

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: IFT 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 ≤ 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}	630	Vpk
Input to output test voltage, method a V _{pr} = 1.2×V _{IORM} , type and sample test t _p = 60s, partial discharge < 5pC	V _{pr}	760	Vpk
Input to output test voltage, method b V _{pr} = 1.6×V _{IORM} , 100% production test t _p = 1s, partial discharge < 5pC	V _{pr}	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

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	0.5 mm	
Comperative tracking index (DIN IEC112 / VDE0303, part 1)	CTI	175 (VDE0109 / 12.83 group III 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

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 10 s
- t_3, t_4 = 1 s
- t_P (measuring time for
partial discharge)= 50 s
- t_b = 62 s
- t_{ini} = 10 s

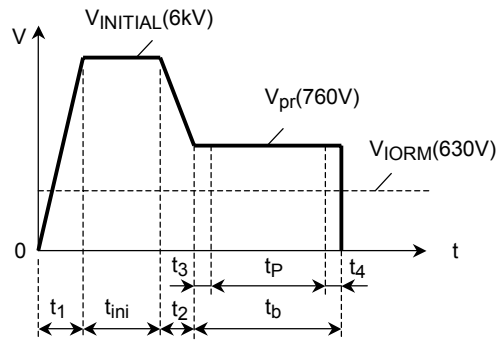


Figure 2 Partial discharge measurement procedure according to VDE0884
Non-destructive test for 100% inspection.

Method B

(for sample test, non-
destructive test)

- t_3, t_4 = 0.1 s
- t_P (measuring time for
partial discharge)= 1 s
- t_b = 1.2 s

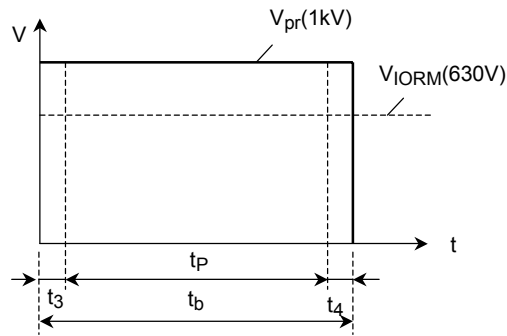
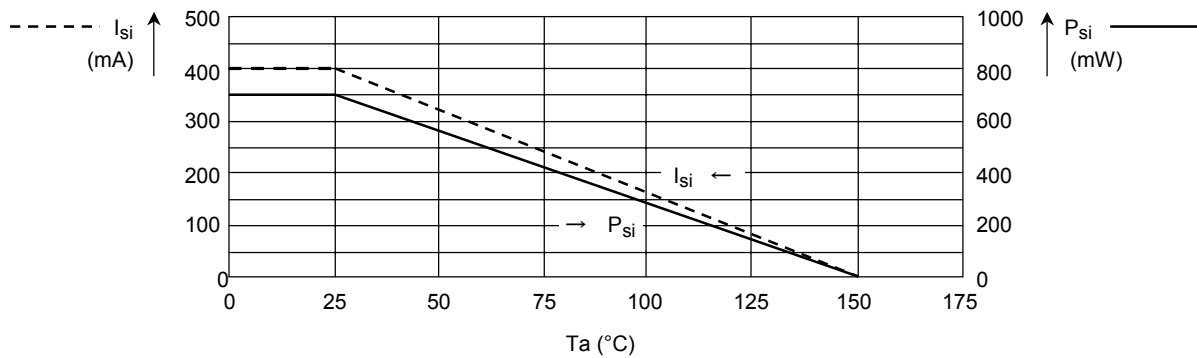


Figure 3 Dependency of maximum safety ratings on ambient temperature



RESTRICTIONS ON PRODUCT USE

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