TRANSFORMERS

TDK

January 2014

Choke Coils for PFC

Pin terminal type

PFC series

PFC3514QM
PFC3318QM
PFC3519QM
PFC3819QM
PFC4124QM
PFC2723ER
PFC3125ER
PFC3525ER

REMINDERS FOR USING THESE PRODUCTS

Before using these products, be sure to request the delivery specifications.

SAFETY REMINDERS

Please pay sufficient attention to the warnings for safe designing when using these products.

⚠ REMINDERS

- The storage period is less than 12 months. Be sure to follow the storage conditions (Temperature: 5 to 40°C, Humidity: 10 to 75% RH or less).
  If the storage period elapses, the soldering of the terminal electrodes may deteriorate.
- Do not use or store in locations where there are conditions such as gas corrosion (salt, acid, alkali, etc.).
- Soldering corrections after mounting should be within the range of the conditions determined in the specifications.
  If overheated, a short circuit, performance deterioration, or lifespan shortening may occur.
- Self heating (temperature increase) occurs when the power is turned ON, so the tolerance should be sufficient for the set thermal design.
- Use a wrist band to discharge static electricity in your body through the grounding wire.
- Do not expose the products to magnets or magnetic fields.
- Do not use for a purpose outside of the contents regulated in the delivery specifications.
- The products listed on this catalog are intended for use in general electronic equipment (AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) under a normal operation and use condition.
  The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property.
  If you intend to use the products in the applications listed below or if you have special requirements exceeding the range or conditions set forth in the each catalog, please contact us.

(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 equipment
(7) Transportation control equipment
(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 applications

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.

Choke Coils for PFC

PFC Series

Overview of the PFC Series

FEATURES

- A low height(15.5 to 27mm in height) is achieved
- Large current is achieved in a small shape

APPLICATION

AV equipment, digital consumer electronics

PART NUMBER CONSTRUCTION

PFC	3514QM	-	351	K	07	E	-	**
Series name	Core size		Inductance code	Inductance tolerance	Rated Peak current code＊1	Control mark		Control mark

Inductance code	
350	35uH (35x10^{0})
351	350uH (35x10^{1})
352	3500uH(35x10^{2})

Inductance tolerance	
J	±5%
K	±10%
L	±15%
M	±20%

Rated Peak current code＊1	
01	1A
07	7A
10	10A

OPERATING TEMPERATURE RANGE, PACKAGE QUANTITY, PRODUCT WEIGHT

Type	Temperature range		Package quantity	Individual weight＊4
	Operating temperature＊2	Storage temperature＊3		
	(°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

＊1 The rounded-off value.

＊2 Operating temperature range includes self-temperature rise.

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

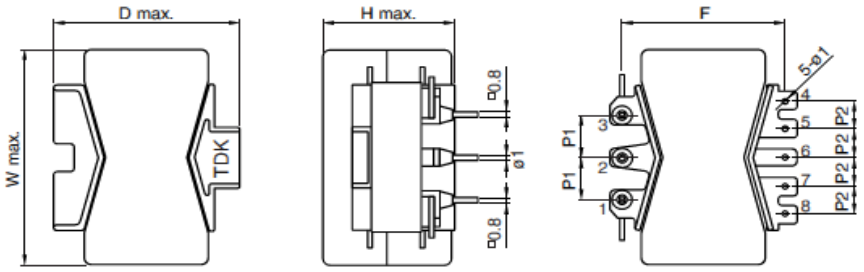
＊4 Typical weight.

- RoHS Directive Compliant Product: See the following for more details related to RoHS Directive compliant products. http://www.tdk.co.jp/rohs/
- Halogen-free: Indicates that Cl content is less than 900ppm, Br content is less than 900ppm, and that the total Cl and Br content is less than 1500ppm.

