

PFC2723ER-421K03B-50 Datasheet

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DiGi Electronics Part Number PFC2723ER-421K03B-50-DG

Manufacturer TDK Corporation

Manufacturer Product Number PFC2723ER-421K03B-50

Description CHOKE COMMON MODE

Detailed Description 420 µH Unshielded Drum Core, Wirewound Inducto

r 3.4 A Radial, Horizontal, 5 Leads Choke Coils for P

FC (Pin Terminal Type)

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Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
PFC2723ER-421K03B-50	TDK Corporation
Series:	Product Status:
PFC	Active
Type:	Material - Core:
Drum Core, Wirewound	Ferrite
Inductance:	Tolerance:
420 μΗ	±10%
Current Rating (Amps):	Current - Saturation (Isat):
3.4 A	
Shielding:	DC Resistance (DCR):
Unshielded	
Q @ Freq:	Frequency - Self Resonant:
Ratings:	Operating Temperature:
	-30°C ~ 120°C
Inductance Frequency - Test:	Features:
50 kHz	Choke Coils for PFC (Pin Terminal Type)
Mounting Type:	Package / Case:
Through Hole	Radial, Horizontal, 5 Leads
Supplier Device Package:	Size / Dimension:
	1.142" L x 0.984" W (29.00mm x 25.00mm)
Height - Seated (Max):	
1.024" (26.00mm)	

Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	1 (Unlimited)
ECCN:	HTSUS:
EAR99	8504.50.8000



August 2021













Choke Coils for PFC

Pin terminal type

PFC series

PFC3514QM

PFC3318QM

PFC3519QM

PFC3819QM

PFC4124QM

PFC2723ER

PFC3125ER

PFC3525ER

PFC3820QN

PFC3831QN

Dynamic characteristic data

- PFC-QM series
- PFC-ER series
- PFC-QN series

(7) Transportation control equipment



An attention matter on use

Please read this specifications before using this product by all means.

An attention matter on security

I undertake use with this product, and it is paid attention enough, and please design an attention matter safely.

⚠ Atten	tion on a design
 When designing the board, use our recommended hole diameter or p Magnetic flux to leak out occurs. Please confirm it about influence of There is fear to cause false movement of machinery. When designing the board, ensure a distance from the transformer in The product is not quakeproof structure. Accordingly please do not a The product produces possibility to lose a function. 	magnetic flux beforehand. accordance with the applicable safety standards.
⚠ Attention	on on the handling
 Please do not use it when you let a product drop. The product produces possibility to lose a function. Be careful not to get injured because the tip of the terminal is sharpe For storage, avoid dust, dust, fog, water droplets and direct sunlight. There is fear to cause false movement of machinery. Do not use or store in an environment with gas corrosion (salt, acid, a The product produces possibility to lose a function. When mounting, do not apply excessive force to the product with met The product produces possibility to lose a function. 	alkali, etc.).
<u> </u>	Attention
conditions (drive frequency and maximum ON period), etc., so avoid There are destruction of a circuit part and fear of ignition. The operating temperature and humidity ranges are determined in coso please avoid using in a range exceeding this range. There is a risk of burning or ignition. Avoid using it in an environment where dust and dirt are likely to adher there is a risk of cause a fire. The products listed on this specification sheet are intended for use in home appliances, amusement equipment, computer equipment, persunder a normal operation and use condition. The products are not designed or warranted to meet the requirement stringent level of safety or reliability, or whose failure, malfunction or the stringent level of safety or reliability, or whose failure, malfunction or the safety or reliability, or whose failure, malfunction or the safety or reliability, or whose failure, malfunction or the safety or reliability, or whose failure, malfunction or the safety or reliability.	onsideration of the characteristics of the components and the self-temperature rise, ere. I general electronic equipment (AV equipment, telecommunications equipment, sonal equipment, office equipment, measurement equipment, industrial robots) Is of the applications listed below, whose performance and/or quality require a more trouble could cause serious damage to society, person or property. exceeding the scope and conditions of this specification or by using it for a specific to use it for a specific purpose, please contact us in advance.
 (1) Aerospace/Aviation equipment (2)Transportation equipment (cars, electric trains, ships, etc.) (3) Medical equipment (4) Power-generation control equipment (5) Atomic energy-related equipment (6) Seabed equipmentarpolications 	 (8) Public information-processing equipment (9) Military equipment (10) Electric heating apparatus, burning equipment (11) Disaster prevention/crime prevention equipment (12) Safety equipment (13) Other applications that are not considered general-purpose

When designing your equipment even for general-purpose applications, you are kindly requested to take into consideration securing protection circuit/device or providing backup circuits in your equipment.

applications



Choke Coils for PFC PFC series

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Choke Coils for PFC

Pin terminal type

Development Concept of the PFC series

This is a power - factor improvement circuit for choke coils for smaller, thinner and narrow floor space in recent years electronic equipment.

