Vishay BCcomponents

PTC Thermistors, Time Delay for Lighting

FEATURES

- Reliable lamp starting, due to well defined inrush-current generated time delay
- Accurate resistance for ease of circuit design
- Small size and durable
- Available bulk-packed or taped-on-reel
- Long life: More than 20 000 starts for a 20 W CFL lamp
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

APPLICATIONS

Fluorescent lighting and lighting ballasts for:

CFL 5 to 25 W range

TYPICAL (1)

TRIP TIME at 25 °C

TL HF-ballasts

MOUNTING

The leads are suitable for soldering in any position. The lacquer may cover the leads up to 1.0 mm from the seating plane.

ELECTRICAL DATA AND ORDERING INFORMATION				
application offering a wide choice of voltage and switch times.				

(52)		TEMPERATURE	PEAK VOLTAGE (4)	TRIP TIVIE at 25 C		
MIN.	MAX.	(°C)	(V _{peak})	t _{trip} (s)	at I _t (mA)	
500	750	≈ 110	700	0.4	200	
185	300	≈ 120	700	0.5	300	
75	125	≈ 80	700	0.7	300	
225	375	≈ 105	900	0.75	300	
75	125	≈ 105	1 000	0.85	500	

MAXIMUM

Notes

⁽¹⁾ Ignition time of the lamp approximately equals the tripping time.

⁽²⁾ Specific for CFL lamp electronic starter.

Specific for HF-TL ballast.

⁽⁴⁾ Highest lamp ignition voltage should be smaller than the maximum allowable peak voltage.

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R₂₅

(Ω)

1 For technical questions, contact: nlr@vishay.com Document Number: 29071

CATALOG NUMBER

SAP CODING PTCLL05P131TBE (2) PTCLL05P211TTE⁽²⁾ PTCLL05P251TTE (2) PTCLL07P261VTE (3) PTCLL07P421WTE (3)

RoHS

COMPLIANT

PTCII



ALLAK DEEEDENAE



QUICK REFERENCE DATA					
PARAMETER	VALUE	UNIT			
Rated voltage (RMS)	80 to 200	V _{RMS}			
Nominal switching current	150 to 500	mA			
Resistance at 25 °C (R ₂₅)	100 to 625	Ω			
Tolerance on R_{25} value	20 to 30	%			
Maximum overload current Iol	0.5 to 1.0	А			
Tripping time	0.3 to 1	S			
Operating temperature range at rated voltage	-20 to 105	°C			

DESCRIPTION

Positive temperature coefficient (PTC) thermistors for overload protection have proved to be the ideal electronic ballast component for increased lamp life-time.

When the rectified mains is first applied, the PTC thermistor is cold, so its resistance is low. The lamp voltage will be below the necessary ignition value, so the current will flow through the cathodes, heating them to their emission temperature. At the same time, the PTC thermistor will heat up to its switch temperature, whereupon its resistance will rise rapidly, allowing the lamp voltage to reach its ignition value and light the lamp.

Once the lamp is lit, the cathodes are fed by a high-frequency lamp supply, to avoid flicker and improve efficiency. The PTC thermistor plays no further part until the lamp is switched off, whereupon it is ready to resume its smooth-starting function.

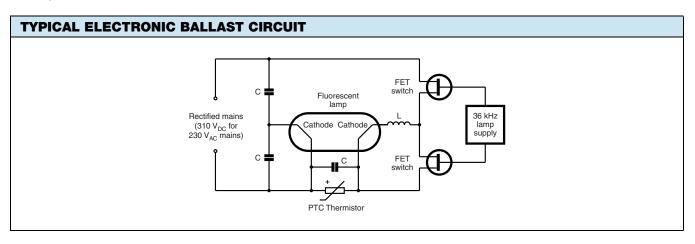
We supply a range of lighting PTC thermistors for this

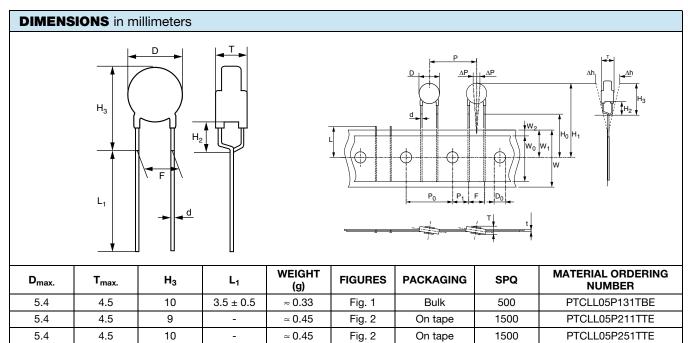
SWITCH



PTCLL

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TAPE AND OTHER DEVICE DIMENSIONS in millimeters according IEC 60286 for tape on reel								
SYMBOL	PARAMETER	DIMENSIONS	TOLERANCE					
d	Lead diameter	0.6	± 0.05					
Р	Pitch between thermistors	12.7	± 1					
F	Lead to lead distance guaranteed between component and tape	5	+0.5 / -0.2					
H ₂	Component body to seating plane	4	± 1					
H ₀	Lead-wire clinch height	16	± 0.5					

Fig. 2

Fig. 2

On tape

On tape

1500

1500

≈ 0.66

≈ 0.66

-

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7.0

7.0

5.0

5.0

12

12

2

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PTCLL07P261VTE

PTCLL07P421WTE



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