



## **Ferrites and accessories**

Toroids  
R 58.3, R 63.0

**Series/Type:** B64290  
**Date:** September 2006

**R 58.3 × 32.0 × 18.0**
**B64290L0043**
**R 58.3 × 40.8 × 17.6**
**B64290L0040**

■ Epoxy coating

**R 58.3 × 32.0 × 18.0 (mm)**
**R 2.295 × 1.260 × 0.709 (inch)**
**Dimensions**

$d_a$ (mm)	$d_i$ (mm)	Height (mm)	$d_a$ (inch)	$d_i$ (inch)	Height (inch)	
$58.3 \pm 1.0$	$32.0 \pm 0.7$	$18.0 \pm 0.5$	$2.295 \pm 0.039$	$1.260 \pm 0.028$	$0.709 \pm 0.020$	uncoated <sup>1)</sup>
60.1 max.	30.5 min.	19.3 max.	2.366 max.	1.201 min.	0.760 max.	coated

**Characteristics and ordering codes**

Material	$A_L$ value nH	$\mu_i$ (approx.)	Ordering code	Magnetic characteristics				Approx. weight g
				$\Sigma I/A$ $\text{mm}^{-1}$	$l_e$ mm	$A_e$ $\text{mm}^2$	$V_e$ $\text{mm}^3$	
N87	$4800 \pm 25\%$	2200	B64290L0043X087	0.58	134.0	230.0	30710	160
N30	$9300 \pm 25\%$	4300	B64290L0043X830					
T37	$13000 \pm 25\%$	6000	B64290L0043X037					

■ Epoxy coating

**R 58.3 × 40.8 × 17.6 (mm)**
**R 2.295 × 1.606 × 0.693 (inch)**
**Dimensions**

$d_a$ (mm)	$d_i$ (mm)	Height (mm)	$d_a$ (inch)	$d_i$ (inch)	Height (inch)	
$58.3 \pm 1.0$	$40.8 \pm 0.8$	$17.6 \pm 0.4$	$2.295 \pm 0.039$	$1.606 \pm 0.031$	$0.693 \pm 0.016$	uncoated <sup>1)</sup>
60.1 max.	39.2 min.	18.8 max.	2.366 max.	1.543 min.	0.740 max.	coated

**Characteristics and ordering codes**

Material	$A_L$ value nH	$\mu_i$ (approx.)	Ordering code	Magnetic characteristics				Approx. weight g
				$\Sigma I/A$ $\text{mm}^{-1}$	$l_e$ mm	$A_e$ $\text{mm}^2$	$V_e$ $\text{mm}^3$	
N87	$2760 \pm 25\%$	2200	B64290L0040X087	1.00	152.4	152.4	23230	115
N30	$5400 \pm 25\%$	4300	B64290L0040X830					
T65	$6250 \pm 30\%$	5000	B64290L0040X065					
T37	$7160 \pm 25\%$	5700	B64290L0040X037					

1) On request

**R 58.3 × 40.8 × 20.2**
**B64290L0042**
**R 63.0 × 38.0 × 25.0**
**B64290L0699**

■ Epoxy coating

**R 58.3 × 40.8 × 20.2 (mm)**
**R 2.295 × 1.606 × 0.795 (inch)**
**Dimensions**

$d_a$ (mm)	$d_i$ (mm)	Height (mm)	$d_a$ (inch)	$d_i$ (inch)	Height (inch)	
58.3 ±1.0	40.8 ±0.8	20.2 ±0.5	2.295 ±0.039	1.606 ±0.031	0.795 ±0.020	uncoated <sup>1)</sup>
60.1 max.	39.2 min.	21.5 max.	2.366 max.	1.543 min.	0.846 max.	coated

**Characteristics and ordering codes**

Material	$A_L$ value nH	$\mu_i$ (approx.)	Ordering code	Magnetic characteristics				Approx. weight g
				$\Sigma I/A$ mm <sup>-1</sup>	$l_e$ mm	$A_e$ mm <sup>2</sup>	$V_e$ mm <sup>3</sup>	
N87	3200 ±25%	2200	B64290L0042X087	0.87	152.4	174.9	26660	130
N30	6200 ±25%	4300	B64290L0042X830					
T65	7200 ±30%	5000	B64290L0042X065					
T37	8000 ±25%	5600	B64290L0042X037					

■ Epoxy coating

**R 63.0 × 38.0 × 25.0 (mm)**
**R 2.480 × 1.496 × 0.984 (inch)**
**Dimensions**

$d_a$ (mm)	$d_i$ (mm)	Height (mm)	$d_a$ (inch)	$d_i$ (inch)	Height (inch)	
63.0 ±1.5	38.0 ±1.2	25.0 ±0.8	2.480 ±0.059	1.496 ±0.047	0.984 ±0.031	uncoated <sup>1)</sup>
65.3 max.	36.0 min.	26.6 max.	2.571 max.	1.417 min.	1.047 max.	coated

**Characteristics and ordering codes**

Material	$A_L$ value nH	$\mu_i$ (approx.)	Ordering code	Magnetic characteristics				Approx. weight g
				$\Sigma I/A$ mm <sup>-1</sup>	$l_e$ mm	$A_e$ mm <sup>2</sup>	$V_e$ mm <sup>3</sup>	
N87	5000 ±25%	2200	B64290L0699X087	0.50	152.1	305.9	46530	240
N30	10800 ±25%	4300	B64290L0699X830					
T65	12600 ±30%	5000	B64290L0699X065					
T37	13900 ±25%	5500	B64290L0699X037					

1) On request

### **Mechanical stress and mounting**

Ferrite cores have to meet mechanical requirements during assembling and for a growing number of applications. Since ferrites are ceramic materials one has to be aware of the special behavior under mechanical load.

As valid for any ceramic material, ferrite cores are brittle and sensitive to any shock, fast changing or tensile load. Especially high cooling rates under ultrasonic cleaning and high static or cyclic loads can cause cracks or failure of the ferrite cores.

For detailed information see Data Book 2007, chapter “General – Definitions, 8.1”.

### **Effects of core combination on $A_L$ value**

Stresses in the core affect not only the mechanical but also the magnetic properties. It is apparent that the initial permeability is dependent on the stress state of the core. The higher the stresses are in the core, the lower is the value for the initial permeability. Thus the embedding medium should have the greatest possible elasticity.

For detailed information see Data Book 2007, chapter “General – Definitions, 8.2”.

### **Heating up**

Ferrites can run hot during operation at higher flux densities and higher frequencies.

### **NiZn-materials**

The magnetic properties of NiZn-materials can change irreversible in high magnetic fields.

### **Processing notes**

- The start of the winding process should be soft. Else the flanges may be destroyed.
- To strong winding forces may blast the flanges or squeeze the tube that the cores can no more be mount.
- To long soldering time at high temperature (>300 °C) may effect coplanarity or pin arrangement.
- Not following the processing notes for soldering of the J-leg terminals may cause solderability problems at the transformer because of pollution with Sn oxyd of the tin bath or burned insulation of the wire. For detailed information see Data Book 2007, chapter “Processing notes, 2.2”.
- The dimensions of the hole arrangement have fixed values and should be understood as a recommendation for drilling the printed circuit board. For dimensioning the pins, the group of holes can only be seen under certain conditions, as they fit into the given hole arrangement. To avoid problems when mounting the transformer, the manufacturing tolerances for positioning the customers’ drilling process must be considered by increasing the hole diameter.

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