MATERIAL

Thanks to the development of an optimized core shape and materials, the choke coil has DC superimposition characteristics suitable for the design of various types of electronic devices.

Optimized materials have been selected, and at the same time the original core shape for PFC has been developed.

The product line-up has been expanded to cater for various types of electronic devices that need to become smaller, thinner and narrow floor space.

MANUFACTURING METHOD

Since the PFC Series supports automatic winding, the product is of a high quality and can be manufactured stably.

It is designed to support automatic winding, which enables a remarkable reduction in the loss generated to achieve a proficient in manual winding until stable production.

In addition, the characteristic variations of the winding wire and creepage tape have largely been removed, stabilizing the transformer's characteristics.

OPTIMIZATION DESIGN

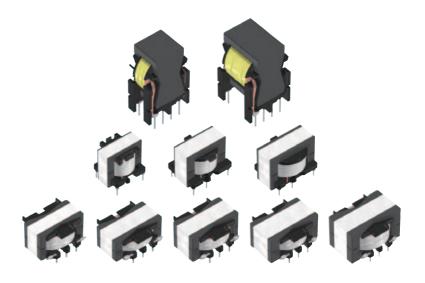
While the existing line-up of standard products remains available, new products can also be manufactured to meet customers' requests. Using design tools developed with TDK's comprehensive know-how, high-precision design has been achieved in a short period of time.

- 1) For optimization design and high-quality stable production, customers can use a specification request form.

 If you provide the necessary information in the form, you will receive the optimization design in a short time.
- 2) TDK recommends design with a standard core gap (AL-value) for optimization and shorter trial and mass production lead time.

ENVIRONMENT

The PFC series is RoHS directive-compliant product.





Choke Coils for PFC

Pin terminal type

Product compatible with RoHS directive Compatible with lead-free solders

Overview of the PFC series

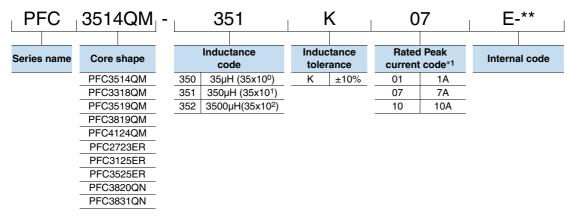
FEATURES

- A low height(15.5 to 27mm in height) and narrow floor space(QN type) are achieved.
- O Large current is achieved in a small shape.

APPLICATION

AV equipment, digital consumer electronics

■ PART NUMBER CONSTRUCTION



^{*1} The rounded-off value.

■ OPERATING TEMPERATURE RANGE, PACKAGE QUANTITY, PRODUCT WEIGHT

	Temperat	ure range			
Туре	Operating temperature*2			Individual weight*4	
	(°C)	(°C)	(pieces/box)	(g)	
PFC3514QM	-30 to +120	-40 to +80	175	40.0	
PFC3318QM	-30 to +120	-40 to +80	140	27.6	
PFC3519QM	-30 to +120	-40 to +80	140	50.3	
PFC3819QM	-30 to +120	-40 to +80	100	60.5	
PFC4124QM	-30 to +120	-40 to +80	90	91.9	
PFC2723ER	-30 to +120	-40 to +80	150	34.1	
PFC3125ER	-30 to +120	-40 to +80	120	49.7	
PFC3525ER	-30 to +120	-40 to +80	120	57.3	
PFC3820QN	-30 to +120	-40 to +80	105	71.9	
PFC3831QN	-30 to +120	-40 to +80	63	115.3	

^{*2} Operating temperature range includes self-temperature rise.

^{*3} The Storage temperature range is for after the circuit board is mounted.

^{*4} Typical weight.

