

The information contained in this drawing is the sole property of Coil Winding Specialist Inc (CWS).
Any reproduction in part or whole without written permission of CWS is prohibited.

T80-10

Features

Highest frequency

Applies to high Q below 150 MHz, for utilization of band transformer range within 400-700 MHz

Electrical Specifications				
Item	Unit/Symbol	Condition	Value	Tol.
A _L	nH/N ²	Typ.	3.2	± 5%
L _e	cm	N/A	5.14	Typ.
A _e	cm ²	N/A	0.231	Typ.
V _e	cm ³	N/A	1.190	Typ.
Material Density	g/cm ³	N/A	4.9	Typ.
Permeability	μ ₀	N/A	6.0	± 5%
Temperature Stability	+ppm/°C	N/A	150	Typ.

Resonant Circuit (---) and Broadband Frequency Range (+++)										
Mix	Range (MHz)	2-50 KHz	50-250 KHz	250-500 KHz	500KHz-2MHz	2-10 MHz	10-40 MHz	40-150 MHz	150-250 MHz	250-500 MHz to 1GHz
42	0.3-80	-----								
3	0.02-1	-----								
8	0.02-1	-----					+++++			
1	0.15-3		-----					+++++		
15	0.15-3		-----							
2	0.25-10		-----							
7	1-25			-----						
4	3-40				-----					
6	3-40				-----			+++++		
10	15-100					-----			+++++	
17	20-200					-----				
12	30-250					-----				
0	50-350							-----	+++	++++

$$\text{Temperature Rise : } \Delta T(^{\circ}\text{C}) = \left[\frac{\text{Total Power Dissipation (milliwatts)}}{\text{Surface Area (cm}^2\text{)}} \right]^{0.833}$$

$$\text{Required turns} = \left[\frac{\text{desired L (nH)}}{A_L \left(\frac{\text{nH}}{\text{N}^2} \right)} \right]^{\frac{1}{2}}$$

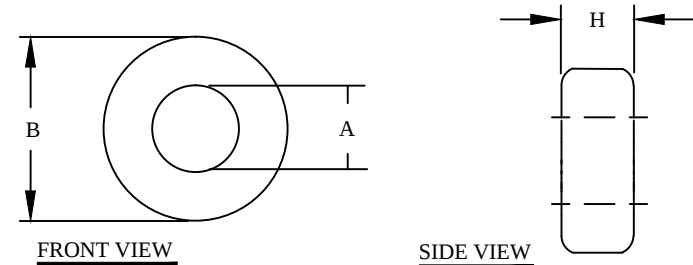
$$\text{Peak AC Flux Density: } B_{pk} = \frac{E_{avg} 10^8}{4ANf}$$

$$\text{Magnetizing Force: } H = \frac{0.4\pi NI}{\ell}$$

L = inductance
nH = nanohenries
H = oersteds (Oe)
N = Number of turns
I = Current (amperes)
ℓ = Mean Magnetic Path (cm)
A = Cross-sectional area (cm²)
f = frequency (hertz)
B_{pk} = Gauss (G)

UNLESS OTHERWISE SPECIFIED	
DIMENSIONING AND TOLERANCE PER ANSI Y14.5M	
ALL DIMENSIONS ARE IN INCHES AND [MILLIMETERS].	
TOLERANCE INCHES:	.XXX=±.005 .XX=±.015 <X=±0'30'
TOLERANCE METRICS:	.XXX=±.127 .XX=±.38 <X=±0'30'
ANGLE PROJECTION	
DO NOT SCALE DRAWING	

REVISION HISTORY					
REV	ECN	DESCRIPTION	SIGN & DATE		
			BY	DATE	AP. DATE
A		Production release	EO	3/7/13	JL 3/7/13



Case Dimensional Tolerances				
	in	tol.	mm	tol.
B (Outer Diameter)	0.795	0.020	20.20	0.51
A (Inner Diameter)	0.495	0.020	12.60	0.51
H (Height)	0.250	0.025	6.35	0.64
Weight 5.83 g				

For additional detail, specifications and charts see:

http://www.bytemark.com/products/IPCores_index.html

CODE IDENT	MFG. P/N	DESCRIPTION	ITEM NO.
PARTS LIST			
AUTOCAD	X	www.coilws.com www.cwsbytemark.com CWSBYTEMARK 353 West Grove Ave. Orange, CA. 92865 Iron Powder Core: Material Mix 10 (Carbonyl W), Black/Clear T80-10	
SOLIDWORKS			
DRAWN	EO		
CHECKED	JL		
ENGR.	JL		
APPR.	JL		
SCALE		N/A	SHEET 1 OF 1