PFC QM series

PFC3514QM Type

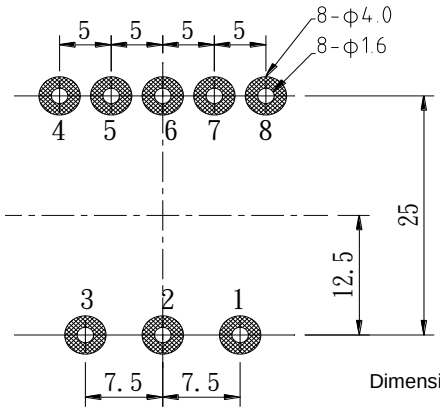
SHAPE & DIMENSIONS



Dimensions in mm

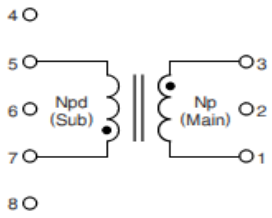
Type	D	W	H	P1	P2	F
PFC3514QM	30.0max.	37.0max.	15.5max.	7.5	5.0	25.0

RECOMMENDED LAND PATTERN



Dimensions in mm

CIRCUIT DIAGRAM



PFC QM series

PFC3514QM Type

ELECTRICAL CHARACTERISTICS

□ CHARACTERISTICS SPECIFICATION TABLE

Part No.	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

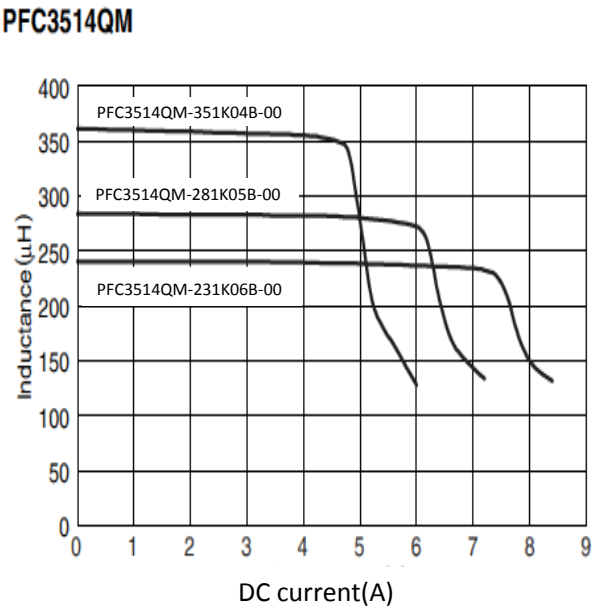
○ Measurement equipment∗2

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

∗1 The rated peak current is determined by the triangular waveform current when the temperature increase is lass than 40℃ during continuous operation.

∗2 Equivalent measurement equipment may be used.

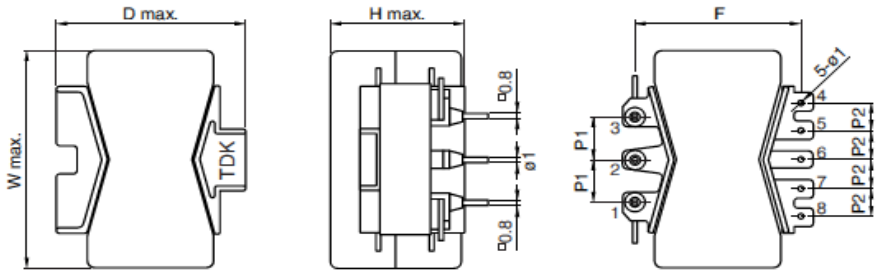
□ INDUCTANCE CHANGE vs. DC BIAS CHARACTERISTICS GRAPH



PFC QM series

PFC3318QM Type

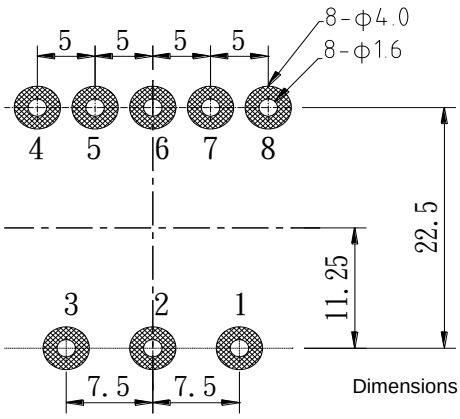
SHAPE & DIMENSIONS



Dimensions in mm

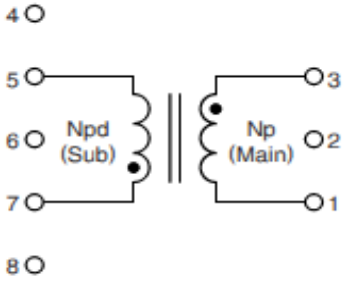
Type	D	W	H	P1	P2	F
PFC3318QM	28.0max.	35.0max.	20.0max.	7.5	5.0	22.5