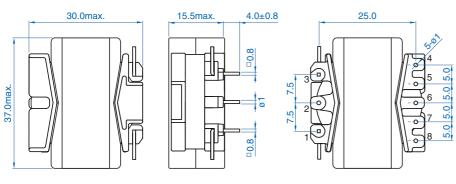
RoHS Directive Compliant Product: See the following for more details.https://product.tdk.com/info/en/environment/rohs/index.html



PFC QM series

PFC3514QM Type

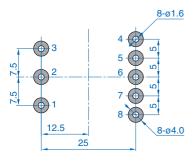
SHAPE & DIMENSIONS



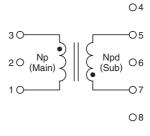


Dimensions in mm

■ RECOMMENDED LAND PATTERN



Dimensions in mm





PFC QM series PFC3514QM Type

ELECTRICAL CHARACTERISTICS

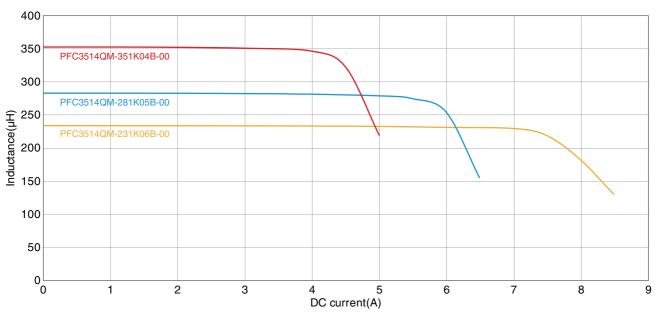
CHARACTERISTICS SPECIFICATION TABLE

Part number	Mount method	Frequency (kHz) min.	PFC output power (W)	Inductance (μH)	Rated peek current*1 (A)	Turn ratio (Np/Npd)
PFC3514QM-351K04B-00	Through hole	65	100	350	3.7	10.0
PFC3514QM-281K05B-00	Through hole	65	125	280	4.6	9.8
PFC3514QM-231K06B-00	Through hole	65	150	230	5.5	9.6

○ Measurement equipment*2

Measurement item	Product No.	Manufacturer
Inductance	4284A	Keysight Technologies
DC bias characteristics	4284A + 42841A	Keysight Technologies

^{*1} The rated peak current is the peak value of the triangular wave current flowing through the PFC coil.



^{*2} Equivalent measurement equipment may be used.

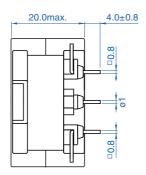


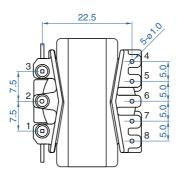
PFC QM series

PFC3318QM Type

SHAPE & DIMENSIONS



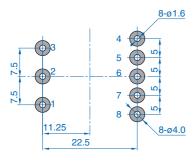




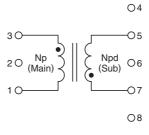


Dimensions in mm

■ RECOMMENDED LAND PATTERN



Dimensions in mm





PFC QM series PFC3318QM Type

ELECTRICAL CHARACTERISTICS

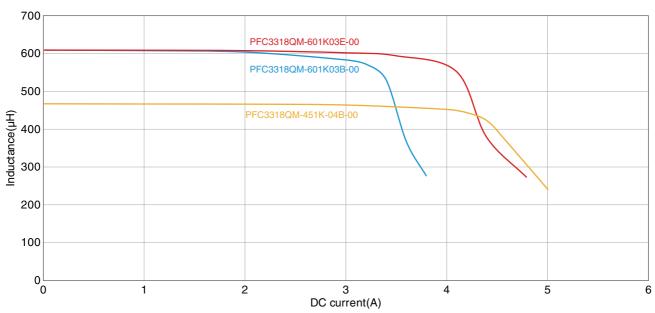
□ CHARACTERISTICS SPECIFICATION TABLE

Part number	Mount method	Frequency (kHz) min.	PFC output power (W)	Inductance (μH)	Rated peek current*1 (A)	Turn ratio (Np/Npd)
PFC3318QM-601K03B-00	Through hole	50	75	600	2.8	9.0
PFC3318QM-601K03E-00	Through hole	50	75	600	2.8	9.6
PFC3318QM-451K04B-00	Through hole	50	100	450	3.7	9.0

○ Measurement equipment*2

Measurement item	Product No.	Manufacturer
Inductance	4284A	Keysight Technologies
DC bias characteristics	4284A + 42841A	Keysight Technologies

^{*1} The rated peak current is the peak value of the triangular wave current flowing through the PFC coil.



