

B82473M1104K000 Datasheet

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| | |
|------------------------------|---|
| DiGi Electronics Part Number | B82473M1104K000-DG |
| Manufacturer | EPCOS - TDK Electronics |
| Manufacturer Product Number | B82473M1104K000 |
| Description | FIXED IND 100UH 720MA 430MOHM SM |
| Detailed Description | 100 μ H Unshielded Drum Core, Wirewound Inductor 720 mA 430mOhm Max Nonstandard |



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DiGi is a global authorized distributor of electronic components.

Purchase and inquiry

Manufacturer Product Number:

B82473M1104K000

Series:

B82473M1

Type:

Drum Core, Wirewound

Inductance:100 μ H**Current Rating (Amps):**

720 mA

Shielding:

Unshielded

Q @ Freq:

-

Ratings:

AEC-Q200

Inductance Frequency - Test:

100 kHz

Package / Case:

Nonstandard

Size / Dimension:

0.327" L x 0.287" W (8.30mm x 7.30mm)

Manufacturer:

EPCOS - TDK Electronics

Product Status:

Active

Material - Core:

Ferrite

Tolerance: \pm 10%**Current - Saturation (Isat):**

800mA

DC Resistance (DCR):

430mOhm Max

Frequency - Self Resonant:

-

Operating Temperature:

-50°C ~ 150°C

Mounting Type:

Surface Mount

Supplier Device Package:

-

Height - Seated (Max):

0.217" (5.50mm)

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8504.50.4000

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99



SMT power inductors

Size 8.3 x 7.5 x 5.5 (mm)

Series/Type: B82473M1

Ordering code:

Date: June 2012

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SMT power inductors**Size 8.3 x 7.5 x 5.5 (mm)****B82473M1****Rated inductance 10 ... 470 μ H**
Rated current 0.34 ... 2.3 A**Construction**

- Ferrite core
- Winding: enamel copper wire
- Winding soldered to terminals
- Injection molded base

Features

- High mechanical stability
- Temperature range up to +150 °C
- High rated current
- Low DC resistance
- Suitable for lead-free reflow soldering as referenced in JEDEC J-STD 020D
- Qualification to AEC-Q200
- RoHS-compatible

Applications

- Filtering of supply voltages
- Coupling, decoupling
- DC/DC converters
- Automotive electronics

Terminals

- Base material CuSn6P
- Layer composition Ni, Sn (lead-free)
- Electro-plated

Marking

- Marking on component:
 - L value (μ H, coded),
 - manufacturing date (YWWD)
- Minimum data on reel:
 - Manufacturer, ordering code, L value,
 - quantity, date of packing

Delivery mode and packing unit

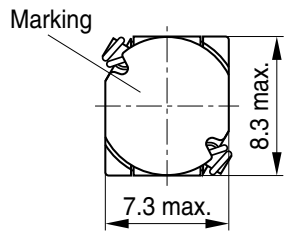
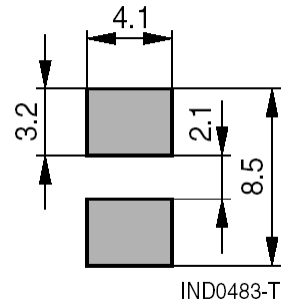
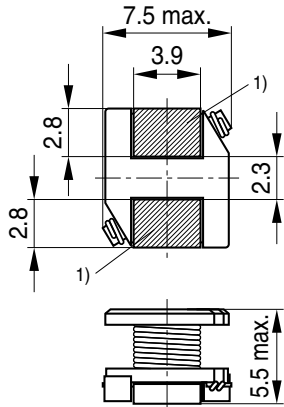
- 16-mm blister tape, wound on 330-mm reel
- Packing unit: 1000 pcs./reel

SMT power inductors

Size 8.3 x 7.5 x 5.5 (mm)

B82473M1

Dimensional drawing and layout recommendation



Dimensions in mm

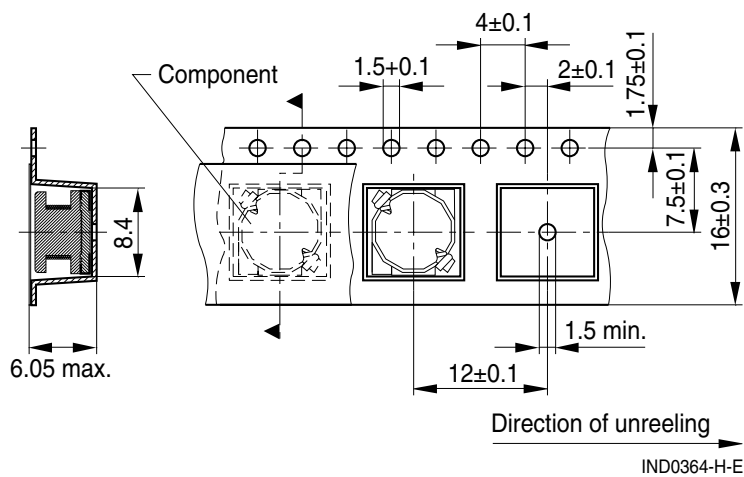
Component tolerances ± 0.2 mm unless otherwise noted.

