



# ALUMINUM ELECTROLYTIC CAPACITORS

## 299 PHL-4TSI

### Aluminum Electrolytic Capacitors Power High Ripple Current Long Life 4-Terminal Snap-In



#### KEY BENEFITS

- 4 terminals for stable mounting and keyed polarity
- Large case sizes: 35 mm x 60 mm up to 45 mm x 100 mm
- Allows replacement of bus bars and screw terminals by lower cost PC board and solder process
- Long lifetime: 15 years at 65 °C
- High ripple current capability

#### APPLICATIONS

- High power motor inverters
- Energy storage in pulse systems
- Uninterruptable power supply (UPS) systems

#### RESOURCES

- Datasheet: 299 PHL-4TSI - [www.vishay.com/doc?28432](http://www.vishay.com/doc?28432)
- For technical questions contact [aluminumcaps2@vishay.com](mailto:aluminumcaps2@vishay.com)
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



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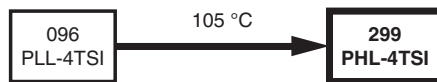


Fig. 1

#### FEATURES

- Polarized aluminum electrolytic capacitors, non-solid electrolyte
- Large types, minimized dimensions, cylindrical aluminum case, insulated with a blue sleeve
- Pressure relief on the side of the aluminum case
- Very long useful life: 5000 h at 105 °C
- Temperature range up to 105 °C
- Stable mounting and keyed polarity
- High ripple current capability
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


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#### APPLICATIONS

- Switched mode power supplies
- Renewable energy power converters
- Energy storage in pulse systems

#### MARKING

The capacitors are marked (where possible) with the following information:

- Rated capacitance (in  $\mu\text{F}$ )
- Tolerance code on rated capacitance, code letter in accordance with IEC 60062 (M for  $\pm 20\%$ )
- Rated voltage (in V)
- Date code
- Name of manufacturer
- Code for factory of origin
- “-” sign to identify the negative terminal, visible from the top and side of the capacitor
- (Partial) ordering code
- Climatic category in accordance with IEC 60068

#### QUICK REFERENCE DATA

DESCRIPTION	VALUE
Nominal case size (D x L in mm)	35 x 50 to 45 x 100
Rated capacitance range $C_R$	470 $\mu\text{F}$ to 2200 $\mu\text{F}$
Tolerance on $C_R$	$\pm 20\%$
Rated voltage range, $U_R$	400 V to 450 V
Category temperature range	-40 °C to +105 °C
Endurance test at 105 °C	2000 h
Useful life at 105 °C	5000 h
Shelf life at 0 V, 105 °C	1000 h
Based on sectional specification	IEC 60384-4 / EN 130300
Climatic category IEC 60068	40 / 105 / 56

#### SELECTION CHART FOR $C_R$ , $U_R$ , AND RELEVANT NOMINAL CASE SIZES ( $\varnothing$ D x L in mm)

$C_R$ ( $\mu\text{F}$ )	$U_R$ (V)	
	400	450
470	-	35 x 50 40 x 40
	560	35 x 50 40 x 50
680		40 x 40 35 x 70
	820	35 x 60 40 x 50 40 x 60
1000		35 x 70 35 x 100 40 x 80 45 x 60
	1200	35 x 80 40 x 70 45 x 60 45 x 70
		1500
1800		
	2200	45 x 100

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