chanhvinh.com

EZ-PD™ PAGxP-PAGxS pulse edge transformer (PET)

General description

Pulse Edge Transformer (PET) is used as a medium to transmit PWM pulses from secondary-side i.e., PAGxS controller to primary-side i.e., PAGxP for AC/DC applications targeting the power adapter segment.

chanhvinh.com

Table of contents

General description 1
Table of contents 2
1 Application overview 3
2 Circuit diagram 4
3 Electrical characteristics 5
4 Ordering information 6
5 Packaging information 7
Revision history 8

chanhvinh.com

1 Application overview

PAGxP works with secondary-side controller PAGxS. **Figure 1** shows the application diagram of a USB Power Delivery (USB PD) Power Adapter solution with 'PAG2P +PAG2S'. In this system, once the start-up phase is complete, the primary FET control is completely synchronized to the PWM pulses received from the secondary-side. The PWM pulses are transmitted over an isolation barrier using this PET.

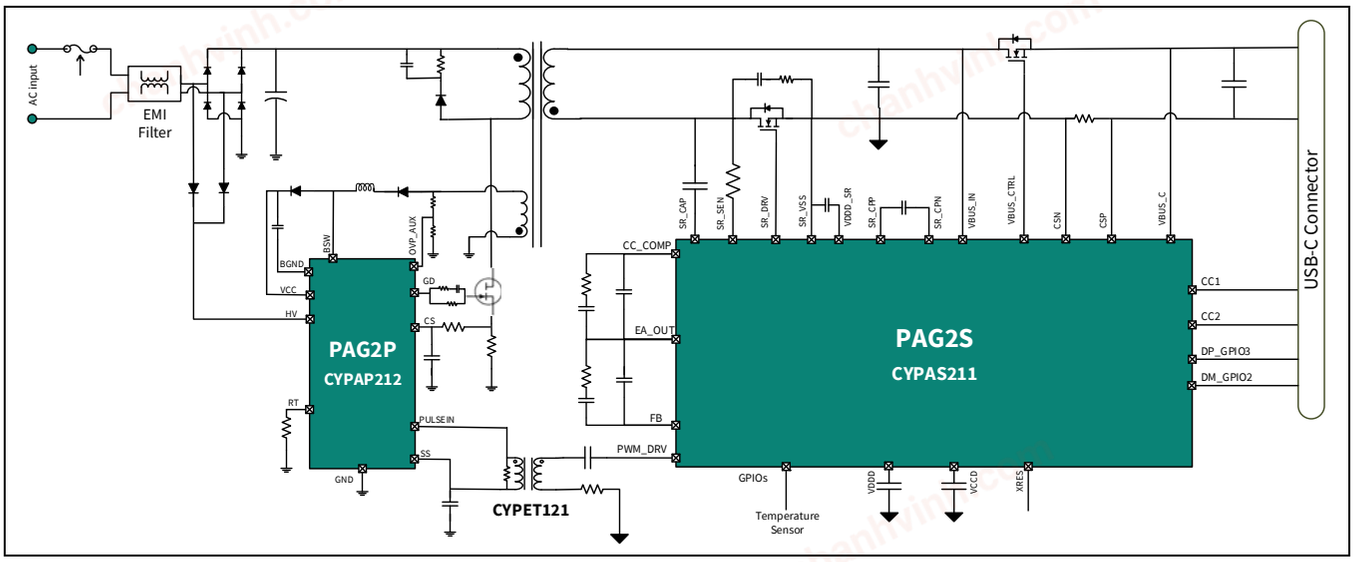


Figure 1 EZ-PD™ PAG1P-PAG1S application diagram

Table 1 Part numbers

System	Turns-ratio (N1:N2)	Part number
PAG1P-PAG1S	1:3	CYPET131
PAG2P-PAG2S	1:2	CYPET121

chanhvinh.com

2 Circuit diagram

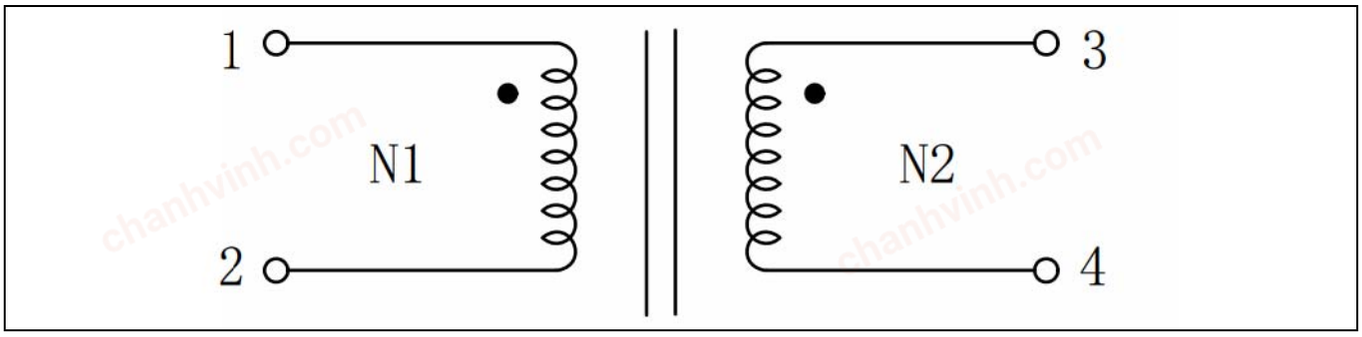


Figure 2 Winding diagram

chanhvinh.com

3 Electrical characteristics

Table 2 Winding information

S#	Item	Measured point	Technical data	Test conditions
1	Inductance	L (1-2)	15.66 µH ±35%	100 kHz/0.3 V, at 25°C
2	Hi-pot	N1-N2	3.0 kV AC	50 Hz/60 Hz 4 mA 4S

