

# DATA SHEET

**TX78/49/16**

Alloy powder toroids

New data

2008 Sep 01

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## RING CORES (TOROIDS)

## Effective core parameters

| SYMBOL         | PARAMETER                         |           | VALUE              | UNIT             |
|----------------|-----------------------------------|-----------|--------------------|------------------|
| $\Sigma(l/A)$  | core factor (C1)                  |           | 0.879              | mm <sup>-1</sup> |
| V <sub>e</sub> | effective volume                  |           | 45300              | mm <sup>3</sup>  |
| l <sub>e</sub> | effective length                  |           | 200                | mm               |
| A <sub>e</sub> | effective area                    |           | 227                | mm <sup>2</sup>  |
| m              | mass of core<br>(for $\mu_i$ 125) | MPP       | 377                | g                |
|                |                                   | Sendust   | 262 <sup>(1)</sup> | g                |
|                |                                   | High-Flux | 356                | g                |

(1) for material permeability 60

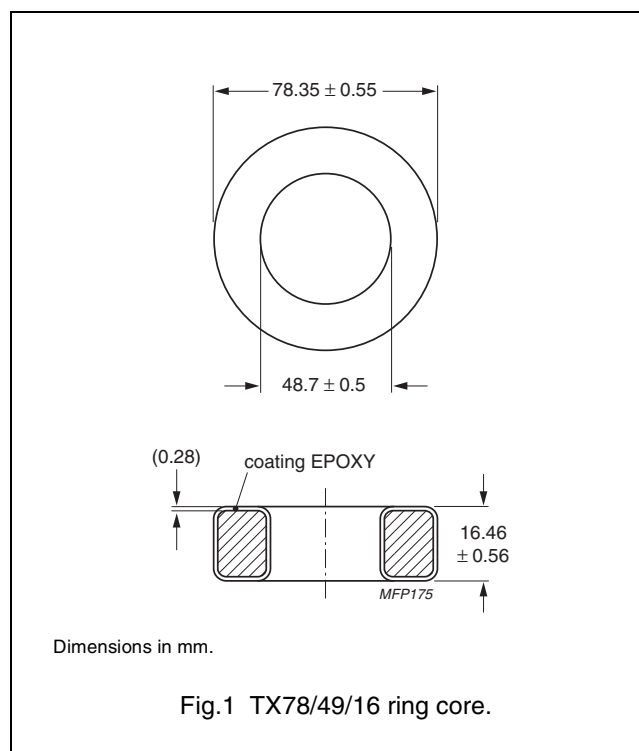
## Coating

The cores are coated with epoxy. The colour is cream (Sendust), grey (MPP) or khaki (High-Flux). Maximum operating temperature is 200 °C.

## Isolation voltage

AC isolation voltage : 1000 V.

Contacts are applied on the edge of the ring core, which is also the critical point for the winding operation.



## Ring core data

| GRADE     | $A_L$<br>(nH) | $\mu_i$ | B (mT) at                                 | CORE LOSS (W) at                          | TYPE NUMBER     |
|-----------|---------------|---------|-------------------------------------------|-------------------------------------------|-----------------|
|           |               |         | H = 100 kA/m;<br>f = 10 kHz;<br>T = 25 °C | f = 100 kHz;<br>B̂ = 100 mT;<br>T = 25 °C |                 |
| MPP       | 20 ± 8 %      | 14      | ≥ 640                                     | 68.0                                      | TX78/16-M2-A20  |
|           | 37 ± 8 %      | 26      | ≥ 700                                     | 54.4                                      | TX78/16-M2-A37  |
|           | 85 ± 8 %      | 60      | ≥ 760                                     | 34.0                                      | TX78/16-M2-A85  |
|           | 178 ± 8 %     | 125     | ≥ 800                                     | 34.0                                      | TX78/16-M2-A178 |
| Sendust   | 37 ± 8 %      | 26      | ≥ 1000                                    | 72.5                                      | TX78/16-S7-A37  |
|           | 85 ± 8 %      | 60      | ≥ 1030                                    | 38.7                                      | TX78/16-S7-A85  |
| High-Flux | 20 ± 8 %      | 14      | ≥ 890                                     | 113                                       | TX78/16-H2-A20  |
|           | 37 ± 8 %      | 26      | ≥ 980                                     | 90.6                                      | TX78/16-H2-A37  |
|           | 85 ± 8 %      | 60      | ≥ 1280                                    | 81.5                                      | TX78/16-H2-A85  |
|           | 178 ± 8 %     | 125     | ≥ 1370                                    | 90.6                                      | TX78/16-H2-A178 |

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## DATA SHEET STATUS DEFINITIONS

| DATA SHEET STATUS         | PRODUCT STATUS | DEFINITIONS                                                                                                                                                                              |
|---------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Preliminary specification | Development    | This data sheet contains preliminary data. Ferroxcube reserves the right to make changes at any time without notice in order to improve design and supply the best possible product.     |
| Product specification     | Production     | This data sheet contains final specifications. Ferroxcube reserves the right to make changes at any time without notice in order to improve design and supply the best possible product. |

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## PRODUCT STATUS DEFINITIONS

| STATUS    | INDICATION                                                                          | DEFINITION                                                                                                                                                                     |
|-----------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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| Design-in |  | These products are recommended for new designs.                                                                                                                                |
| Preferred |                                                                                     | These products are recommended for use in current designs and are available via our sales channels.                                                                            |
| Support   |  | These products are <b>not</b> recommended for new designs and may not be available through all of our sales channels. Customers are advised to check for availability.         |