^{*2} Equivalent measurement equipment may be used.

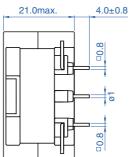


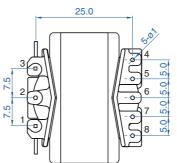
PFC QM series

PFC3519QM Type

■SHAPE & DIMENSIONS



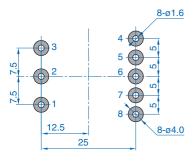




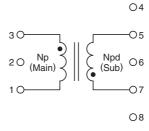


Dimensions in mm

■ RECOMMENDED LAND PATTERN



Dimensions in mm





PFC QM series PFC3519QM Type

ELECTRICAL CHARACTERISTICS

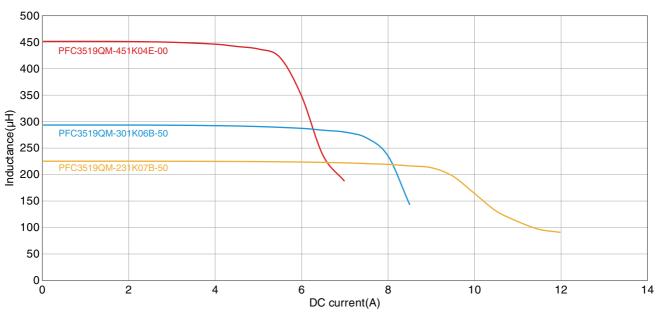
□ CHARACTERISTICS SPECIFICATION TABLE

Part number	Mount method	Frequency (kHz) min.	PFC output power (W)	Inductance (μΗ)	Rated peek current*1 (A)	Turn ratio (Np/Npd)
PFC3519QM-451K04E-00	Through hole	50	100	450	3.7	10
PFC3519QM-301K06B-50	Through hole	50	150	300	5.5	9.8
PFC3519QM-231K07B-50	Through hole	50	200	230	7.4	9.6

○ Measurement equipment*2

Measurement item	Product No.	Manufacturer
Inductance	4284A	Keysight Technologies
DC bias characteristics	4284A + 42841A	Keysight Technologies

^{*1} The rated peak current is the peak value of the triangular wave current flowing through the PFC coil.



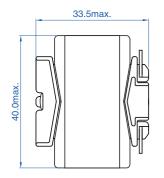
^{*2} Equivalent measurement equipment may be used.

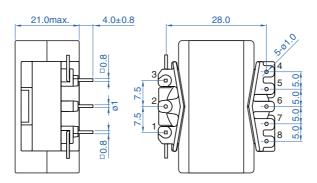


PFC QM series

PFC3819QM Type

SHAPE & DIMENSIONS

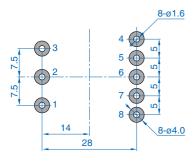




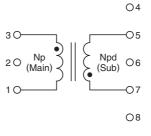


Dimensions in mm

■ RECOMMENDED LAND PATTERN



Dimensions in mm





PFC QM series PFC3819QM Type

■ ELECTRICAL CHARACTERISTICS

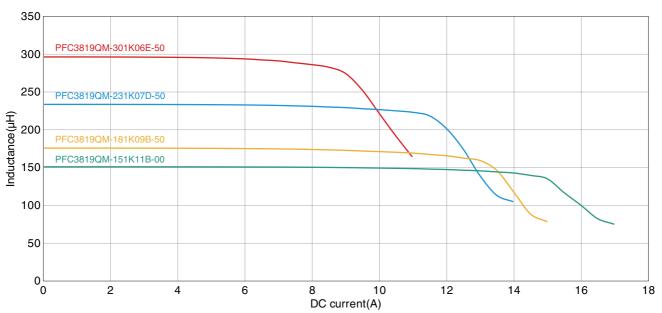
□ CHARACTERISTICS SPECIFICATION TABLE

Part number	Mount method	Frequency (kHz) min.	PFC output power (W)	Inductance (µH)	Rated peek current*1 (A)	Turn ratio (Np/Npd)
PFC3819QM-301K06E-50	Through hole	50	150	300	5.5	9.8
PFC3819QM-231K07D-50	Through hole	50	200	230	7.4	9.6
PFC3819QM-181K09B-50	Through hole	50	250	180	8.8	9.5
PFC3819QM-151K11B-00	Through hole	50	300	150	11.1	9.8

○ Measurement equipment*2

Measurement item	Product No.	Manufacturer
Inductance	4284A	Keysight Technologies
DC bias characteristics	4284A + 42841A	Keysight Technologies

^{*1} The rated peak current is the peak value of the triangular wave current flowing through the PFC coil.