1) Soldering area

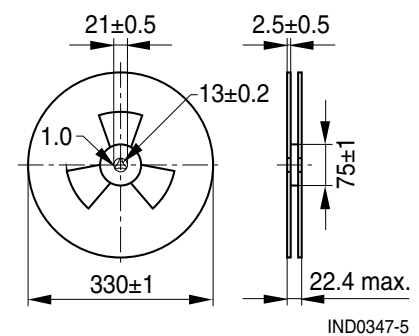
IND0482-K-E

Taping and packing

Blister tape



Reel



Dimensions in mm

SMT power inductors

Size 8.3 x 7.5 x 5.5 (mm)

B82473M1

Technical data and measuring conditions

| | |
|------------------------------|---|
| Rated inductance L_R | Measured with LCR meter Agilent 4284A at frequency f_L , 0.1 V, +20 °C |
| Rated temperature T_R | +85 °C |
| Rated current I_R | Max. permissible DC with temperature increase of ≤ 40 K at rated temperature |
| Saturation current I_{Sat} | Max. permissible DC with inductance decrease $\Delta L/L_0$ of approx. 10%, |
| DC resistance R_{typ} | Measured at +20 °C |
| Solderability (lead-free) | Dip and look method Sn95.5Ag3.8Cu0.7: +(245 \pm 5) °C, (3 \pm 0.3) s Wetting of soldering area $\geq 90\%$ (based on IEC 60068-2-58) |
| Resistance to soldering heat | +260 °C, 40 s (as referenced in JEDEC J-STD 020D) |
| Climatic category | 55/150/56 (to IEC 60068-1) |
| Storage conditions | Mounted: -55 °C ... +150 °C Packaged: -25 °C ... +40 °C, $\leq 75\%$ RH |
| Weight | Approx. 0.8 g |

Characteristics and ordering codes

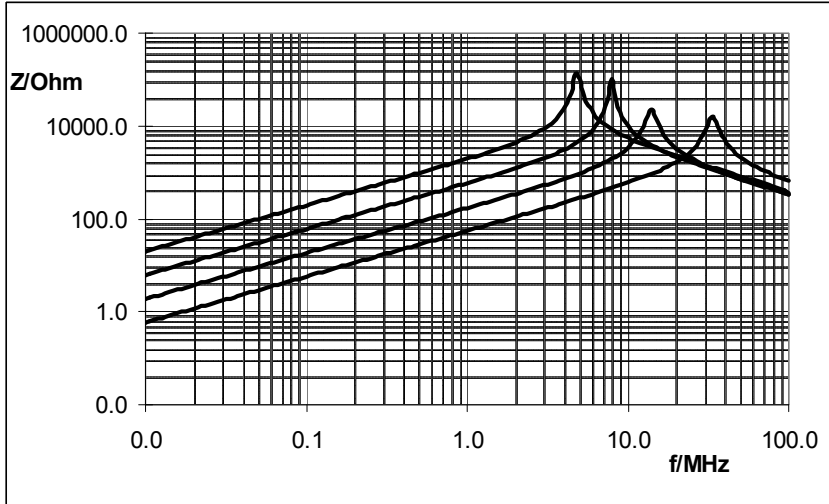
| L_R μH | Tolerance | f_L MHz | I_R A | I_{sat} A | R_{max} Ω | Ordering code |
|------------------------|-----------|--------------|------------|----------------|-----------------------|-----------------|
| 10 | 10% = K | 0.1 | 2.30 | 2.50 | 0.07 | B82473M1103K000 |
| 15 | | 0.1 | 1.80 | 2.00 | 0.09 | B82473M1153K000 |
| 22 | | 0.1 | 1.50 | 1.60 | 0.11 | B82473M1223K000 |
| 33 | | 0.1 | 1.20 | 1.30 | 0.13 | B82473M1333K000 |
| 47 | | 0.1 | 1.10 | 1.20 | 0.18 | B82473M1473K000 |
| 68 | | 0.1 | 0.85 | 0.90 | 0.28 | B82473M1683K000 |
| 100 | | 0.1 | 0.72 | 0.80 | 0.43 | B82473M1104K000 |
| 150 | | 0.1 | 0.58 | 0.65 | 0.64 | B82473M1154K000 |
| 220 | | 0.1 | 0.49 | 0.55 | 0.96 | B82473M1224K000 |
| 330 | | 0.1 | 0.40 | 0.45 | 1.26 | B82473M1334K000 |
| 470 | | 0.1 | 0.34 | 0.40 | 1.96 | B82473M1474K000 |