RECOMMENDED LAND PATTERN



Dimensions in mm

CIRCUIT DIAGRAM



PFC QM series **PFC3318QM Type**

ELECTRICAL CHARACTERISTICS

□ CHARACTERISTICS SPECIFICATION TABLE

Part No.	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

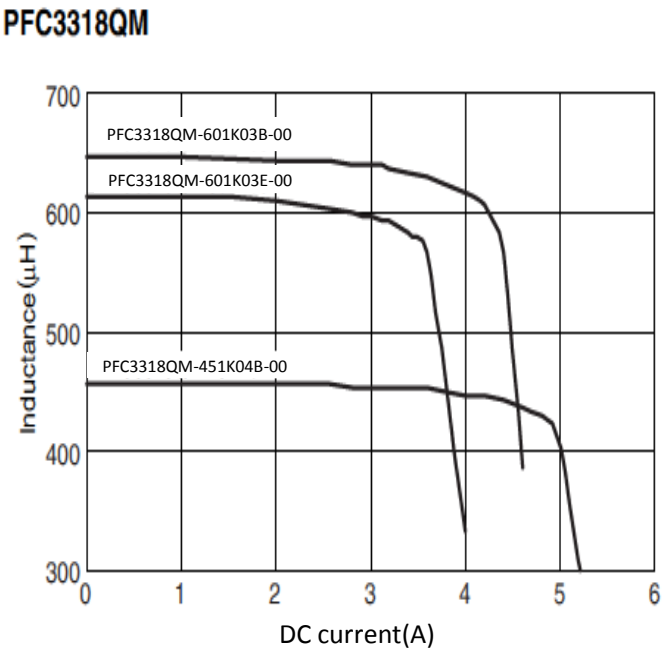
○ Measurement equipment∗2

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

∗1 The rated peak current is determined by the triangular waveform current when the temperature increase is lass than 40℃ during continuous operation.

∗2 Equivalent measurement equipment may be used.

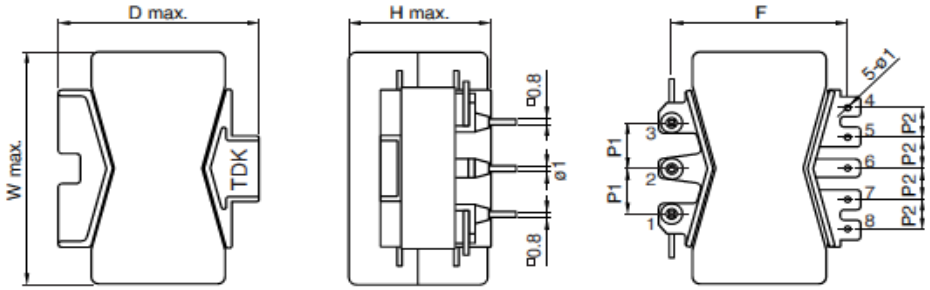
□ INDUCTANCE CHANGE vs. DC BIAS CHARACTERISTICS GRAPH



PFC QM series

PFC3519QM Type

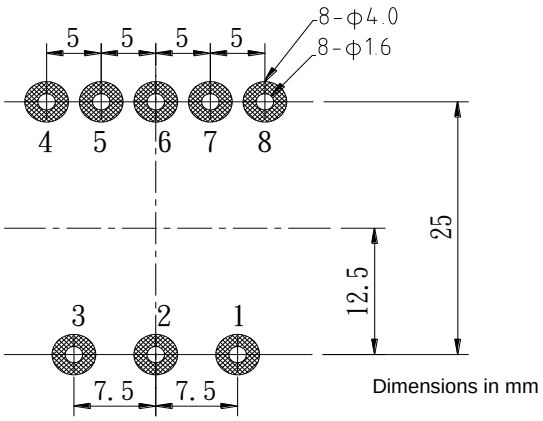
SHAPE & DIMENSIONS



Dimensions in mm

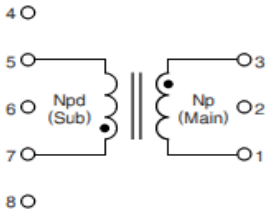
Type	D	W	H	P1	P2	F
PFC3519QM	30.0max.	37.0max.	20.0max.	7.5	5.0	25.0

