

DIGent

With craftsmanship, we create extraordinary products

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规格书

Product Data Sheet

Features/产品特点

1. Wide operating temperature range: -40 °C to+85 °C
2. Isolation voltage 1500VDC
3. SMD package
4. Industry standard pin

1. 工作温度范围广：-40°C至+85°C
2. 隔离电压1500VDC
3. SMD封装
4. 行业标准引脚



Power Solutions

DC-DC isolation transformer
DC-DC隔离变压器

PER1405-20W

Series/系列

Description/概述

The PER1405-20W series DC-DC isolation transformers are specially designed to be used in conjunction with various power management chips, providing high-performance, high-frequency transformers capable of input and output isolation. They allow for precise customization of the turn ratio, enabling high-precision voltage conversion and isolation for customers.

PER1405-20W 系列DC-DC隔离变压器是一种与各类电源管理芯片配合使用而专门设计的、可以提供输入与输出隔离的高性能高频变压器，可为客户精确定制匝数比，实现高精度电压转换和隔离。

Model Numbering/命名规则

P ER1405 -10- 2412- 20W T(R)

Packaging form/包装方式
Power/功率
Input output/输入输出电压
Pin /引脚数量
Bobbin/骨架型号
Wire code/线材代码

Wire code/线材代码:

P:QPN, Q: QA(2UEW), T:TIW(三层绝缘线),

S:SCW(丝包线)

Packaging form/包装方式:

T:Tube (管装), R:Reel (卷盘包装)

TR: Tray(托盘包装)

Selection Guide/选型表

本产品支持定制，如需其他规格请联系我司业务人员，同时我司可以根据客户提供整套DC-DC电源解决方案，如有需要请联系我司业务人员，谢谢。

This product supports customization. If you require other specifications, please contact our sales personnel. Additionally, our company can provide a complete DC-DC power solution according to customer needs. If needed, please contact our sales personnel. Thank you.

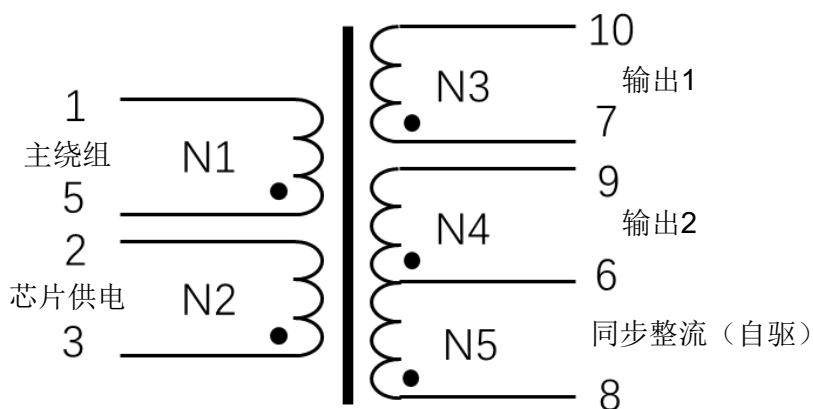
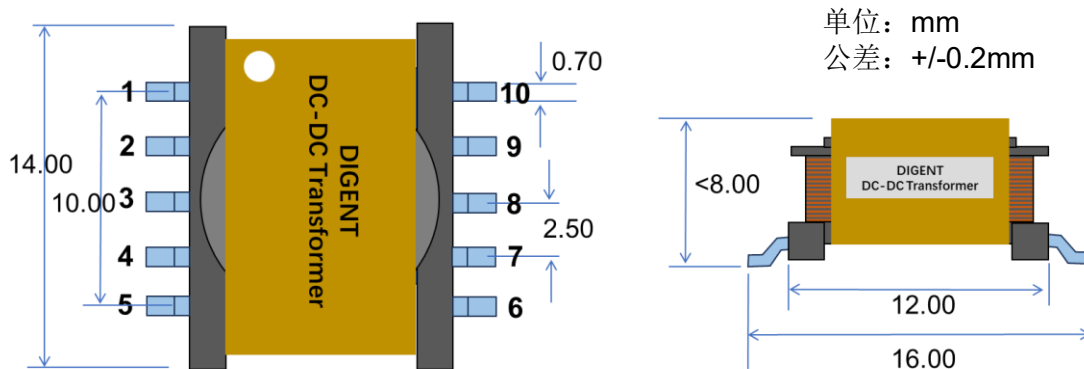
24VDC输入/ 24V DC Input