SMT power inductors

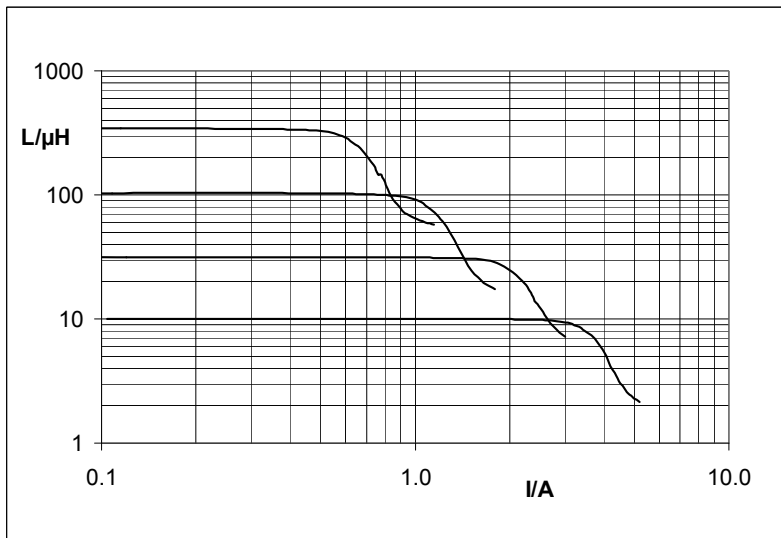
Size 8.3 x 7.5 x 5.5 (mm)

B82473M1

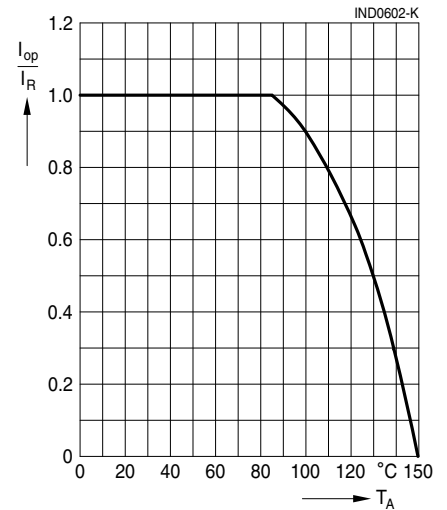
Impedance versus frequency (typical curve)



Inductance derating versus load current (typical curve)



Current derating I_{op}/I_R versus ambient temperature T_A (rated temperature $T_R = +85^\circ\text{C}$)



SMT power inductors**Size 8.3 x 7.5 x 5.5 (mm)****B82473M1****Cautions and warnings**

- Please note the recommendations in our Inductors data book (latest edition) and in the data sheets.
 - Particular attention should be paid to the derating curves given there.
 - The soldering conditions should also be observed. Temperatures quoted in relation to wave soldering refer to the pin, not the housing.

- If the components are to be washed varnished it is necessary to check whether the washing varnish agent that is used has a negative effect on the wire insulation, any plastics that are used, or on glued joints. In particular, it is possible for washing varnish agent residues to have a negative effect in the long-term on wire insulation
Washing processes may damage the product due to the possible static or cyclic mechanical loads (e.g. ultrasonic cleaning). They may cause cracks to develop on the product and its parts, which might lead to reduced reliability or lifetime.

- The following points must be observed if the components are potted in customer applications:
 - Many potting materials shrink as they harden. They therefore exert a pressure on the plastic housing or core. This pressure can have a deleterious effect on electrical properties, and in extreme cases can damage the core or plastic housing mechanically.
 - It is necessary to check whether the potting material used attacks or destroys the wire insulation, plastics or glue.
 - The effect of the potting material can change the high-frequency behaviour of the components.

- Ferrites are sensitive to direct impact. This can cause the core material to flake, or lead to breakage of the core.

- Even for customer-specific products, conclusive validation of the component in the circuit can only be carried out by the customer.

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