RECOMMENDED LAND PATTERN



Dimensions in mm

CIRCUIT DIAGRAM



PFC QM series

PFC3519QM Type

ELECTRICAL CHARACTERISTICS

□ CHARACTERISTICS SPECIFICATION TABLE

Part No.	Mount method	Frequency (kHz)min	PFC output power (W)	Inductance (μH)	Rated peek current∗1 (A)	Turn ratio (Np/Npd)
PFC3519QM-451K04E-00	Through hole	50	100	450	3.7	10
PFC3519QM-301K06B-00	Through hole	50	150	300	5.5	9.8
PFC3519QM-231K07B-00	Through hole	50	200	230	7.4	9.6

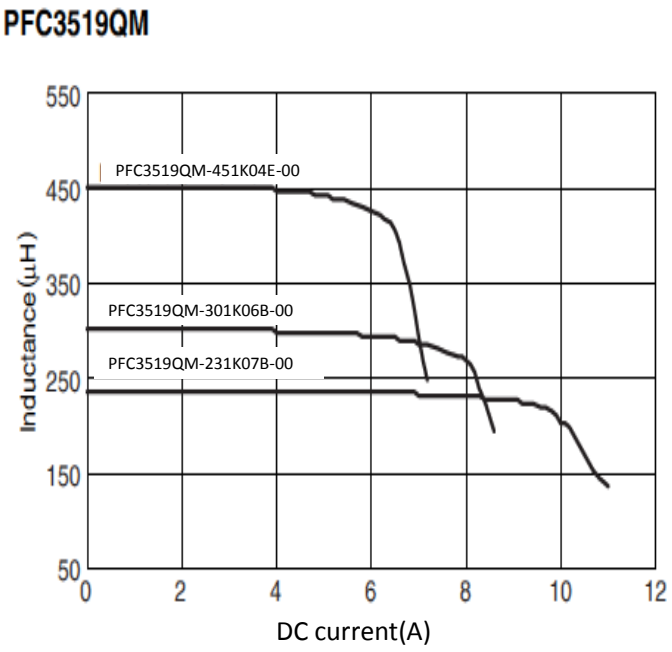
○ Measurement equipment∗2

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

∗1 The rated peak current is determined by the triangular waveform current when the temperature increase is lass than 40℃ during continuous operation.

∗2 Equivalent measurement equipment may be used.

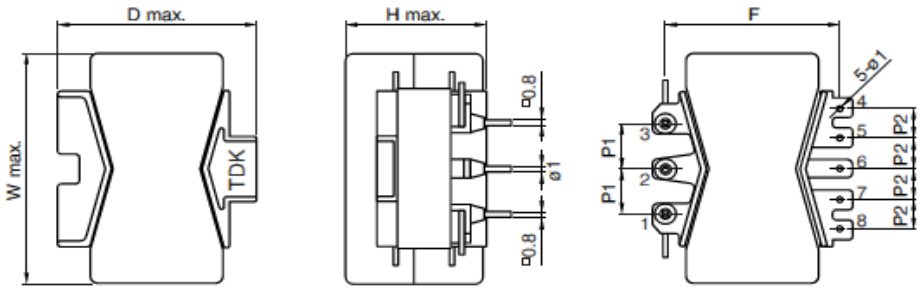
□ INDUCTANCE CHANGE vs. DC BIAS CHARACTERISTICS GRAPH



PFC QM series

PFC3819QM Type

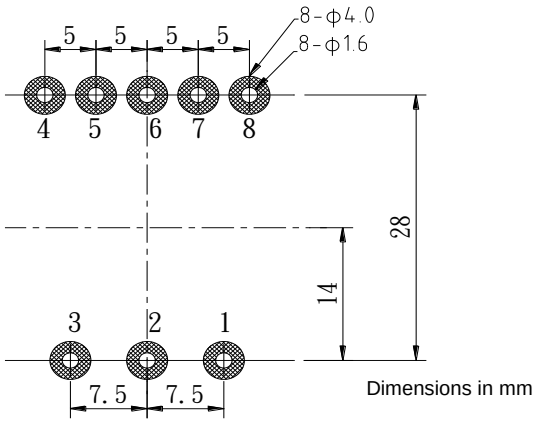
SHAPE & DIMENSIONS



Dimensions in mm

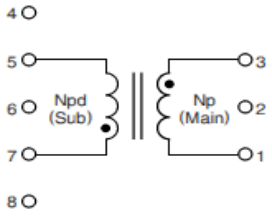
Type	D	W	H	P1	P2	F
PFC3819QM	33.5max.	40.0max.	20.0max.	7.5	5.0	28.0