产品型号 Product model	Input (VDC)	输入电压范围 Input voltage range (VDC)	Output (VDC)	匝比 Turns ratio (N1)	匝比 Turns ratio (N2)	匝比 Turns ratio (N3)	匝比 Turns ratio (N4)	匝比 Turns ratio (N5)	初级电感量-LP Primary Inductance (+/-20%) @1kHz, 1V
PER1405-10-2405-20WTR	24	9-36	5	1	1.25	0.5	0.5	0.5	7.5μH
PER1405-10-2412-20WTR	24	9-36	12	1	1.0	0.88	0.88	NC/0.5	7.5μH
PER1405-10-2424-20WTR	24	9-36	24	1	0.86	1.71	1.71	NC/0.57	7.5μH
PER1405-10-2405-20WR	24	9-36	5	1	1.25	0.5	0.5	0.5	7.5μH
PER1405-10-2412-20WR	24	9-36	12	1	1.0	0.88	0.88	NC/0.5	7.5μH
PER1405-10-2424-20WR	24	9-36	24	1	0.86	1.71	1.71	NC/0.57	7.5μH

48VDC输入/ 48V DC Input

产品型号 Product model	Input (VDC)	输入电压范围 Input voltage range (VDC)	Output (VDC)	匝比 Turns ratio (N1)	匝比 Turns ratio (N2)	匝比 Turns ratio (N3)	匝比 Turns ratio (N4)	匝比 Turns ratio (N5)	初级电感量-LP Primary Inductance (+/-20%) @1kHz, 1V
PER1405-10-4805-20WTR	48	18-72	5	1	0.6	0.3	0.3	0.4	36.5μH
PER1405-10-4812-20WTR	48	18-72	12	1	0.7	0.7	0.7	NC/0.4	36.5μH
PER1405-10-4824-20WTR	48	18-72	24	1	0.7	1.1	1.1	NC/0.4	36.5μH
PER1405-10-4805-20WR	48	18-72	5	1	0.6	0.3	0.3	0.4	36.5μH
PER1405-10-4812-20WR	48	18-72	12	1	0.7	0.7	0.7	NC/0.4	36.5μH
PER1405-10-4824-20WR	48	18-72	24	1	0.7	1.1	1.1	NC/0.4	36.5μH

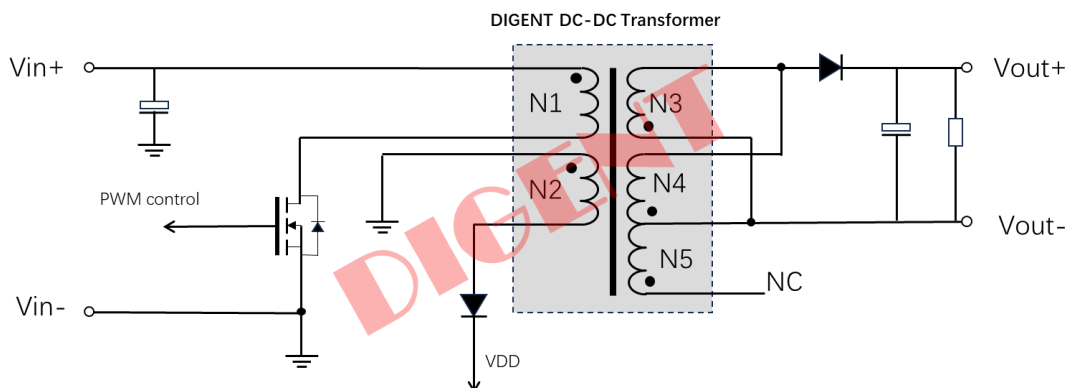
Packaging/封装

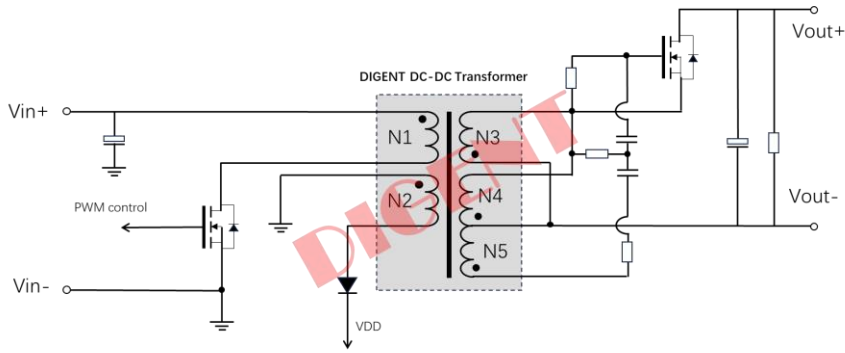


Circuit Design and Application/电路设计与应用

具体应用电路需要根据控制IC的参数进行确定，在设计前请与我司技术人员联系，获取正确的设计方案。

The specific application circuit needs to be determined according to the parameters of the control IC. Before design, please contact our technical personnel to obtain the correct design scheme.

