

## CTCDTF Series

### From 4.7 $\mu\text{H}$ to 56 $\mu\text{H}$



### CHARACTERISTICS

**Description:** Toroidal Chokes for Class D amplifiers.  
**Applications:** Powered Loudspeakers, electronic motor drives, portable amps, PA systems & car amps.  
**Testing:** Inductance is tested at 10kHz, 10 gauss, 0Adc.  
**Winding:** Single layer wound for high self-resonant frequency.  
**Core:** 10 permeability Carbonyl Micrometals© Core.  
**Packaging:** Bulk Packaged.  
**Additional Information:**

- $\Delta L$  of less than 10% a currents greater than 100A
- Class-D Operation 250kHz - 500kHz
- High Linearity Under Peak Bias Conditions
- Extremely Low Loss Under Typical Class-D ripple Current conditions
- Reduced THD Due to Highest Linearity
- Custom values & horizontal mounted configurations available upon request.

**Note:** Application should limit long term absolute temperature of component to be 75°C Max.  
**Miscellaneous:** **RoHS Compliant.**  
**Samples available. See website for ordering information.**

### SPECIFICATIONS

| Part Number  | Closest Standard value $\mu\text{H}$ | Nominal Initial Inductance (0 ADC) $\mu\text{H}$ ( $\pm 7\%$ ) | DC Resistance (ref., 20°C) $\Omega$ | Long-Term r.m.s. current guideline Amperes r.m.s. | Peak Current for 5% Inductance Drop Amperes peak | Peak Current for 10% Inductance Drop Amperes Peak | Core Loss (typ.) at 100 kHz, 140 Gauss | Core Loss (typ.) at 500 kHz, 50 Gauss |
|--------------|--------------------------------------|--|-------------------------------------|---|--|---|--|---------------------------------------|
| CTCDTF-09401 | 4.7                                  | 4.84   | 0.011                               | 8.6   | 35.8   | 75.6  | 41 mW                                  | 26 mW                                 |
| CTCDTF-09402 | 6.8                                  | 6.59   | 0.015                               | 6.8   | 30.7   | 64.8  |  |                                       |
| CTCDTF-09403 | 10.0                                 | 10.3   | 0.029                               | 4.3   | 24.6   | 51.9  |  |                                       |
| CTCDTF-09404 | 12.0                                 | 12.1   | 0.036                               | 3.4   | 22.6   | 47.8  |  |                                       |
| CTCDTF-09405 | 15.0                                 | 14.8   | 0.040                               | 3.4   | 20.5   | 43.2  |  |                                       |
| CTCDTF-09406 | 18.0                                 | 17.8   | 0.064                               | 2.1   | 18.7   | 39.5  |  |                                       |
| CTCDTF-09407 | 22.0                                 | 21.8   | 0.072                               | 2.1   | 16.9   | 35.6  |  |                                       |
|              |                                      |  |                                     |   |  |   |  |                                       |
| CTCDTF-10601 | 4.7                                  | 4.87   | 0.009                               | 10.9  | 49.2   | 103.8   | 57 mW                                  | 36 mW                                 |
| CTCDTF-10602 | 6.8                                  | 6.53   | 0.012                               | 8.6   | 42.5   | 89.7  |  |                                       |
| CTCDTF-10603 | 10.0                                 | 9.84   | 0.018                               | 6.8   | 34.6   | 73.1  |  |                                       |
| CTCDTF-10604 | 12.0                                 | 12.2   | 0.025                               | 5.4   | 31.2   | 65.8  |  |                                       |
| CTCDTF-10605 | 15.0                                 | 14.7   | 0.028                               | 5.4   | 28.3   | 59.8  |  |                                       |
| CTCDTF-10606 | 18.0                                 | 18.5   | 0.039                               | 4.3   | 25.3   | 53.3  |  |                                       |
| CTCDTF-10607 | 22.0                                 | 21.6   | 0.050                               | 3.4   | 23.4   | 49.3  |  |                                       |
|              |                                      |  |                                     |   |  |   |  |                                       |
| CTCDTF-13001 | 4.7                                  | 4.85   | 0.008                               | 13.7  | 56.8   | 119.9   | 110 mW                                 | 70 mW                                 |
| CTCDTF-13002 | 6.8                                  | 6.88   | 0.009                               | 13.7  | 47.7   | 100.7   |  |                                       |
| CTCDTF-13003 | 10.0                                 | 9.9  | 0.011                               | 13.7  | 39.7   | 83.9  |  |                                       |
| CTCDTF-13004 | 12.0                                 | 12.0   | 0.015                               | 10.9  | 36.1   | 76.3  |  |                                       |
| CTCDTF-13005 | 15.0                                 | 15.1   | 0.022                               | 8.6   | 32.2   | 68.0  |  |                                       |
| CTCDTF-13006 | 18.0                                 | 17.6   | 0.027                               | 6.8   | 29.8   | 62.9  |  |                                       |
| CTCDTF-13007 | 22.0                                 | 22.3   | 0.036                               | 5.4   | 26.5   | 55.9  |  |                                       |
|              |                                      |  |                                     |   |  |   |  |                                       |
| CTCDTF-15401 | 18.0                                 | 18.1   | 0.020                               | 10.9  | 40.4   | 85.3  | 204 mW                                 | 129 mW                                |
| CTCDTF-15402 | 22.0                                 | 22.4   | 0.022                               | 10.9  | 36.4   | 76.8  |  |                                       |
| CTCDTF-15403 | 27.0                                 | 27.1   | 0.030                               | 8.6   | 33.1   | 69.8  |  |                                       |
| CTCDTF-15404 | 33.0                                 | 33.6   | 0.040                               | 6.8   | 29.7   | 62.7  |  |                                       |
| CTCDTF-15405 | 39.0                                 | 39.3   | 0.045                               | 6.8   | 27.4   | 57.9  |  |                                       |
| CTCDTF-15406 | 47.0                                 | 47.1   | 0.062                               | 5.4   | 25.1   | 52.9  |  |                                       |
| CTCDTF-15407 | 56.0                                 | 55.6   | 0.085                               | 4.3   | 23.1   | 48.7  |  |                                       |