RECOMMENDED LAND PATTERN



Dimensions in mm

CIRCUIT DIAGRAM



PFC QM series

PFC3819QM Type

ELECTRICAL CHARACTERISTICS

□ CHARACTERISTICS SPECIFICATION TABLE

Part No.	Mount method	Frequency (kHz)min	PFC output power (W)	Inductance (μH)	Rated peek current∗1 (A)	Turn ratio (Np/Npd)
PFC3819QM-301K06E-00	Through hole	50	150	300	5.5	9.8
PFC3819QM-231K07D-00	Through hole	50	200	230	7.4	9.6
PFC3819QM-181K09B-00	Through hole	50	250	180	8.8	9.5
PFC3819QM-151K11B-00	Through hole	50	300	150	11.1	9.8

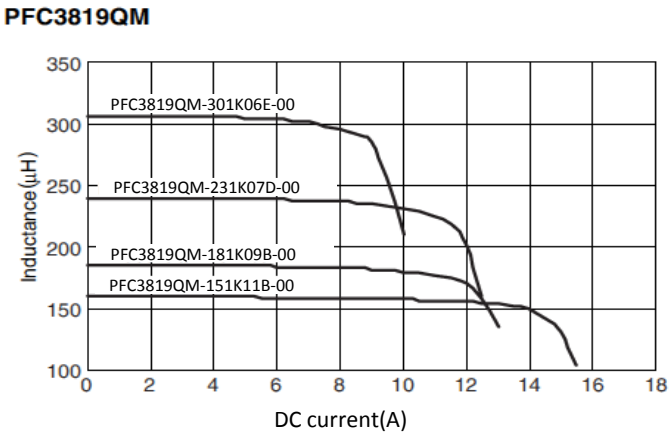
○ Measurement equipment∗2

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

∗1 The rated peak current is determined by the triangular waveform current when the temperature increase is lass than 40℃ during continuous operation.

∗2 Equivalent measurement equipment may be used.

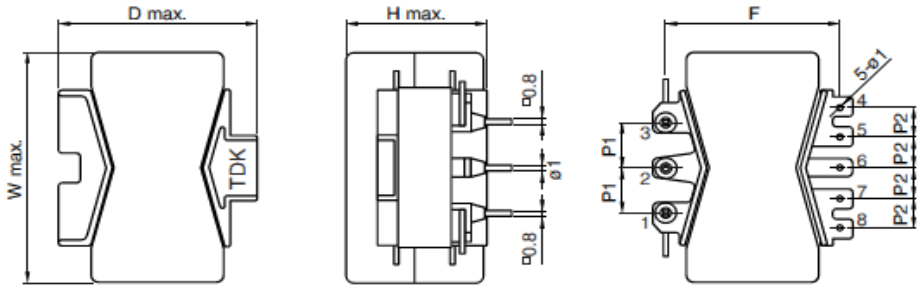
□ INDUCTANCE CHANGE vs. DC BIAS CHARACTERISTICS GRAPH



PFC QM series

PFC4124QM Type

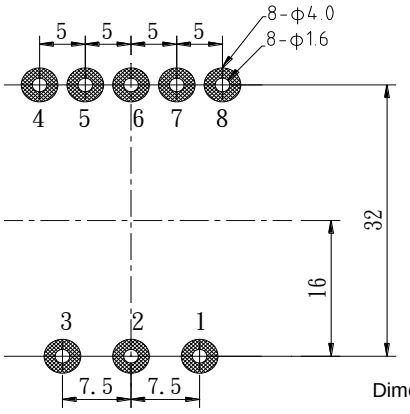
SHAPE & DIMENSIONS



Dimensions in mm

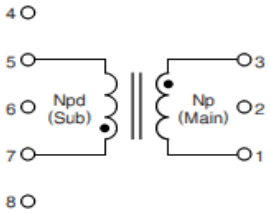
Type	D	W	H	P1	P2	F
PFC4124QM	38.0max.	43.0max.	25.0max.	7.5	5.0	32.0