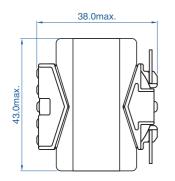
^{*2} Equivalent measurement equipment may be used.

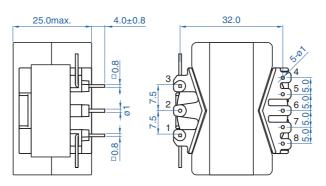


PFC QM series

PFC4124QM Type

■SHAPE & DIMENSIONS

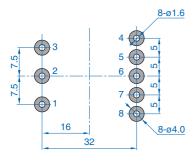




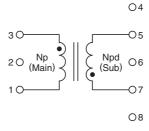


Dimensions in mm

■ RECOMMENDED LAND PATTERN



Dimensions in mm





PFC QM series PFC4124QM Type

ELECTRICAL CHARACTERISTICS

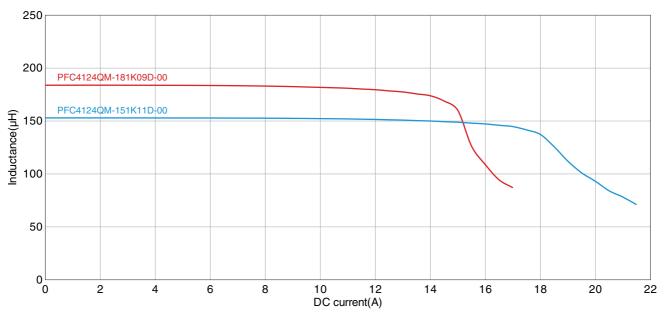
CHARACTERISTICS SPECIFICATION TABLE

Part number	Mount method	Frequency (kHz) min.	PFC output power (W)	Inductance (µH)	Rated peek current*1 (A)	Turn ratio (Np/Npd)
PFC4124QM-181K09D-00	Through hole	50	250	180	8.8	9.5
PFC4124QM-151K11D-00	Through hole	50	300	150	11.1	9.8

○ Measurement equipment*2

Measurement item	Product No.	Manufacturer
Inductance	4284A	Keysight Technologies
DC bias characteristics	4284A + 42841A	Keysight Technologies

^{*1} The rated peak current is the peak value of the triangular wave current flowing through the PFC coil.



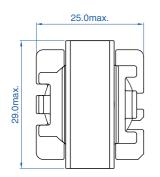
^{*2} Equivalent measurement equipment may be used.

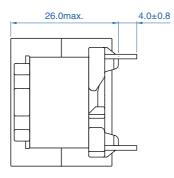


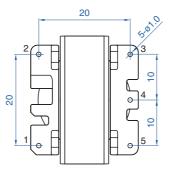
PFC ER series

PFC2723ER Type

SHAPE & DIMENSIONS



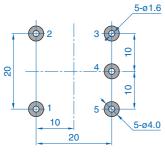




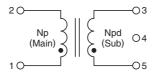




■ RECOMMENDED LAND PATTERN



Dimensions in mm





PFC ER series PFC2723ER Type

ELECTRICAL CHARACTERISTICS

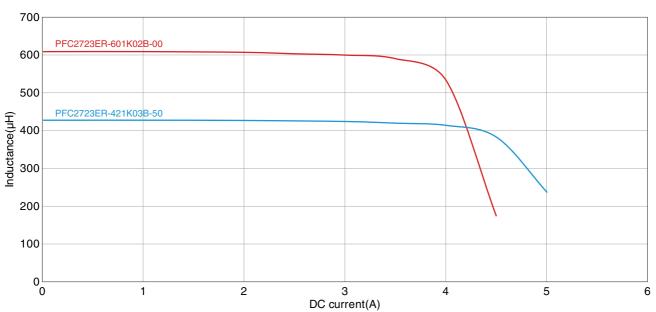
CHARACTERISTICS SPECIFICATION TABLE

Part number	Mount method	Frequency (kHz) min.	PFC output power (W)	Inductance (μΗ)	Rated peek current*1 (A)	Turn ratio (Np/Npd)
PFC2723ER-601K02B-00	Through hole	50	75	600	2.4	9.8
PFC2723ER-421K03B-50	Through hole	50	100	420	3.4	10.8

○ Measurement equipment*2

Measurement item	Product No.	Manufacturer
Inductance	4284A	Keysight Technologies
DC bias characteristics	4284A + 42841A	Keysight Technologies

^{*1} The rated peak current is the peak value of the triangular wave current flowing through the PFC coil.



