

Ferrite ring cores (toroids)

TN9/6/3

RING CORES (TOROIDS)

Effective core parameters

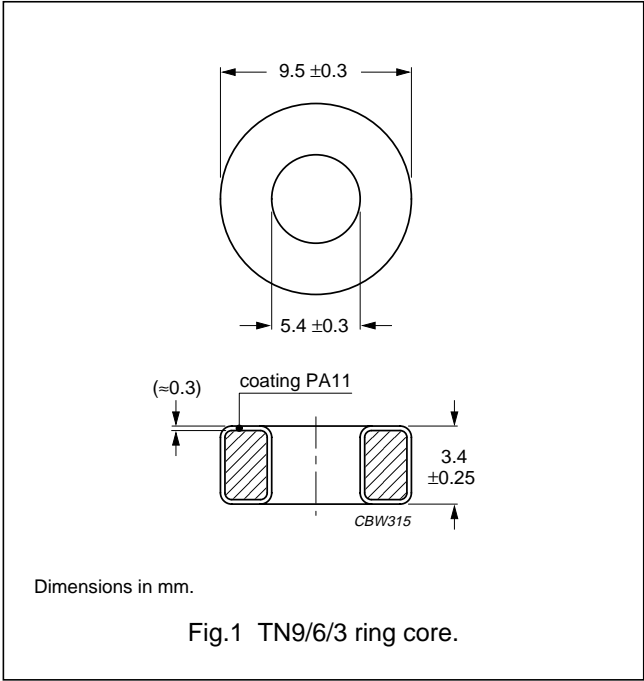
SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(l/A)$	core factor (C1)	5.17	$\text{mm}^{-1}$
$V_e$	effective volume	102	$\text{mm}^3$
$l_e$	effective length	22.9	mm
$A_e$	effective area	4.44	$\text{mm}^2$
m	mass of core	$\approx 0.5$	g

Coating

The cores are coated with polyamide 11 (PA11), flame retardant in accordance with “UL 94V-2”; UL file number E 45228 (M).

Isolation voltage

DC isolation voltage: 1000 V.  
Contacts are applied on the edge of the ring core, which is also the critical point for the winding operation.



Ring core data

GRADE	$A_L$ (nH)	$\mu_i$	COLOUR CODE	TYPE NUMBER
4C65	$30 \pm 25\%$	$\approx 125$	violet	TN9/6/3-4C65
4A11 <sup>sup</sup>	$170 \pm 25\%$	$\approx 700$	pink	TN9/6/3-4A11
3R1 <sup>(1)</sup> <sup>sup</sup>	—	$\approx 800$	black	TN9/6/3-3R1
3F3	$440 \pm 25\%$	$\approx 1800$	blue	TN9/6/3-3F3
3C90 <sup>sup</sup>	$560 \pm 25\%$	$\approx 2300$	ultramarine	TN9/6/3-3C90
3E25	$1340 \pm 30\%$	$\approx 5500$	orange	TN9/6/3-3E25
3E5 <sup>(2)</sup>	$2070 \pm 30\%$	$\approx 8500$	yellow/white	TL9/6/3-3E5
3E6 <sup>(3)</sup> <sup>des</sup>	$2435 \pm 30\%$	$\approx 10000$	—	TC9/6/3-3E6

Notes

- 1. Due to the rectangular BH-loop of 3R1, inductance values strongly depend on the magnetic state of the ring core and measuring conditions. Therefore no  $A_L$  value is specified. For the application in magnetic amplifiers  $A_L$  is not a critical parameter.
- 2. Ring cores in 3E5 are lacquered (polyurethane) and have different dimensions:  
Outside diameter =  $9.3 \pm 0.4$  mm; inside diameter =  $5.75 \pm 0.3$  mm; height =  $3.25 \pm 0.3$  mm; flame retardant in accordance with “UL 94V-2”; UL file number E 192048.
- 3. Ring cores in 3E6 are coated with parylene C and have different dimensions:  
Outside diameter =  $9.0 \pm 0.2$  mm; inside diameter =  $6.0 \pm 0.2$  mm; height =  $3.0 \pm 0.15$  mm.