RECOMMENDED LAND PATTERN



Dimensions in mm

CIRCUIT DIAGRAM



PFC QM series

PFC4124QM Type

ELECTRICAL CHARACTERISTICS

□ CHARACTERISTICS SPECIFICATION TABLE

Part No.	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

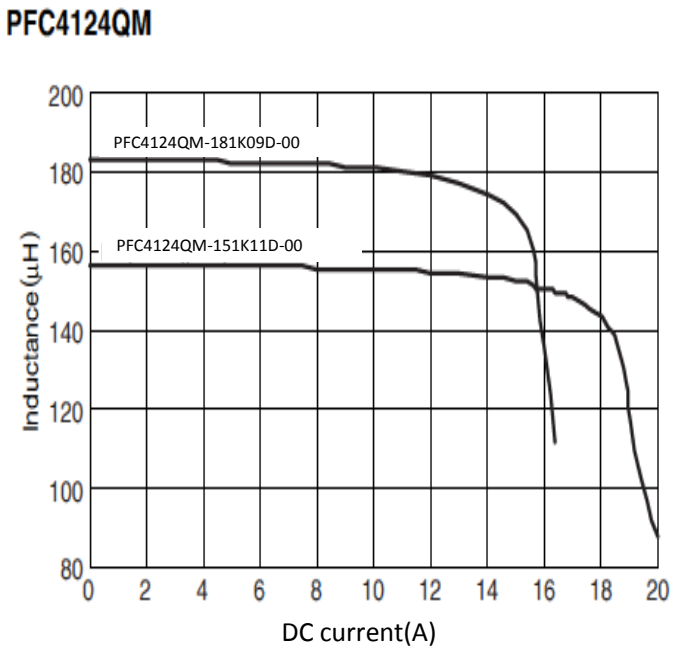
○ Measurement equipment∗2

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

∗1 The rated peak current is determined by the triangular waveform current when the temperature increase is lass than 40℃ during continuous operation.

∗2 Equivalent measurement equipment may be used.

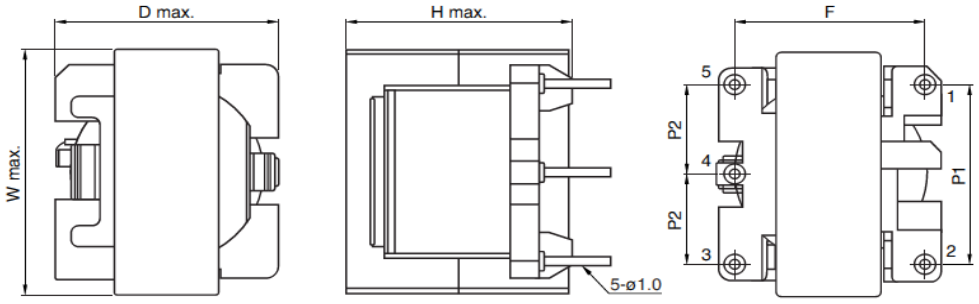
□ INDUCTANCE CHANGE vs. DC BIAS CHARACTERISTICS GRAPH



PFC ER series

PFC2723ER Type

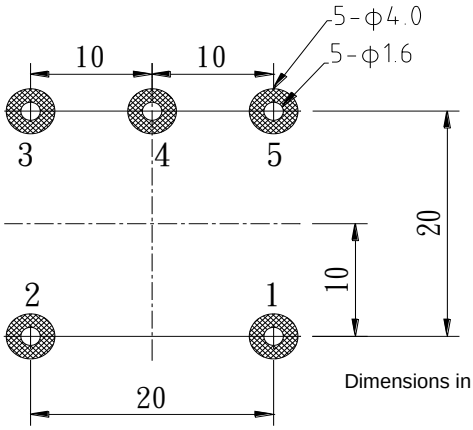
SHAPE & DIMENSIONS



Dimensions in mm

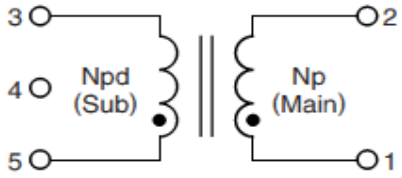
Type	D	W	H	P1	P2	F
PFC2723ER	25.0max.	28.0max.	25.0max.	20.0	10.0	20.0