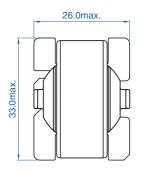
^{*2} Equivalent measurement equipment may be used.

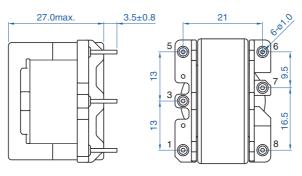


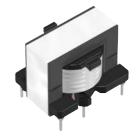
PFC ER series

PFC3125ER Type

SHAPE & DIMENSIONS

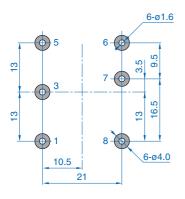




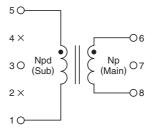


Dimensions in mm

■ RECOMMENDED LAND PATTERN



Dimensions in mm





PFC ER series PFC3125ER Type

ELECTRICAL CHARACTERISTICS

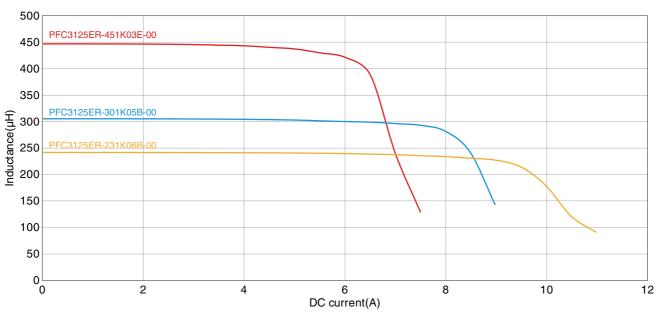
□ CHARACTERISTICS SPECIFICATION TABLE

Part number	Mount method	Frequency (kHz) min.	PFC output power (W)	Inductance (μH)	Rated peek current*1 (A)	Turn ratio (Np/Npd)
PFC3125ER-451K03E-00	Through hole	50	100	450	2.7	10.0
PFC3125ER-301K05B-00	Through hole	50	150	300	4.9	10.4
PFC3125ER-231K06B-00	Through hole	50	200	230	6.4	9.0

○ Measurement equipment*2

Measurement item	Product No.	Manufacturer
Inductance	4284A	Keysight Technologies
DC bias characteristics	4284A + 42841A	Keysight Technologies

^{*1} The rated peak current is the peak value of the triangular wave current flowing through the PFC coil.



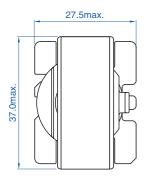
^{*2} Equivalent measurement equipment may be used.