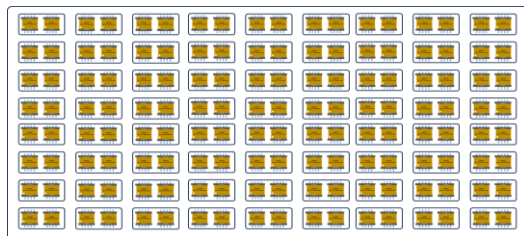




General Characteristics/通用特性

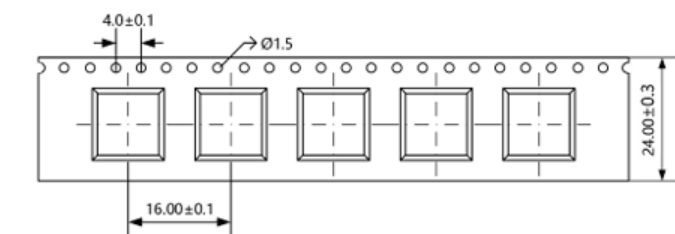
Parameter/参数	Conditions/测试条件	Min.	Typ.	Max.	Units
漏感-LL Leakage Inductance	@1kHz, 1V		25	50	μH
绕组电容-CWW Interwinding Capacitance	@1kHz, 1V		20	60	pF
Isolation voltage 隔离电压	Input-output, test time 1 minute, Leakage current less than 1 mA 输入-输出, 测试时间1分钟, 漏电流小于1 mA	1500	--	--	VDC
Insulation resistance 绝缘电阻	Input-output, Insulation voltage 500VDC 输入-输出, 绝缘电压500VDC	1000	--	--	MΩ
Working temperature 工作温度	Temperature ≥ 85 °C for derating 温度≥85°C时, 降额使用。	-40	--	+85	°C
Storage temperature 储存温度		-55	--	+125	°C
Storage humidity 储存湿度	Non condensing 无凝结	--	--	95	%RH
Housing temperature rise during operation 工作时外壳温升	Ta=25 °C, Nominal input, Full output Ta=25°C, 标称电压输入, 满载	--	30	55	°C
Soldering temperature resistance of pins 引脚耐焊接温度	The distance from the welding spot to the shell is 1.5mm, 10 seconds 焊点到壳体的距离为1.5mm, 10秒	--	--	300	°C
	REFLOW: Peak temperature Tc ≤ 235 °C, maximum time above 217 °C for 60 seconds. 回流焊: 峰值温度 Tc≤235°C, 217°C以上时间最大为60s.	--	--	235	°C
Mean time between failures 【MTBF】 平均无故障时间	MIL-HDBK-217F@25°C	3500	--	--	kHours
Overall dimensions 外形尺寸	16.0*14.0*8.0mm				
Weight 重量	10.0g(Typ.)				
Cooling mode 冷却方式	Natural air cooling 自然空冷				

Packaging Method/包装方式



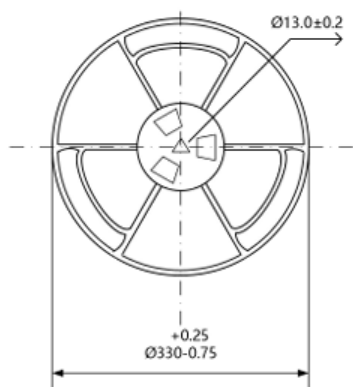
220 Pieces / Tray

220 PCS / 托盘



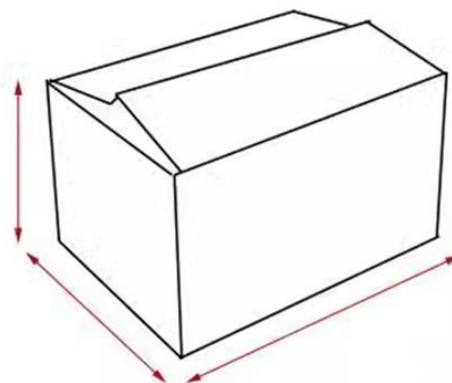
10 packing units / outer box

10个包装单位 / 外箱



1000 Pieces/Tape & Reel

1000PCS/卷盘



Notes & Instructions/注释和说明

1. The operating current shall not exceed the specified range, otherwise permanent and unrecoverable damage may be caused;
2. Unless otherwise specified, the parameters in this manual are measured at 25 °C and 40%~75% humidity;
3. All index test methods are based on the company's enterprise standards.
4. The copyright and the final interpretation right of the product belong to DIGENT.

1. 工作电流不得超过规定的范围值，否则可能造成永久性和不可恢复的损坏；
2. 除非另有规定，否则本手册中的参数是在25°C、湿度40%~75%的条件下测量的；
3. 所有指标测试方法均基于本公司的企业标准；
4. 该产品的版权和最终解释权归DIGENT所有。