TOSHIBA PHOTOCOUPLER

TLP733(D4)SERIES , TLP747(D4)SERIES

ATTACHMENT : SPECIFICATIONS FOR VDE0884 OPTION : (D4)

Types : TLP733, TLP734, TLP733F, TLP734F, TLP747G, TLP747J, TLP747GF, TLP747JF

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

Ex. : TLP734 (D4-GR-LF4)

D4 : VDE0884 option
GR : CTR rank
LF4 : lead bend

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

Ex. TLP734 (D4-GR-LF4) → TLP734

VDE0884 ISOLATION CHARACTERISTICS

DESCRIPTION		SYMBOL	RATING	UNIT
Application Classification (DIN VDE0110 Teil 1 / 01.89, Table 1) for rated mains voltage ≦ 300 V_{rms} for rated mains voltage ≦ 600 V_{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	TLPxxx type	V_{IORM}	630	Vpk
	TLPxxxF type		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	TLPxxx type	V_{pr}	945	Vpk
	TLPxxxF type		1335	
Input to output Test Voltage, Method B $V_{pr} = 1.875 \times V_{IORM}$, 100% Production Test t_P = 1s, Partial Discharge < 5pC	TLPxxx type	V_{pr}	1180	Vpk
	TLPxxxF type		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)		I_{si}	400	mA
Power (Output or Total Power Dissipation)		P_{si}	700	mW
Temperature		T_{si}	150	°C
Insulation Resistance, V_{IO} = 500V, Ta = 25°C		R_{si}	$\geqq 10^{12}$	Ω
V_{IO} = 500V, Ta = T_{si}			$\geqq 10^{9}$	

- This data sheet refers to TLP733 (D4, M) SERIES, TLP747F (D4, M) SERIES that previously has a white-resin mold and have been changed. When designing new products please use black mold-resin devices.

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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	0.5mm	
Comperative Tracking Index (DIN IEC112/VDE0303, Part 1)	CTI	175 (VDE0110 Teil 1/01.89 Group Ⅲa)	

((*) 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 

Marking on packing for VDE0884  0884

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

Method A

(for type and sampling tests, destructive tests)

t_1, t_2	= 1 to 10s
t_3, t_4	= 1s
t_P (Measuring time for partial discharge)	= 50s
t_b	= 62s
t_{ini}	= 10s

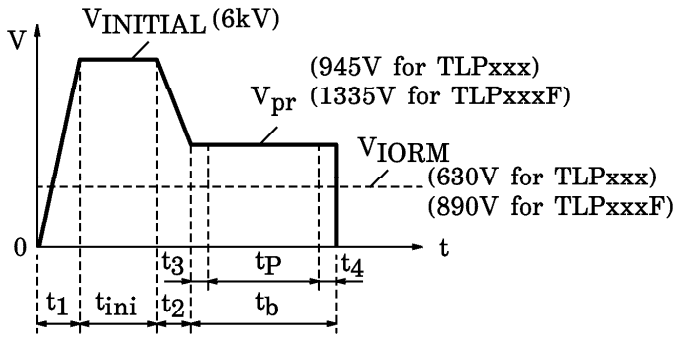

Figure 2 Partial discharge measurement procedure according to VDE0884
Non-destructive test for 100% inspection.

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

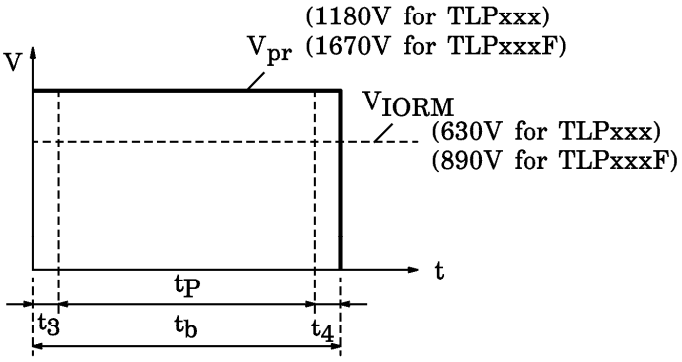

Figure 3 Dependency of maximum safety ratings on ambient temperature