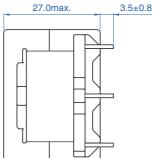


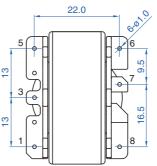
PFC ER series

PFC3525ER Type

SHAPE & DIMENSIONS



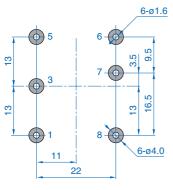




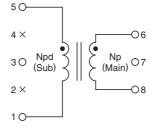




■ RECOMMENDED LAND PATTERN



Dimensions in mm





PFC ER series PFC3525ER Type

ELECTRICAL CHARACTERISTICS

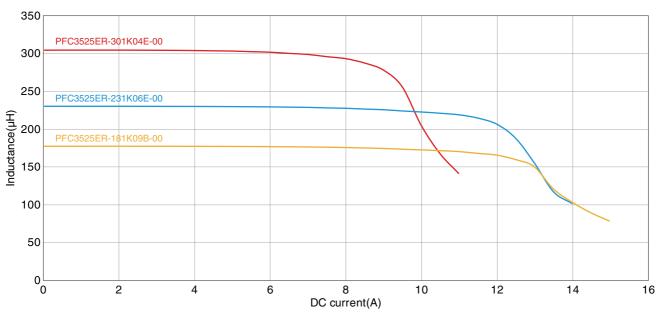
□ CHARACTERISTICS SPECIFICATION TABLE

Part number	Mount method	Frequency (kHz) min.	PFC output power (W)	Inductance (µH)	Rated peek current*1 (A)	Turn ratio (Np/Npd)
PFC3525ER-301K04E-00	Through hole	50	150	300	4.1	10.4
PFC3525ER-231K06E-00	Through hole	50	200	225	5.6	10.0
PFC3525ER-181K09B-00	Through hole	50	250	180	9.5	10.5

○ Measurement equipment*2

Measurement item	Product No.	Manufacturer
Inductance	4284A	Keysight Technologies
DC bias characteristics	4284A + 42841A	Keysight Technologies

^{*1} The rated peak current is the peak value of the triangular wave current flowing through the PFC coil.



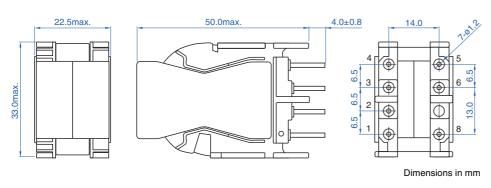
^{*2} Equivalent measurement equipment may be used.



PFC QN series

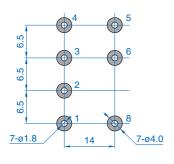
PFC3820QN Type

SHAPE & DIMENSIONS

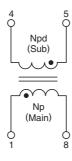




■ RECOMMENDED LAND PATTERN



Dimensions in mm





PFC QN series PFC3820QN Type

ELECTRICAL CHARACTERISTICS

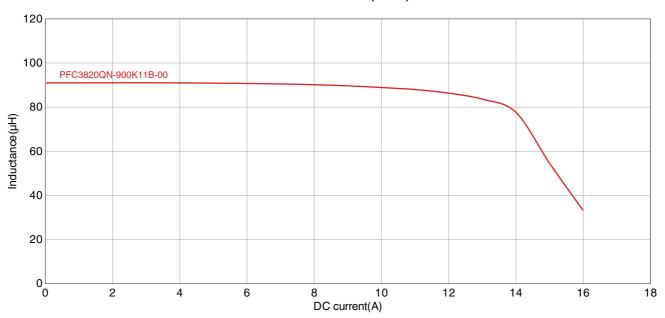
□ CHARACTERISTICS SPECIFICATION TABLE

Part number	Mount method	Frequency (kHz) min.	PFC output power* ¹ (W)	Inductance (μΗ)	Rated peek current* ² (A)	Turn ratio (Np/Npd)
PFC3820QN-900K11B-00	Through hole	35	800	90	11	7

○ Measurement equipment*3

Measurement item	Product No.	Manufacturer
Inductance	4284A	Keysight Technologies
DC bias characteristics	4284A + 42841A	Keysight Technologies

^{*1} Output power at 220 Vac input.



^{*2} The rated peak current is the peak value of the triangular wave current flowing through the PFC coil.

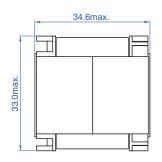
^{*3} Equivalent measurement equipment may be used.

