	8.0mm
Minimum Insulation Thickness	ti	0.5mm	
Comperative Tracking Index	CTI	175	
(DIN IEC112/VDE0303, Part 1)		(VDE0109/12.83 Group ■ a)	

- ((*) in accordance with DIN VDE0109/12.83, 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

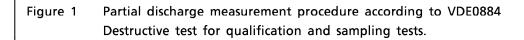
for VDE0884



Marking on packing for VDE0884



0884



Method A

(for type and sampling tests, destructive tests)

$$\begin{array}{lll} t_1, \ t_2 & = 1 \ to \ 10s \\ t_3, \ t_4 & = 1s \\ t_P \ (\text{Measuring time for} \\ & \text{partial discharge}) \ = 50s \\ t_b & = 62s \\ t_{\text{ini}} & = 10s \end{array}$$

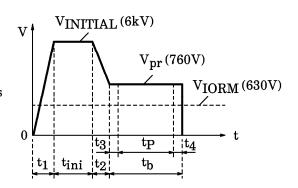


Figure 2 Partial discharge measurement procedure according to VDE0884 Non-destructive test for 100% inspection.

Method B

(for sample test, non-destructive test)

$$t_3$$
, t_4 = 0.1s
 t_p (Measuring time for
partial discharge) = 1s
 t_b = 1.2s

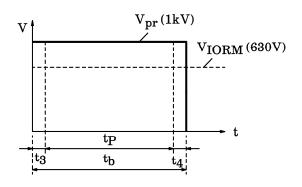


Figure 3 Dependency of maximum safety ratings on ambient temperature 1000 - I_{Si} (mA) P_{si} (mW) 400 800 300 600 200 400 100 200 0 25 100 150 0 50 75 125 175 Ta (°C)