TOSHIBA PHOTOCOUPLER

TLP620(D4)SERIES, TLP621(D4)SERIES, TLP750(D4)SERIES

ATTACHMENT : SPECIFICATIONS FOR VDE0884 OPTION : (D4)

Types : TLP620, TLP620-2, TLP620-3, TLP620-4, TLP621, TLP621-2, TLP621-3, TLP621-4, TLP750, TLP751

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

Ex. : TLP621 (D4-GR-LF2)

D4 : VDE0884 option
GR : CTR rank
LF2 : standard lead bend

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

Ex. TLP621 (D4-GR-LF2) → TLP621

VDE0884 ISOLATION CHARACTERISTICS

DESCRIPTION	SYMBOL	RATING	UNIT
Application Classification (DIN VDE0109 / 12.83, 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)		55 / 100 / 21	—
Pollution Degree (DIN VDE0109 / 12.83)		2	—
Maximum Operating Insulation Voltage	V_{IORM}	890	Vpk
Input to output Test Voltage, Method A $V_{pr} = 1.5 \times V_{IORM}$, Type and Sample Test $t_P = 60s$, Partial Discharge < 5pC	Vpr	1335	Vpk
Input to output Test Voltage, Method B $V_{pr} = 1.875 \times V_{IORM}$, 100% Production Test $t_P = 1s$, Partial Discharge < 5pC	Vpr	1670	Vpk
Highest Permissible Overvoltage (Transient Overvoltage, $t_{pr} = 10s$)	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_{si}	 300 500 150	 mA mW °C
Insulation Resistance at Tsi, $V_{IO} = 500V$	R_{si}	$\geqq 10^9$	Ω

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INSULATION RELATED SPECIFICATIONS

Minimum Creepage Distance (*)	Cr	6.4mm
Minimum Clearance (*)	Cl	6.4mm
Minimum Insulation Thickness	ti	0.4mm
Comperative Tracking Index (DIN IEC112 / VDE0303, Part 1)	CTI	175 (VDE0109 / 12.83 Group Ⅲa)

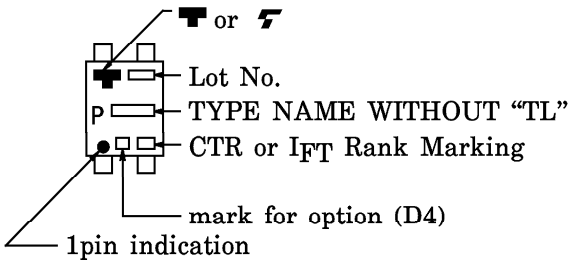
((*) in accordance with DIN VDE0109 / 12.83, Table 2, & 4)

(*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.

		TLP620, 620-2, 620-3, 620-4 TLP621, 621-2, 621-3, 621-4	TLP750, 751
VDE Test sign :	Marking on product for VDE0884	4	
	Marking on packing for VDE0884	 0884	 0884

Marking Example : 4 pin Type



Others

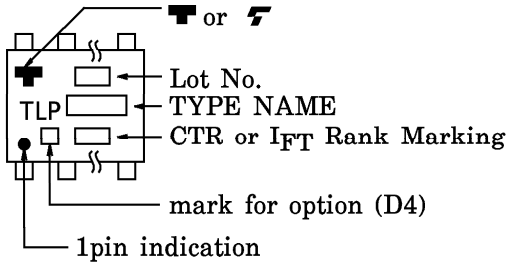


Figure 1 Partial discharge measurement procedure according to VDE0884
Destructive test for qualification and sampling tests.

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

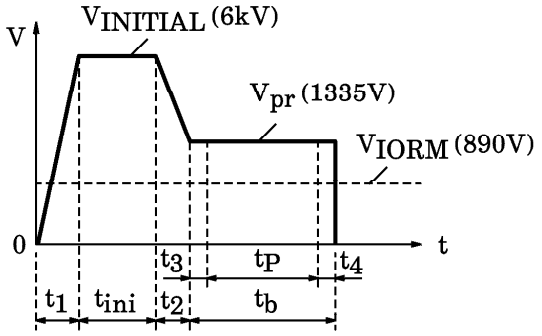


Figure 2 Partial discharge measurement procedure according to VDE0884
Non-destructive test for 100% inspection.

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

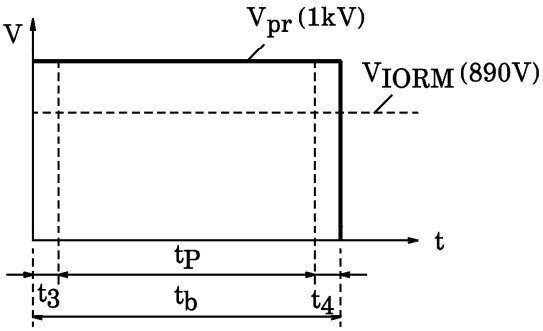


Figure 3 Dependency of maximum safety ratings on ambient temperature