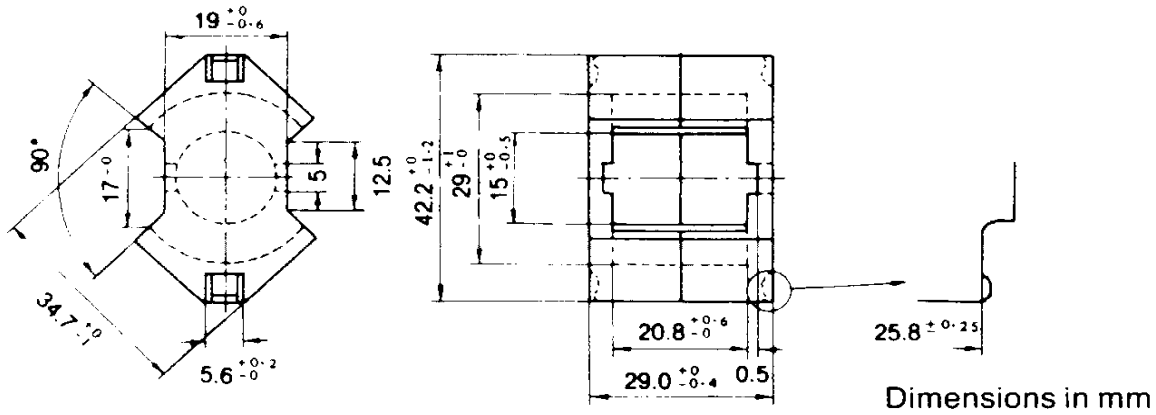


# TDK RM Cores RM14

Based on IEC publication 431, DIN 41980 and JIS C 2516.



## Parameter

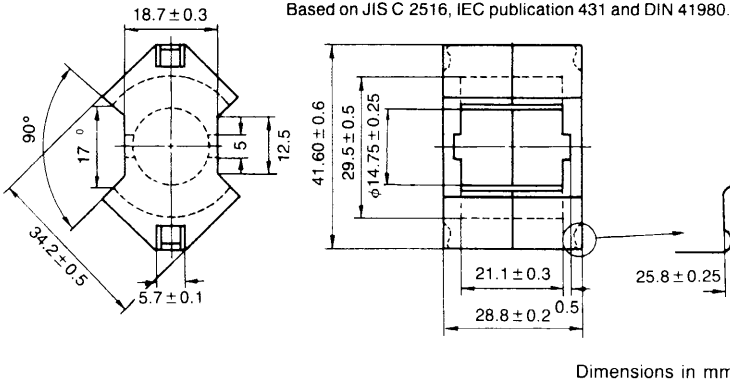
			With center hole	Without center hole
<b>Core factor</b>	$C_1$	mm <sup>-1</sup>	0.39	0.37
<b>Effective magnetic path length</b>	$\ell_e$	mm	70	69
<b>Effective cross-section area</b>	$A_e$	mm <sup>2</sup>	178	188
<b>Effective volume</b>	$V_e$	mm <sup>3</sup>	12400	13000
<b>Cross-sectional center pole area</b>	$A_{cp}$	mm <sup>2</sup>	146	171
<b>Minimum cross-sectional area</b>	$A_{cp \text{ min.}}$	mm <sup>2</sup>	140	165
<b>Cross-sectional winding area of core</b>	$A_{cw}$	mm <sup>2</sup>	150	156
<b>Weight (approx.)</b>		g	65	70

Ordering Code	Al-Value (nH/N <sup>2</sup> )	Effective Permeability ( $\mu_e$ )
Without Air Gap PC40RM14Z-12	4600 min	1354
With Air Gap PC40RM14A160-22	160±3%	47
PC40RM14A250-22	250±3%	74
PC40RM14A400-22	400±3%	118

Measuring Conditions:

N=100T, Frequency=1KHz, Level=0.5mA  
H5C3/H5C4:100T, 10KHz, 10mV

# RM 14 Cores



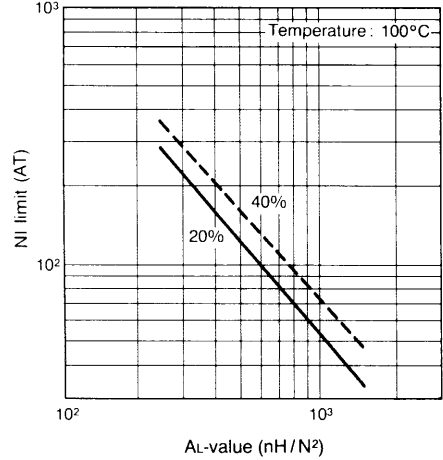
Parameter			
Core constant	$C_1$	$\text{mm}^{-1}$	0.37
Effective magnetic path length	$l_e$	mm	69
Effective cross-sectional area	$A_e$	$\text{mm}^2$	188
Effective core volume	$V_e$	$\text{mm}^3$	13000
Cross-sectional center pole area	$A_{cp}$	$\text{mm}^2$	170
Minimum cross-sectional center pole area	$A_{cp \text{ min.}}$	$\text{mm}^2$	165
Cross-sectional winding area of core	$A_{cw}$	$\text{mm}^2$	155
Weight (approx.)	$g$		70

Dimensions in mm

Part No.	AL-value ( $\text{nH}/\text{N}^2$ )	Core loss (W) at 100°C 100 kHz, 200 mT	Calculated output power (forward converter mode)
<b>PC40RM14Z-12</b>	4600 min. (1 kHz, 0.5 mA)* 9670 min. (100 kHz, 200 mT)	4.75 max.	376 W (100 kHz)

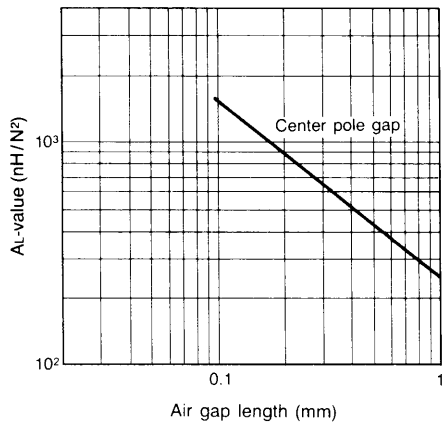
\* Coil:  $\phi 0.4$  2UEW 100Ts

NI limit vs. AL-value for PC40RM14 gapped core (Typical)



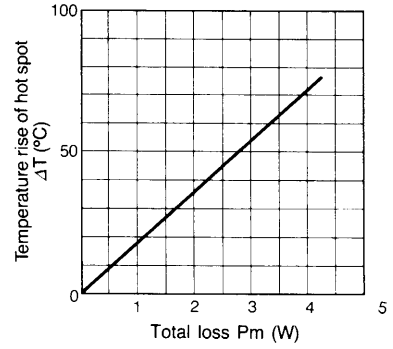
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

AL-value vs. Air gap length for PC40RM14 core (Typical)



Measuring conditions • Coil:  $\phi 0.4$  2UEW 100Ts  
• Frequency: 1 kHz  
• Level: 0.5 mA

Temperature rise vs. Total loss for RM14 core (Typical) (Ambient temperature: 25°C)



Note: The temperature rise is measured in the room whose temperature and humidity are fixed to 25°C and 45% RH, respectively. (approx. 400 × 300 × 300 cm)

