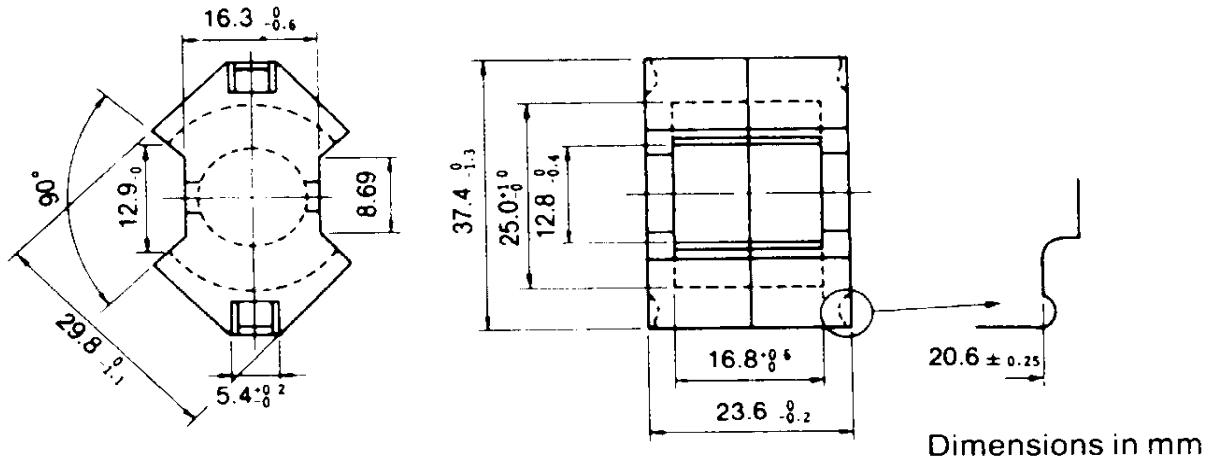


TDK RM Cores RM12



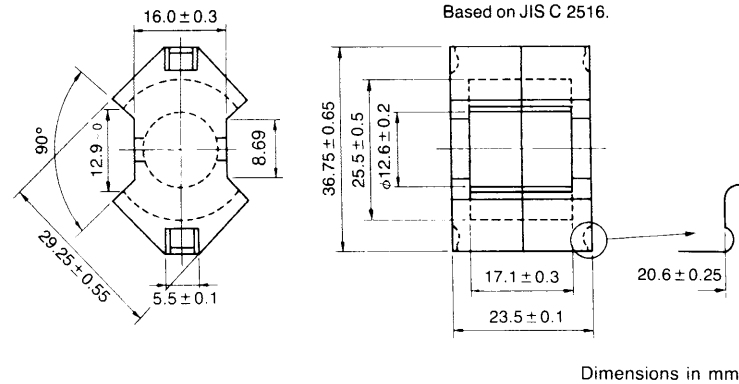
Parameter

Core factor	C_1	mm^{-1}	0.40
Effective magnetic path length	l_e	mm	56.9
Effective cross-section area	A_e	mm^2	140
Effective volume	V_e	mm^3	7960
Cross-sectional center pole area	A_{cp}	mm^2	125
Minimum cross-sectional area	$A_{cp \text{ min.}}$	mm^2	121
Cross-sectional winding area of core	A_{cw}	mm^2	109
Weight (approx.)		g	42

Ordering Code	Al-Value (nH/N ²)	Effective Permeability (μ_e)
Without Air Gap PC40RM12Z-12	4150 min	1321
With Air Gap PC40RM12A160-22	160±3%	51
PC40RM12A250-22	250±3%	80
PC40RM12A400-22	400±3%	127

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

RM12 Cores



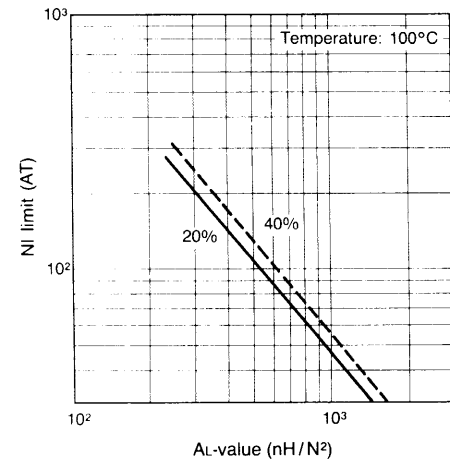
Parameter

Core constant	C_1	mm^{-1}	0.40
Effective magnetic path length	l_e	mm	56.9
Effective cross-sectional area	A_e	mm^2	140
Effective core volume	V_e	mm^3	7960
Cross-sectional center pole area	A_{cp}	mm^2	124
Minimum cross-sectional center pole area	$A_{cp \text{ min.}}$	mm^2	120
Cross-sectional winding area of core	A_{cw}	mm^2	110
Weight (approx.)		g	42

Part No.	AL-value (nH/N^2)	Core loss (W) at 100°C	
		100 kHz, 200 mT	Calculated output power (forward converter mode)
PC40RM12Z-12	4150 min. (1 kHz, 0.5 mA)* 9420 min. (100 kHz, 200 mT)	3.3 max.	344 W (100 kHz)

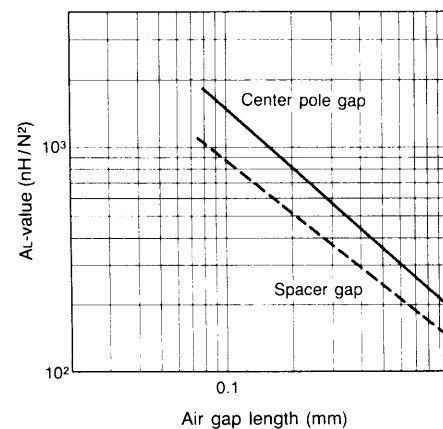
* Coil: $\phi 0.4$ 2UEW 100Ts

NI limit vs. AL-value for PC40RM12 gapped core (Typical)



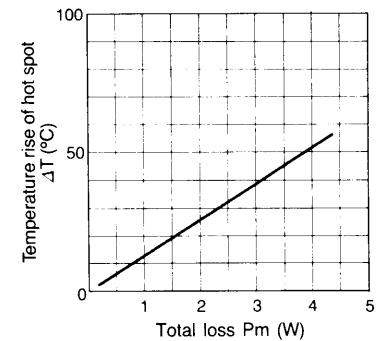
Note: NI limit shows the point where the exciting current is 20% and 40% away from its extended linear part.

AL-value vs. Air gap length for PC40RM12 core (Typical)



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

Temperature rise vs. Total loss for RM12 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)

