TOSHIBA PHOTOCOUPLER

TLP665(D4)SERIES

ATTACHMENT : SPECIFICATIONS FOR VDE0884 OPTION : (D4)

Types : TLP665G, TLP665J, TLP665GF, TLP665JF, TLP666G, TLP666J, TLP666GF, TLP666JF

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

Ex. : TLP665G (D4-T7)

D4 : VDE0884 option

T7 : I_{FT} rank name

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

Ex. TLP665G (D4-T7) → TLP665G, TLP666JF (D4) → TLP666JF

VDE0884 ISOLATION CHARACTERISTICS

DESCRIPTION	SYMBOL	RATING	UNIT
Application Classification (DIN VDE0109/12.83, Table 1) for rated mains voltage≦300V_{rms} for rated mains voltage≦600V_{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}	630	Vpk
Input to output Test Voltage, Method A Vpr=1.2×V_{IORM}, Type and Sample Test t_P=60s, Partial Discharge<5pC	Vpr	760	Vpk
Input to output Test Voltage, Method B Vpr=1.6×V_{IORM}, 100% Production Test t_P=1s, Partial Discharge<5pC	Vpr	1000	Vpk
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} P_{si} T_{si}	 400 700 150	 mA mW °C
Insulation Resistance at T_{si}, V_{IO}=500V	R_{si}	≧10^9	Ω

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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 (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.

VDE Test sign : Marking on product for VDE0884 

Marking on packing for VDE0884  0884

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

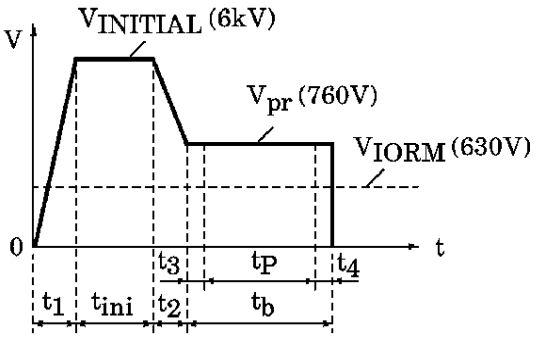

Figure 2 Partial discharge measurement procedure according to VDE0884
Non-destructive test for 100% inspection.

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

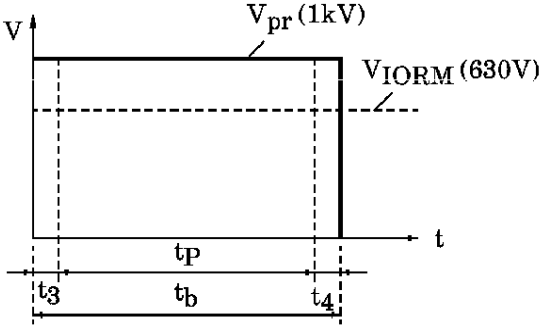

Figure 3 Dependency of maximum safety ratings on ambient temperature