



## **Ferrites and accessories**

Toroids  
R 25.3, R 29.5

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

**R 25.3 × 14.8 × 10.0**
**B64290L0618**
**R 25.3 × 14.8 × 15.0**
**B64290L0615**

■ Epoxy coating

**R 25.3 × 14.8 × 10.0 (mm)**
**R 0.996 × 0.583 × 0.394 (inch)**

### Dimensions

$d_a$ (mm)	$d_i$ (mm)	Height (mm)	$d_a$ (inch)	$d_i$ (inch)	Height (inch)	
25.3 ±0.5	14.8 ±0.5	10.0 ±0.2	0.996 ±0.020	0.583 ±0.020	0.394 ±0.008	uncoated <sup>1)</sup>
26.6 max.	13.5 min.	11.0 max.	1.047 max.	0.531 min.	0.433 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	2360 ±25%	2200	B64290L0618X087	1.17	60.07	51.26	3079	16
N30	4620 ±25%	4300	B64290L0618X830					
T65	5350 ±30%	5000	B64290L0618X065					
T35	5400 ±25%	5000	B64290L0618X035					
T37	6970 ±25%	6500	B64290L0618X037					
T38	10700 ±30%	10000	B64290L0618X038					

■ Epoxy coating

**R 25.3 × 14.8 × 15.0 (mm)**
**R 0.996 × 0.583 × 0.590 (inch)**

### Dimensions

$d_a$ (mm)	$d_i$ (mm)	Height (mm)	$d_a$ (inch)	$d_i$ (inch)	Height (inch)	
25.3 ±0.5	14.8 ±0.5	15.0 ±0.4	0.996 ±0.020	0.583 ±0.020	0.590 ±0.016	uncoated <sup>1)</sup>
26.6 max.	13.5 min.	16.2 max.	1.047 max.	0.531 min.	0.638 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	3500 ±25%	2200	B64290L0615X087	0.78	60.07	76.89	4619	24
N30	6930 ±25%	4300	B64290L0615X830					
T65	8000 ±30%	5000	B64290L0615X065					
T37	10460 ±25%	6500	B64290L0615X037					
T38	16100 ±30%	10000	B64290L0615X038					

1) On request

**R 25.3 × 14.8 × 20.0**
**B64290L0616**
**R 29.5 × 19.0 × 14.9**
**B64290L0647**

■ Epoxy coating

**R 25.3 × 14.8 × 20.0 (mm)**
**R 0.996 × 0.583 × 0.787 (inch)**

### Dimensions

$d_a$ (mm)	$d_i$ (mm)	Height (mm)	$d_a$ (inch)	$d_i$ (inch)	Height (inch)	
25.3 ±0.5	14.8 ±0.5	20.0 ±0.5	0.996 ±0.020	0.583 ±0.020	0.787 ±0.020	uncoated <sup>1)</sup>
26.6 max.	13.5 min.	21.3 max.	1.047 max.	0.531 min.	0.839 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	4680 ±25%	2200	B64290L0616X087	0.59	60.07	102.5	6157	33
N30	9160 ±25%	4300	B64290L0616X830					
T65	10600 ±30%	5000	B64290L0616X065					
T35	10700 ±25%	5000	B64290L0616X035					
T37	13800 ±25%	6400	B64290L0616X037					
T38	21300 ±30%	10000	B64290L0616X038					

■ Epoxy coating

**R 29.5 × 19.0 × 14.9 (mm)**
**R 1.142 × 0.748 × 0.587 (inch)**

### Dimensions

$d_a$ (mm)	$d_i$ (mm)	Height (mm)	$d_a$ (inch)	$d_i$ (inch)	Height (inch)	
29.5 ±0.7	19.0 ±0.5	14.9 ±0.4	1.142 ±0.028	0.748 ±0.020	0.587 ±0.016	uncoated <sup>1)</sup>
31.0 max.	17.7 min.	16.1 max.	1.220 max.	0.697 min.	0.634 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	2880 ±25%	2200	B64290L0647X087	0.96	73.78	76.98	5680	27
N30	5630 ±25%	4300	B64290L0647X830					
T65	6800 ±30%	5200	B64290L0647X065					
T37	8500 ±25%	6500	B64290L0647X037					
T38	13100 ±30%	10000	B64290L0647X038					

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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