## PHYSICAL DIMENSIONS

| Part Number   | Outside Diameter<br>(maximum)<br>Inches | Width<br>(maximum)<br>Inches | Lead Space<br>Dimension<br>Inches | Lead<br>Diameter<br>Inches |
|---------------|---|------------------------------|-----------------------------------|----------------------------|
| CTCDDTF-09401 | 1.125                                   | 0.47                         | 0.41                              | 0.052                      |
| CTCDDTF-09402 | 1.125                                   | 0.46                         | 0.4                               | 0.047                      |
| CTCDDTF-09403 | 1.1                                     | 0.45                         | 0.38                              | 0.037                      |
| CTCDDTF-09404 | 1.07                                    | 0.43                         | 0.38                              | 0.033                      |
| CTCDDTF-09405 | 1.07                                    | 0.43                         | 0.38                              | 0.033                      |
| CTCDDTF-09406 | 1.05                                    | 0.4                          | 0.37                              | 0.026                      |
| CTCDDTF-09407 | 1.05                                    | 0.4                          | 0.37                              | 0.026                      |
|               |   |                              |                                   |                            |
| CTCDDTF-10601 | 1.25                                    | 0.62                         | 0.54                              | 0.058                      |
| CTCDDTF-10602 | 1.25                                    | 0.62                         | 0.54                              | 0.052                      |
| CTCDDTF-10603 | 1.25                                    | 0.62                         | 0.52                              | 0.047                      |
| CTCDDTF-10604 | 1.22                                    | 0.6                          | 0.52                              | 0.042                      |
| CTCDDTF-10605 | 1.22                                    | 0.6                          | 0.52                              | 0.042                      |
| CTCDDTF-10606 | 1.21                                    | 0.59                         | 0.52                              | 0.037                      |
| CTCDDTF-10607 | 1.21                                    | 0.58                         | 0.52                              | 0.033                      |
|               |   |                              |                                   |                            |
| CTCDDTF-13001 | 1.52                                    | 0.66                         | 0.59                              | 0.066                      |
| CTCDDTF-13002 | 1.52                                    | 0.66                         | 0.59                              | 0.066                      |
| CTCDDTF-13003 | 1.52                                    | 0.66                         | 0.59                              | 0.066                      |
| CTCDDTF-13004 | 1.5                                     | 0.63                         | 0.59                              | 0.058                      |
| CTCDDTF-13005 | 1.5                                     | 0.63                         | 0.57                              | 0.052                      |
| CTCDDTF-13006 | 1.49                                    | 0.62                         | 0.56                              | 0.047                      |
| CTCDDTF-13007 | 1.48                                    | 0.62                         | 0.56                              | 0.042                      |
|               |   |                              |                                   |                            |
| CTCDDTF-15401 | 1.79                                    | 0.79                         | 0.69                              | 0.058                      |
| CTCDDTF-15402 | 1.79                                    | 0.79                         | 0.69                              | 0.058                      |
| CTCDDTF-15403 | 1.78                                    | 0.78                         | 0.69                              | 0.052                      |
| CTCDDTF-15404 | 1.77                                    | 0.75                         | 0.67                              | 0.047                      |
| CTCDDTF-15405 | 1.77                                    | 0.75                         | 0.67                              | 0.047                      |
| CTCDDTF-15406 | 1.75                                    | 0.74                         | 0.67                              | 0.042                      |
| CTCDDTF-15407 | 1.73                                    | 0.73                         | 0.66                              | 0.037                      |