RECOMMENDED LAND PATTERN



Dimensions in mm

CIRCUIT DIAGRAM



PFC ER series

PFC2723ER Type

ELECTRICAL CHARACTERISTICS

□ CHARACTERISTICS SPECIFICATION TABLE

Part No.	Mount method	Frequency (kHz)min	PFC output power (W)	Inductance (μH)	Rated peek current∗1 (A)	Turn ratio (Np/Npd)
PFC2723ER-601K02B-00	Through hole	50	75	600	2.4	9.8
PFC2723ER-421K03B-00	Through hole	50	100	420	3.4	10.8

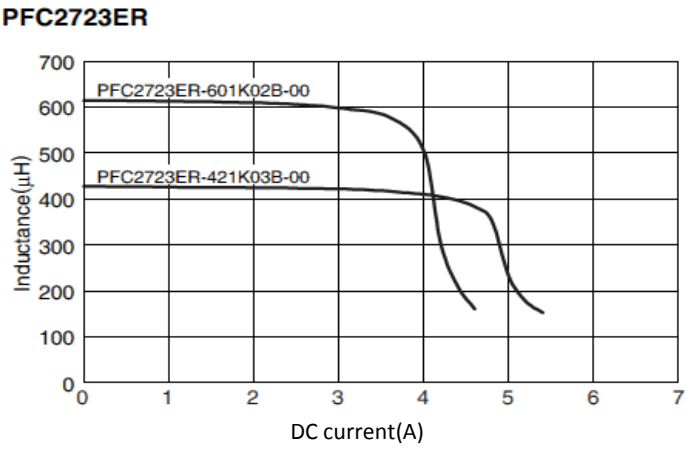
○ Measurement equipment∗2

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

∗1 The rated peak current is determined by the triangular waveform current when the temperature increase is lass than 40℃ during continuous operation.

∗2 Equivalent measurement equipment may be used.

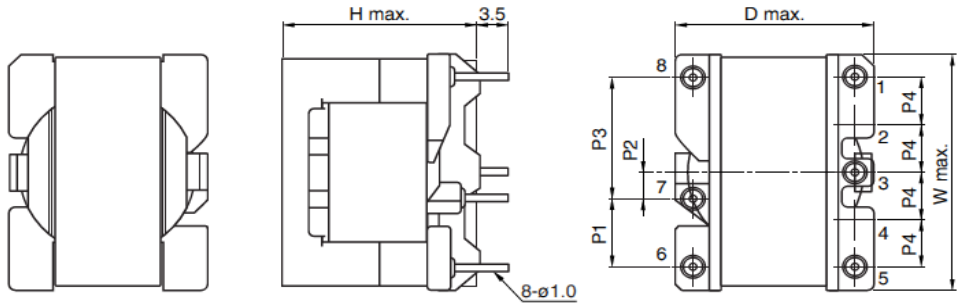
□ INDUCTANCE CHANGE vs. DC BIAS CHARACTERISTICS GRAPH



PFC ER series

PFC3125ER Type

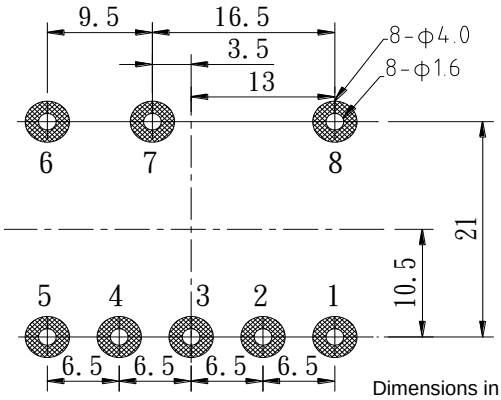
SHAPE & DIMENSIONS



Dimensions in mm

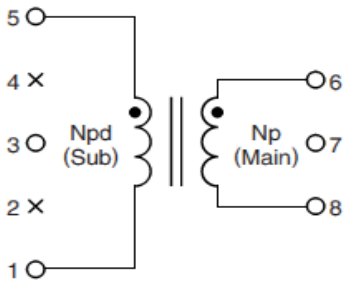
Type	D	W	H	P1	P2	P3	P4	F
PFC3125ER	26.0max.	33.0max.	27.0max.	9.5	3.5	16.5	6.5	21.0

