TOSHIBA Photocoupler

TLP759(D4)

Attachment: Specifications for VDE0884 option: (D4)
Types: TLP759, TLP759F

Type designations for ' option: (D4) ', which are tested under VDE0884 requirements.
Ex.: TLP759 (D4–O) D4: VDE0884 option
O: CTR rank
Note: Use TOSHIBA standard type number for safety standard application.
Ex. TLP759 (D4–O) → TLP759

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	TLPxxx	V_{IORM}	890	Vpk
	TLPxxxF		1140	
Input to output test voltage, method A V_{pr} = 1.5×V_{IORM}, 100% production test t_p = 60s, partial discharge < 5pC	TLPxxx	Vpr	1335	Vpk
	TLPxxxF		1710	
Input to output test voltage, method B Vpr = 1.875×V_{IORM}, 100% production test t_p = 1s, partial discharge < 5pC	TLPxxx	Vpr	1670	Vpk
	TLPxxxF		2140	
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, Psi = 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}	≥10^9	Ω

Insulation Related Specifications

			 7.62mm pitch TLP759	 10.16mm pitch TLP759F
Minimum creepage distance	(*)	Cr	6.4 mm	8.0 mm
Minimum clearance	(*)	Cl	6.4 mm	8.0 mm
Minimum insulation thickness		ti	0.4 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

Marking example:

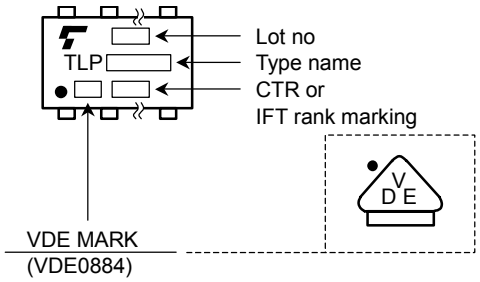


Figure 1 Partial discharge measurement procedure according to VDE0884
Destructive test for qualification and sampling tests.

Method A

(for type and sampling tests, destructive tests)

t1, t2	=1 to 10s
t3, t4	=1s
tp(measuring time for partial discharge)	=60s
t_b	=62s
t_{ini}	=10s

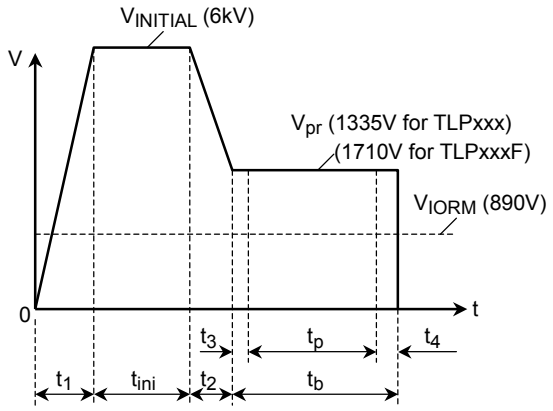


Figure 2 Partial discharge measurement procedure according to VDE0884
Non–destructive test for 100% inspection.

Method B

(for sample test, non–destructive test)

t3, t4	=0.1s
tp(measuring time for partial discharge)	=1s
t_b	=1.2s

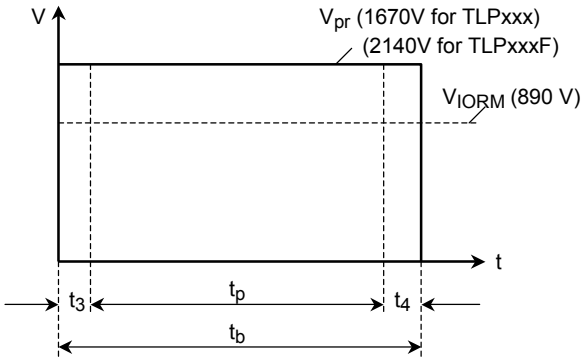
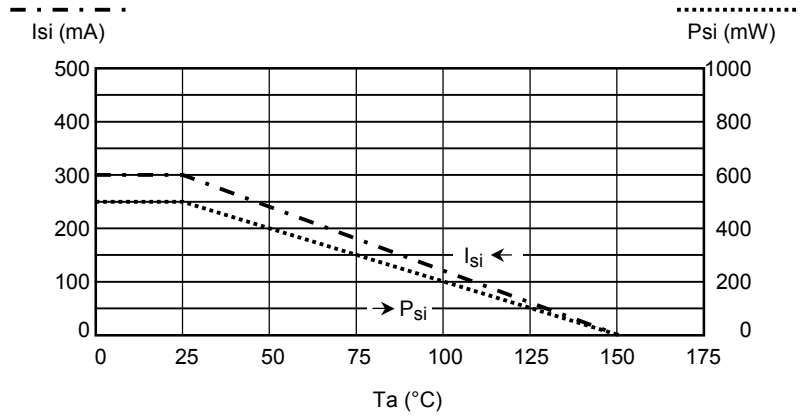


Figure 3 Dependency of maximum safety ratings on ambient temperature



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