WARNING

Do not use grade 3R1 cores close to their mechanical resonant frequency. For more information refer to “3R1” material specification in this data handbook.

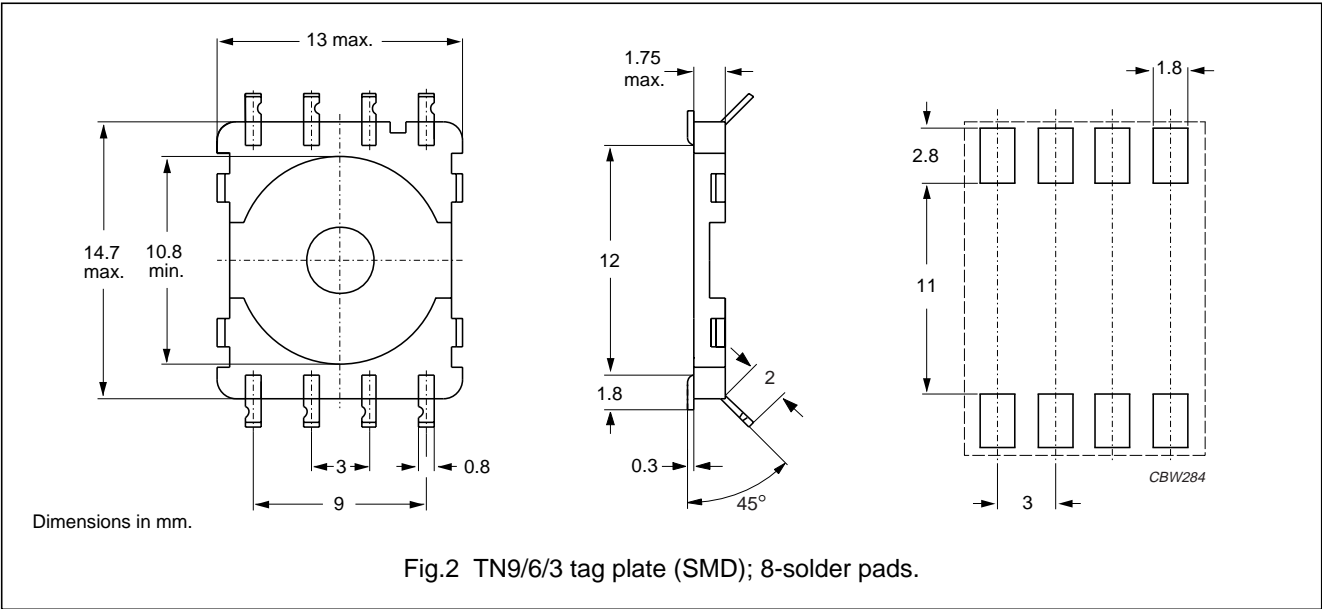
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Tag plate

General data

PARAMETER	SPECIFICATION
Tag plate material	liquid crystal polymer (LCP), glass reinforced, flame retardant in accordance with "UL 94V-0"; UL file number E83005 (M)
Solder pad material	copper-tin alloy (CuSn), tin-lead alloy (SnPb) plated
Maximum operating temperature	155 °C, "IEC 85" class F
Resistance to soldering heat	"IEC 60068-2-20", Part 2, Test Tb, method 1B: 350 °C, 3.5 s
Solderability	"IEC 60068-2-20", Part 2, Test Ta, method 1: 235 °C, 2 s



Type number informationfor TN9/6/3 tag plate (SMD) with 8 solder pads

NUMBER OF SOLDER PADS	TYPE NUMBER
8	TGPS9

Cover data

PARAMETER	SPECIFICATION
Cover material	polyamide (PA4.6) glass reinforced, flame retardant in accordance with "UL 94V-0"
Maximum operating temperature	130 °C, "IEC 60085" class B
Type number	COV9

