

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.



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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.

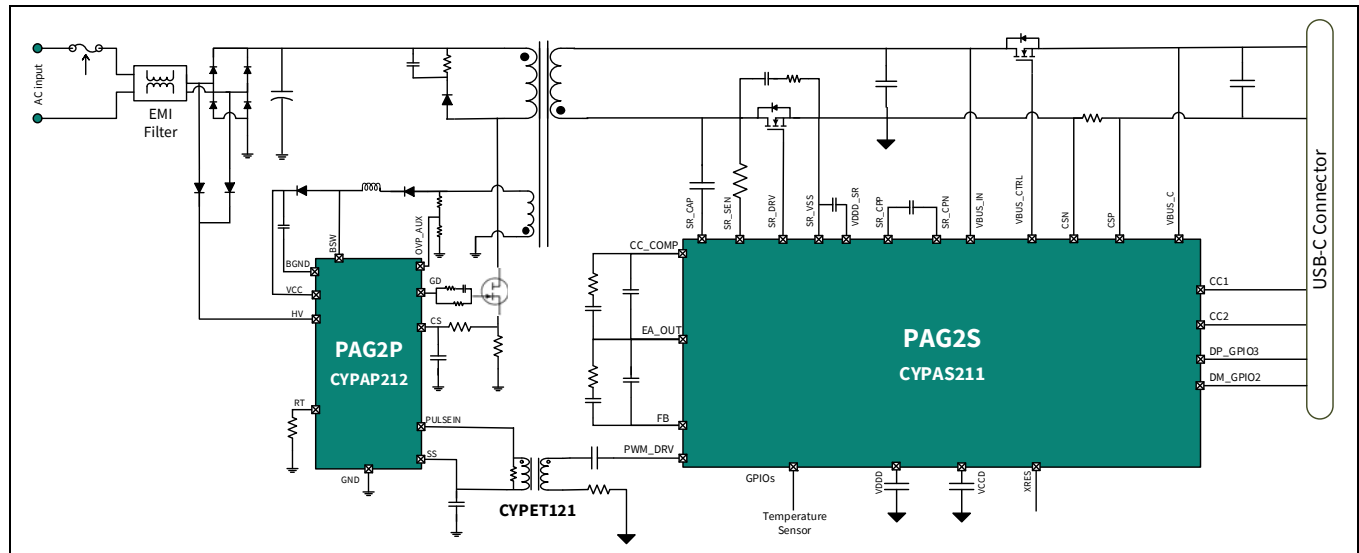


Figure 1 **EZ-PD™ PAG1P-PAG1S application diagram**

Table 1 **Part numbers**

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

Circuit diagram

2 **Circuit diagram**

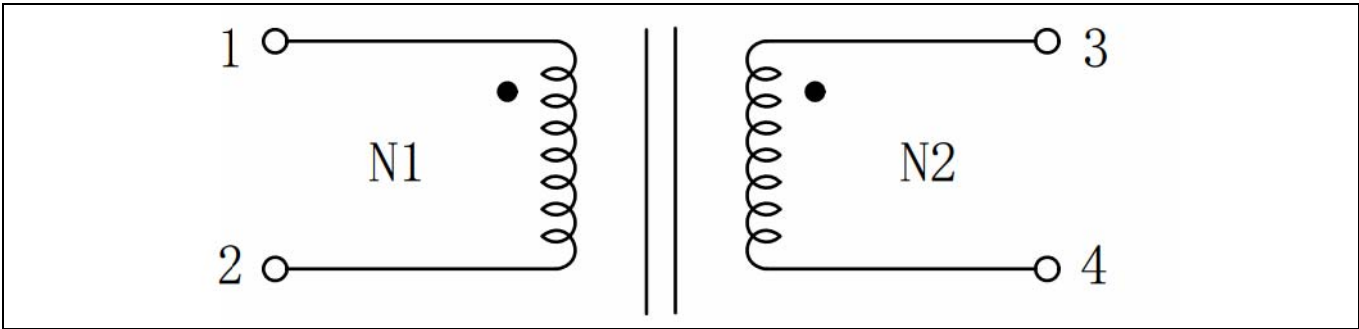


Figure 2 Winding diagram

3 Electrical characteristics

Table 2 **Winding information**

S#	Item	Measured point	Technical data	Test conditions
1	Inductance	L (1-2)	15.66 μ H $\pm$ 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

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

5 Packaging information

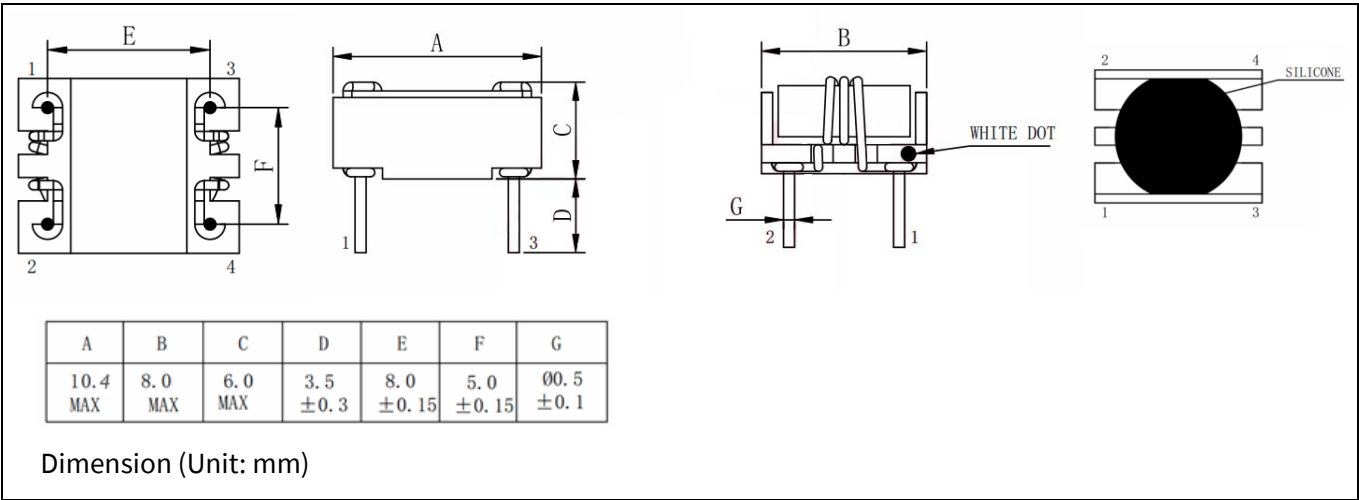


Figure 3 Pulse edge transformer dimensions

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.



Revision history

Revision history

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

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Email:
erratum@infineon.com

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