chanhvinh.com

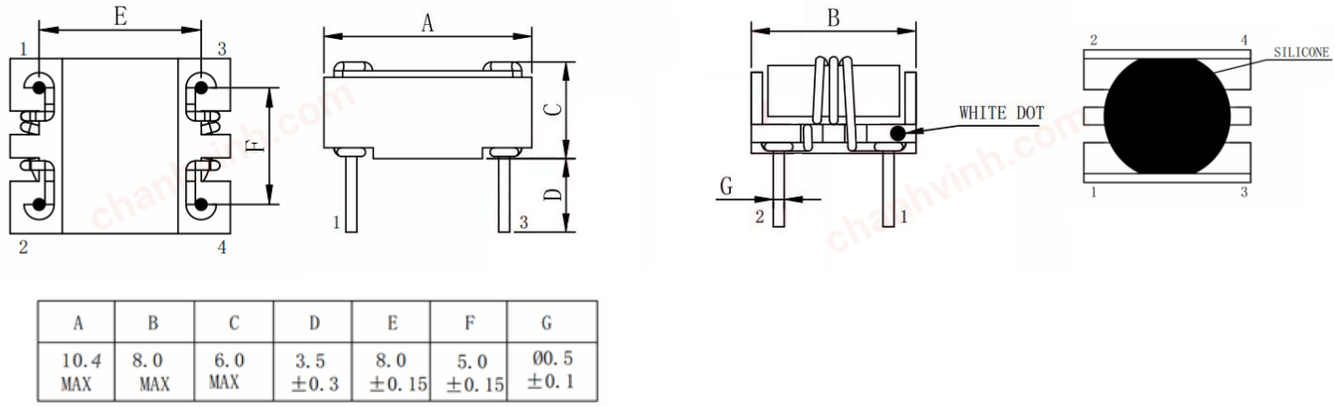
4 Ordering information

Table 3 Ordering part numbers

System	Turns-ratio (N1:N2)	Part number
PAG1P-PAG1S	1:3	CYPET131
PAG2P-PAG1S		
PAG2P-PAG2S	1:2	CYPET121

chanhvinh.com

5 Packaging information



A	B	C	D	E	F	G
10.4 MAX	8.0 MAX	6.0 MAX	3.5 ±0.3	8.0 ±0.15	5.0 ±0.15	Ø0.5 ±0.1

Dimension (Unit: mm)

Figure 3 Pulse edge transformer dimensions

Table 4 Ordering part numbers

No.	Item	Type	Suppliers	UL No.
1	CORE	TYPE:T6*4*2. 15 R10K	DMEGC ACME	N/A
2	BASE	TYPE:Phenolic (PF) MATERIAL:PM-9820/PM-9630 THERMAL RATING: 150°C	SUMITOMO BAKELITE CO LTD	E41429
3	INSULATED WIRE	TYPE: TEX-E TYPE: DTFW-B THERMAL RATING: 130°C	FURUKAWA ELECTRIC CO LTD SHENZHEN JIUDING NEW MATERIAL CO LTD	E206440 E357999
4	SILICONE	TYPE:3140 THERMAL RATING:200°C	DW CORNING CORPORATION	

RoHS:
The products comply with RoHS requirements.

chanhvinh.com

Revision history

Document revision	Date	Description of changes
*B	2023-09-14	Release to web.

chanhvinh.com

Trademarks
All referenced product or service names and trademarks are the property of their respective owners.

Edition 2023-09-14
Published by

Infineon Technologies AG
81726 Munich, Germany

© 2023 Infineon Technologies AG. All Rights Reserved.

Do you have a question about this document?
Email:
erratum@infineon.com

Document reference
002-36369 Rev. *B

IMPORTANT NOTICE

The information given in this document shall in no event be regarded as a guarantee of conditions or characteristics (“Beschaffenheitsgarantie”).

With respect to any examples, hints or any typical values stated herein and/or any information regarding the application of the product, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind, including without limitation warranties of non-infringement of intellectual property rights of any third party.

In addition, any information given in this document is subject to customer’s compliance with its obligations stated in this document and any applicable legal requirements, norms and standards concerning customer’s products and any use of the product of Infineon Technologies in customer’s applications.

The data contained in this document is exclusively intended for technically trained staff. It is the responsibility of customer’s technical departments to evaluate the suitability of the product for the intended application and the completeness of the product information given in this document with respect to such application.

WARNINGS

Due to technical requirements products may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies office.

Except as otherwise explicitly approved by Infineon Technologies in a written document signed by authorized representatives of Infineon Technologies, Infineon Technologies’ products may not be used in any applications where a failure of the product or any consequences of the use thereof can reasonably be expected to result in personal injury.