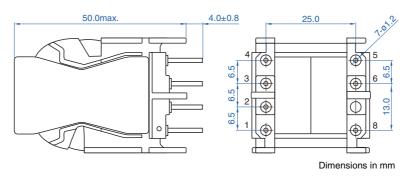


PFC QN series

PFC3831QN Type

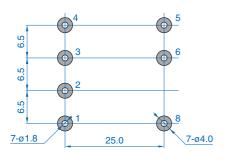
SHAPE & DIMENSIONS







■ RECOMMENDED LAND PATTERN



Dimensions in mm





PFC QN series PFC3831QN Type

■ ELECTRICAL CHARACTERISTICS

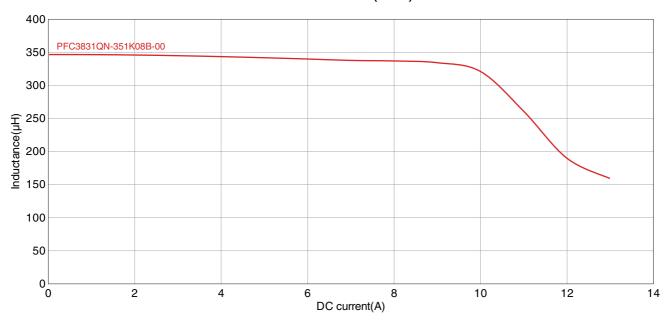
CHARACTERISTICS SPECIFICATION TABLE

Part number	Mount method	Frequency (kHz) min.	PFC output power*1 (W)	Inductance (μH)	Rated peek current* ² (A)	Turn ratio (Np/Npd)
PFC3831QN-351K08B-00	Through hole	50	900	350	8	_

○ Measurement equipment*3

Measurement item	Product No.	Manufacturer
Inductance	4284A	Keysight Technologies
DC bias characteristics	4284A + 42841A	Keysight Technologies

^{*1} Output power at 220 Vac input.



^{*2} The rated peak current is the peak value of the triangular wave current flowing through the PFC coil.

^{*3} Equivalent measurement equipment may be used.



Ρ	FC Circuit Inductance Specification Reque	est Form			Issued o	on	/	/			
1.	Company name										
	Address										
2.	Department, applicant's name										
	Name:	Person in Charge from Sales Promotion Dep.: Person in Charge from Sales Dep.:					Recorded Date / /				
	TEL/FAX :										
	E-mail:	Prototype No:					Recorded Date				
3.	Circuit system (Fill in the (□) square like this (■) to make your se	election.)									
	Continuous mode Critical mode Interleave Other ()									
4.	Input specifications										
	AC input voltage: Rated(V) to(V	V)	Operatin	d range.		(V) to		(V)			
	Frequency (Hz)	Minimum opera				_		(V)			
5	Design condition	Willimidin opera	ating input	voitage.		_ (v) to		(v)			
J.	•				al a (fi a al fua a			(kH:			
	(1) Clock frequency (Fill in the (□) square like this (■) to make your selection.) □Continuous mode(fixed frequency):										
	(a) Output valtage	aı mode(lo	owest frequenc	эу):		(kHz					
	(2) Output voltage					(14() /		(Vdd			
	(3) Rated output power/Maximum peak power					(VV)/		(W)			
	(4) Minimum operating input voltage					(Vad (%)					
	(5) Overcurrent point condition (ex.: 130% in (3)Rated output power and (4) Minimum operating input voltage)										
	(6) Maximum temperature rise					ΔΤ		(°C)			
	Condition in temperature evaluation (ex.: minimum input, rated load)										
	(7) Auxiliary winding (Fill in the (\Box) square like this (\blacksquare) to make your selection.)					1	No				
	Number of windings							(Windings			
	Desired voltage value and current			(V)/		(m <i>A</i>					
	Necessity of insulation (Fill in the (□) square like this (■) to ma	Funct	ional insulatio	n □Re	einforced insul	ation					
	(8) Circuit diagram (If you desire any pin number, attach a circuit di	□Yes		□N	lo						
6.	Inductance value and saturated current value for reference										
	Inductance value:	μ(H)	Satı	urated cur	rent value:			(A)			
7.	Desired core size and external size	, ,			_			`			
		L: V	v-	H(F	leight from the	e board))•	mm max			
8.	IC expected to be used				.o.g o	, 20a.a,					
-	Manufacturer name:	Product I	No :								
۵		i ioddol i	vo								
Э.	Production quantity information Final set name: Desired price/Currency										
	Final set name: Desired price/Currency: Acceptance conditions of the above price (FCA CHN, CIP LA, DDP Paris etc.):										
	Production volume: k/M Production start p										
10		(PP1)		(PP	<u> </u>		(IVIP I)				
10.	Sample information										
	Required sample quantity pcs.	•	-								
11.	Note company regulations, such as safe distance and dielectr	ic voltage strengt	th, if there	are any.							
12.	If there are any other requests (priorities in the company, size	or price, etc.) or a	alterable i	tems, ple	ease provide a	a descr	iption.				
	TDK Corporation Magnetics Business Group, Strategic Prod 2-5-1 Nihonbashi, Chuo-ku, Tokyo, 103-6128, Japan TEL: 81-3-67			155				-			

Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use. Please note that the contents may change without any prior notice due to reasons such as upgrading.



OUR CERTIFICATE

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