

**LPB AM TRANSMITTER ELLIPTIC RF OUTPUT FILTER
CONSTRUCTION ON L4 & L5 FOR AM-5, AM TX 2-20
AM -30 /60 /100 WATT UNITS !**

NOTE: Some toroids might be color coated by EIA standard and other will have the gray / black color to them depend on the company(s) who construct them.

NOTE: If the toroids cores are in a gray / black color they are not moisture protected !

NOTE: It is recommended that going to use your am transmitter in a moist area please have toroids core coated for protection !

NOTE: Information on toroid cores can be found in ARRL Handbook 1998 pages 24.5, 24.6 and 24.7.

NOTE: The Toroid Core For L4 & L5.

T94-2 Toroid core

FREQUENCY USE: 500 Khz to 30 Mhz

EIA COLOR CODE: Red E Core

MATERIAL: Carbonyl E

DIMENSIONS

OD= 0.94"

ID = 0.56"

H = 0.31"

U= 10

Outside Dimention

Inside Dimention

Height

| Physical Dimensions | | |
|--|--|---|
| <p>COLOR CODE</p> <ul style="list-style-type: none"> - 1 Blue/Clear - 2 Red/Clear - 3 Gray/Clear - 6 Yellow/Clear - 7 White/Clear - 10 Black/Clear - 12 Green/White - 15 Red/White - 17 Blue/Yellow - 0 Tan | | <p>TYPICAL PART NO.</p> <p style="text-align: center;">T 25 - 10</p> <p>OD in 100th Inches ┌──┐</p> <p>Micrometals Mix No. └──┘</p> <p>Letter Indicates Alternate Height</p> |
| <p>OD = .942 in / 23.9 mm +/- 0.02 in</p> <p>ID = .560 in / 14.2 mm +/- 0.02 in</p> <p>Ht = .312 in / 7.92 mm +/- 0.025 in</p> | | |
| <p>$A_L = 8.4 \pm 5\%$ $\mu H = (A_L * Turns^2) / 1000$</p> | | |
| <p>Temperature Stability (ppm /°C) = 95</p> | | |
| <p>Color Code = Red / Clear</p> | | |
| <p>Optimum Resonant Circuit Range for highest Q and lowest core loss 250 KHz - 10 MHz</p> | | |
| <p>Orders and Pricing www.kitsandparts.com</p> | | |

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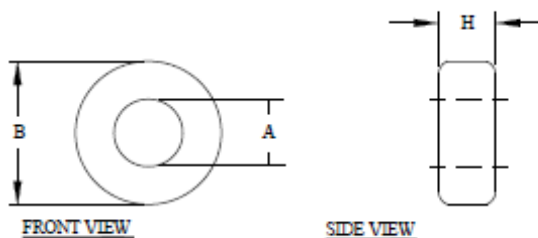
| REVISION HISTORY | | | | | | |
|------------------|-----|--------------------|-------------|---------|----|---------|
| REV | ECN | DESCRIPTION | SIGN & DATE | | | |
| | | | BY | DATE | AP | DATE |
| A | | Production release | EO | 1/21/13 | JL | 1/21/13 |

CN20-12-08G

Features:

- High Permeability (30-80K), high impedance Z and high insertion attenuation
- Suppresses the asymmetrical EMI currents
- High saturation Flux density can reduce over voltage peaks
- High Curie Temperature and excellent temperature characteristics

| Electrical Specifications | | | | |
|---------------------------|-------------------|---------------|-------|-------|
| Item | Units | Condition | Value | Tol. |
| A_L | nH/N ² | @ 1kHz, 200mV | 75360 | ± 25% |
| A_L | nH/N ² | @ 10kHz | 64560 | ± 25% |
| A_L | nH/N ² | @ 100kHz | 13720 | ± 25% |
| Permeability | μ_0 | @ 10 kHz | 70000 | ± 25% |
| A_w | cm ² | N/A | 0.32 | ± 10% |
| L_w | cm | N/A | 5.0 | ± 10% |
| Saturation Current | mA | @ 10 kHz | 10 | ± 20 |
| Saturation Flux Density | T | N/A | 1.2 | Max. |
| Curie temperature | °C | N/A | 580 | Nom. |



For additional detail, specifications and charts see:

- http://www.bytemark.com/products/comp_nanoc_cmchoke.html
- http://www.bytemark.com/products/Nanocrystalline_cores.html

| Dimensional Tolerances | | | | |
|------------------------|---------|-------|----|------|
| | in | tol. | mm | tol. |
| Core | | | | |
| B (Outer Diameter) | 0.79 | ±0.40 | 20 | ±1 |
| H (Height) | 0.31 | ±0.40 | 8 | ±1 |
| A (Inner Diameter) | 0.47 | ±0.40 | 12 | ±1 |
| Case | | | | |
| B (Outer Diameter) | 0.89 | ±0.40 | 23 | ±1 |
| H (Height) | 0.40 | ±0.40 | 10 | ±1 |
| A (Inner Diameter) | 0.39 | ±0.40 | 10 | ±1 |
| Weight | 11.00 g | | | |

| CODE IDENT | MFG. P/N | DESCRIPTION | REV. NO. |
|-------------|----------|---------------------|--------------------------------------|
| PARTS LIST | | | |
| ALTOCAD | X | www.coiwvs.com | CWSBYTEMARK |
| SOLIDWORKS | | www.cwsbytemark.com | 353 West Grove Ave. Orange, CA 92665 |
| DESIGN | EO | 1/21/13 | Nanocrystalline Core |
| DRAWN | JL | 1/21/13 | |
| ENGR. | JL | 1/21/13 | |
| APPR. | JL | 1/21/13 | |
| TITLE | | | REV. NO. |
| CN20-12-08G | | | A |
| SCALE | | | N/A |
| SHEET | | | 1 OF 1 |

Where to Purchase and see Toroid Core

<http://www.cwsbytemark.com>

NOTE: Wire material 18 Awg Insulated solid copper wire on all models !

| | | |
|------------------------------------|-------------------------------------|---------------------------------------|
| Low Band 530 khz to 830 khz | Mid Band 840 khz to 1270 khz | High Band 1280 khz to 1700 khz |
| L4 = 32 Turns 18 awg 9.3uh | L4 = 23 Turns 18 awg 6.1uh | L4 = 21 Turns 18 awg 5.5uh |
| L5 = 24 Turns 18 awg 5.8uh | L5 = 18 Turns 18 awg 3.8uh | L5 = 18 turns 18 awg 4.0uh |

INFORMATION FURNISHED BY

"RFB of K-Rocks"