RECOMMENDED LAND PATTERN



Dimensions in mm

CIRCUIT DIAGRAM



PFC ER series

PFC3125ER Type

ELECTRICAL CHARACTERISTICS

□ CHARACTERISTICS SPECIFICATION TABLE

Part No.	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

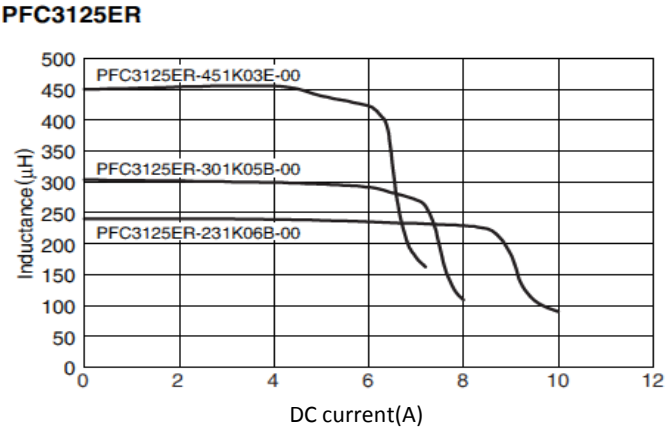
○ Measurement equipment∗2

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

∗1 The rated peak current is determined by the triangular waveform current when the temperature increase is lass than 40℃ during continuous operation.

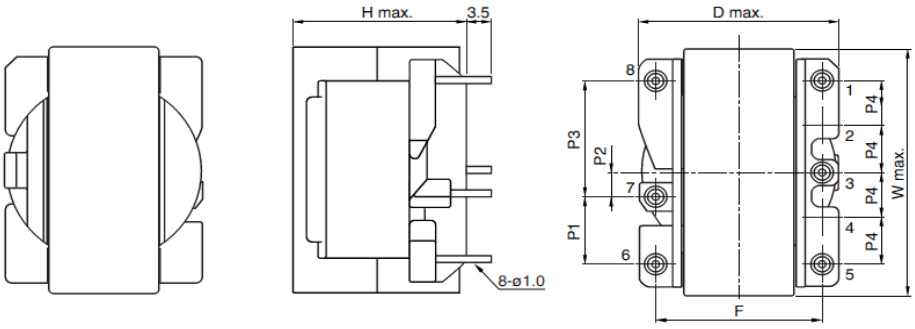
∗2 Equivalent measurement equipment may be used.

□ INDUCTANCE CHANGE vs. DC BIAS CHARACTERISTICS GRAPH



PFC3525ER Type

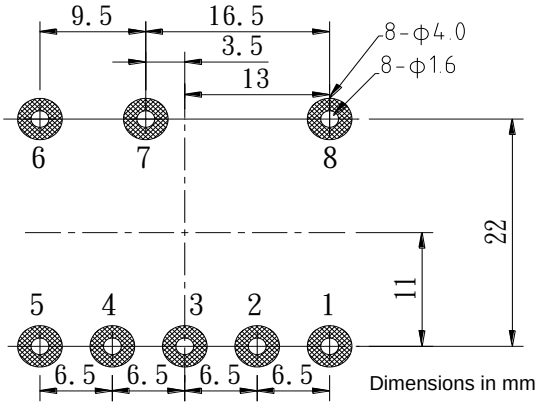
SHAPE & DIMENSIONS



Dimensions in mm

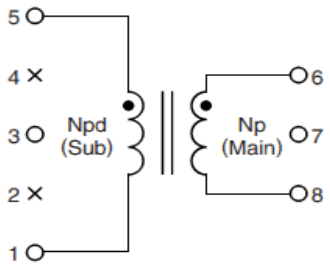
Type	D	W	H	P1	P2	P3	P4	F
PFC3525ER	27.5max.	37.0max.	27.0max.	9.5	3.5	16.5	6.5	22.0

RECOMMENDED LAND PATTERN



Dimensions in mm

CIRCUIT DIAGRAM



PFC ER series **PFC3525ER Type**

ELECTRICAL CHARACTERISTICS

□ CHARACTERISTICS SPECIFICATION TABLE

Part No.	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	Agilent Technologies
DC bias characteristics	4284A + 42841A	Agilent Technologies

∗1 The rated peak current is determined by the triangular waveform current when the temperature increase is lass than 40℃ during continuous operation.

∗2 Equivalent measurement equipment may be used.

□ INDUCTANCE CHANGE vs. DC BIAS CHARACTERISTICS GRAPH

PFC3525ER