

## Medium Power Planar Transformer 1 kW to 3 kW



In addition to this standard design of PLA51 many custom designs can be offered upon request

### FEATURES

**RoHS**  
COMPLIANT

- For high power density DC/DC converter application
- Very low profile and weight
- High efficiency: > 99 %
- Recommended frequency range (50 kHz; 400 kHz)
- Operating temperature range: -55 °C; 120 °C with heat sink dissipation
- Easy-assembly system for cold plates
- Tapped output terminals
- Material temperature grade: 180 °C
- Excellent repeatability
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

QUICK REFERENCE DATA	
Type	Transformer
Size (L x W x H)	70 mm x 53 mm x 22 mm
Terminals	Tapped outputs or wires
Power	1000 W to 3000 W
Frequency range	50 kHz to 400 kHz

### EXAMPLE OF TRANSFORMER APPLICATION: 2 kW DC/DC CONVERTER, PLA51LA32

POWER SUPPLY						
TOPOLOGY	FREQUENCY	POWER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	DUTY CYCLE MAX.
Full bridge with current doubler	100 kHz	2 kW	50 V <sub>DC</sub> to 110 V <sub>DC</sub>	30 V	67 A	0.98

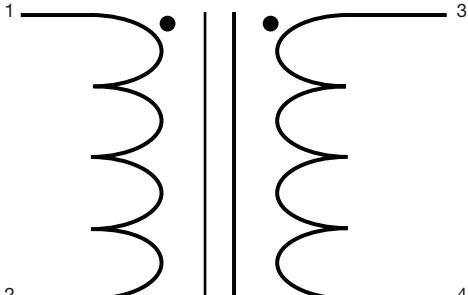
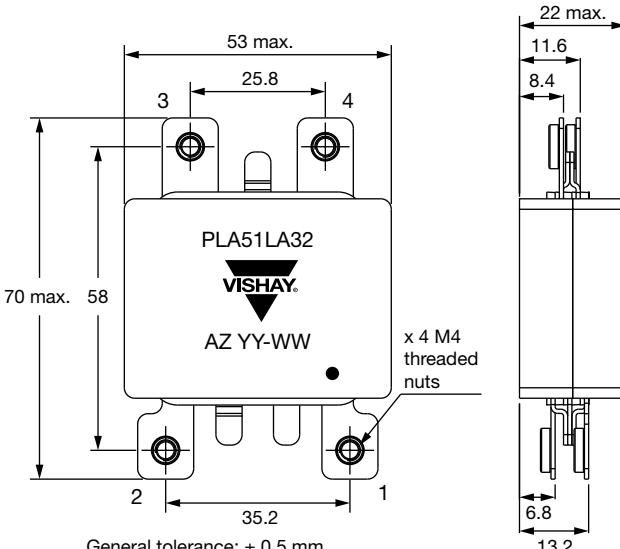
STANDARD ELECTRICAL CHARACTERISTICS						
INDUCTANCE (10 kHz; 0.1 V)	LEAKAGE INDUCTANCE (10 kHz; 0.1 V)	TURN RATIO	POWER LOSSES	EFFICIENCY	HIPOT: PRIMARY / SECONDARY + CORE 1500 V <sub>AC</sub>	HIPOT: SECONDARY / CORE
128 $\mu$ H $\pm$ 25 %	< 150 nH (typical)	3:2	< 17 W	> 99 %	< 150 $\mu$ A	< 150 $\mu$ A

## RECOMMENDATIONS FOR MOUNTING

Announced performances are achieved using a liquid cooling system. The internal temperature must be maintained below 160 °C. The user shall correctly size its own heatsink according to real working conditions of his device.

## PACKAGING

Individual box.

ELECTRICAL SCHEMES		DIMENSIONS in millimeters ( $\pm 0.5$ )	
			

### Notes

- Weight  $\approx$  170 g
- Take care of ferrite core while handling (no shock admitted)
- Terminal fixing: with M4 screw, max. tightening: 1.2 Nm

SAP PART NUMBERING					
MODEL	SIZE	STYLE	FOOTPRINT	RATIO	SPECIAL
PLA	51	L = leadframe with nuts W = wires	A = as shown in above drawings (other upon request))	21 = 2 : 1 31 = 3 : 1 32 = 3 : 2 SR = special ratio	XXXXX = special code (6 digits)

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- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
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- Оперативные сроки поставки под заказ (от 5 рабочих дней);
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- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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## JONHON

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