

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 $\leq 300 V_{RMS}$ for rated mains voltage $\leq 600 V_{RMS}$		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	890	Vpk
	TLPxxxF	1140	
Input to output test voltage, method A $V_{pr} = 1.5 \times V_{IORM}$ , 100% production test $t_p = 60s$ , partial discharge $< 5pC$	TLPxxx	1335	Vpk
	TLPxxxF	1710	
Input to output test voltage, method B $V_{pr} = 1.875 \times V_{IORM}$ , 100% production test $t_p = 1s$ , partial discharge $< 5pC$	TLPxxx	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 $I_F$ , $P_{si} = 0$ ) Power (output or total power dissipation) Temperature	$I_{si}$	300	mA
	$P_{si}$	500	mW
	$T_{si}$	150	°C
Insulation resistance at $T_{si}$ , $V_{IO} = 500V$	$R_{si}$	$\geq 10^9$	$\Omega$

## 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



0884

Marking example:

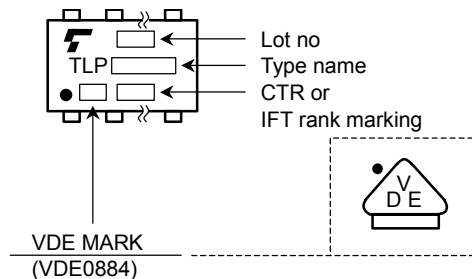


Figure 1 Partial discharge measurement procedure according to VDE0884  
Destructive test for qualification and sampling tests.

Method A  
(for type and sampling tests, destructive tests)  
 $t_1, t_2 = 1 \text{ to } 10\text{s}$   
 $t_3, t_4 = 1\text{s}$   
 $t_p(\text{measuring time for partial discharge}) = 60\text{s}$   
 $t_b = 62\text{s}$   
 $t_{ini} = 10\text{s}$

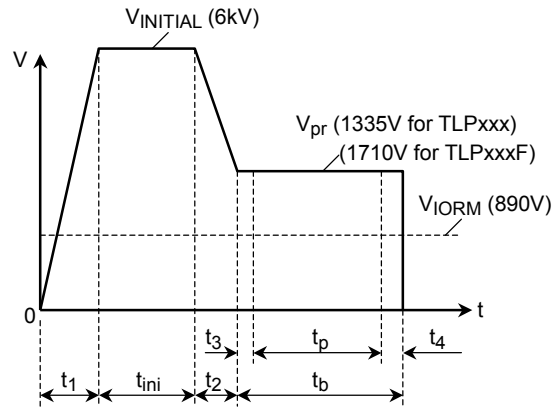


Figure 2 Partial discharge measurement procedure according to VDE0884  
Non-destructive test for 100% inspection.

Method B  
(for sample test, non-destructive test)  
 $t_3, t_4 = 0.1\text{s}$   
 $t_p(\text{measuring time for partial discharge}) = 1\text{s}$   
 $t_b = 1.2\text{s}$

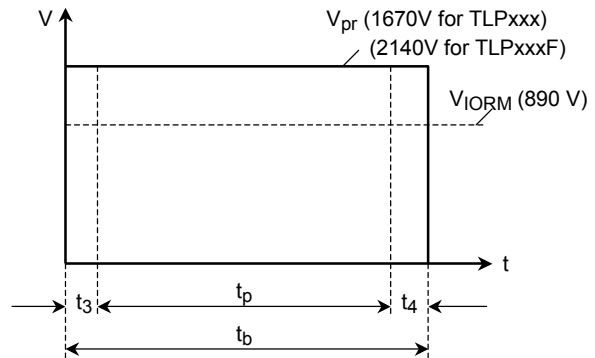
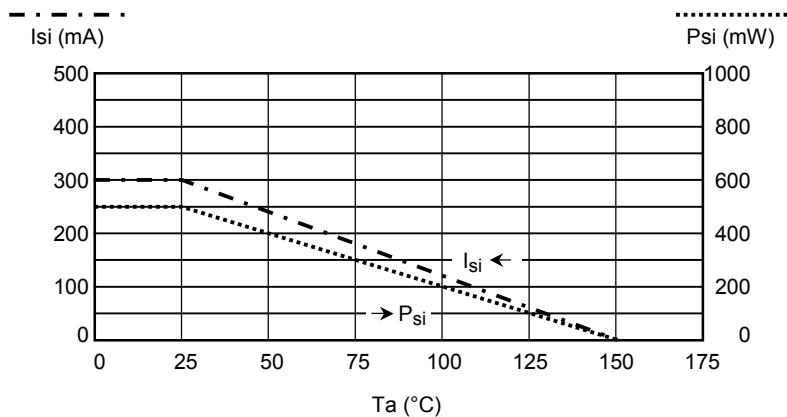


Figure 3 Dependency of maximum safety ratings on ambient temperature



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000707EBC

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