Edge™

Material Property Curves

- DC Magnetization Curves
- Core Loss Density Curves
- Permeability versus Temperature Curves
- Permeability versus DC Bias Curves
- Permeability versus Frequency Curves
- Permeability versus AC Flux Curves
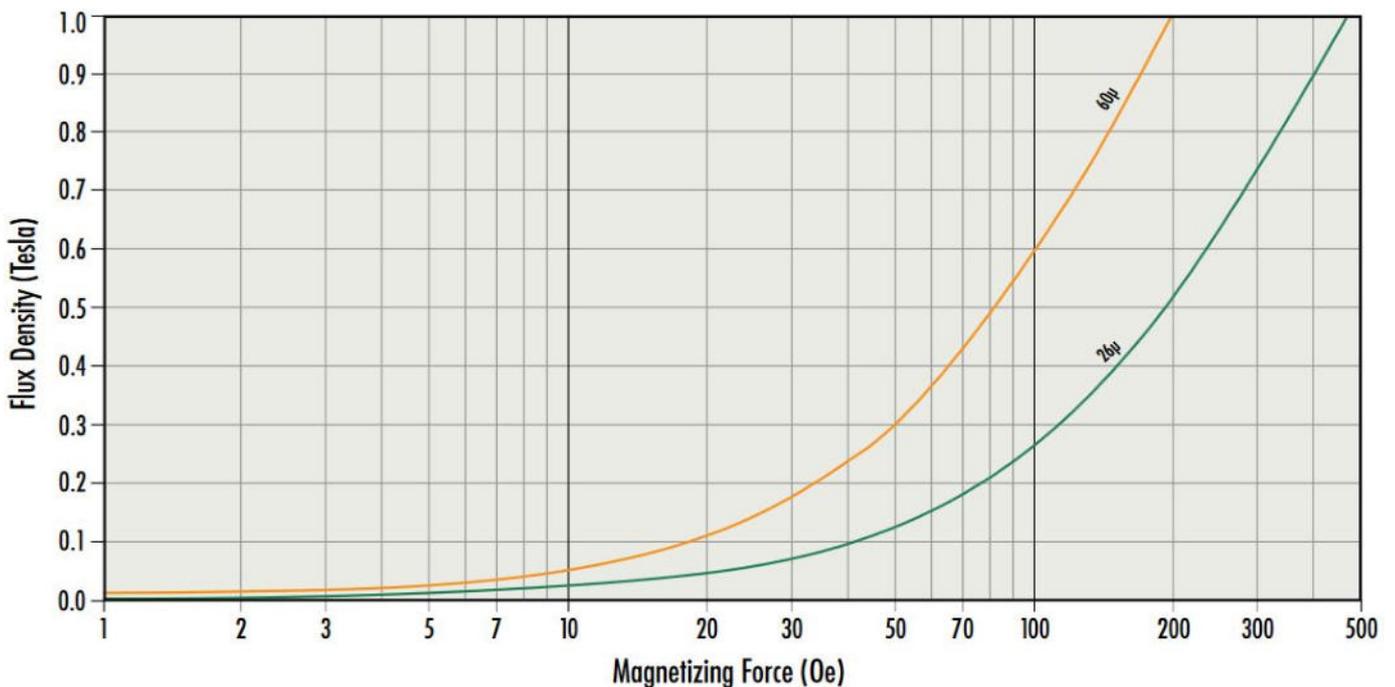- Core Selection Chart

DC Magnetization Curves

Fit Formula

$$B = \left[\frac{a + bH + cH^2}{1 + dH + eH^2} \right]^x \quad \text{where } B = \text{Tesla (T)}, H = \text{Oersteds (Oe)}$$

	Perm	a	b	c	d	e	x
Edge™ Toroids	26µ	4.247E-02	2.153E-02	6.192E-04	1.157E-01	4.154E-04	1.951
	60µ	4.753E-02	1.352E-02	7.586E-04	7.251E-02	4.368E-04	1.538

Edge™ Toroids

Core Loss Density Curves

Fit Formula

$P = aB^b f^c$ where B = Tesla (T), f = kilohertz (kHz)

	Perm	a	b	c
Edge™ Toroids	26µ	278.59	2.218	1.236
	60µ	181.15	2.218	1.267

Edge™ Toroids 26µ
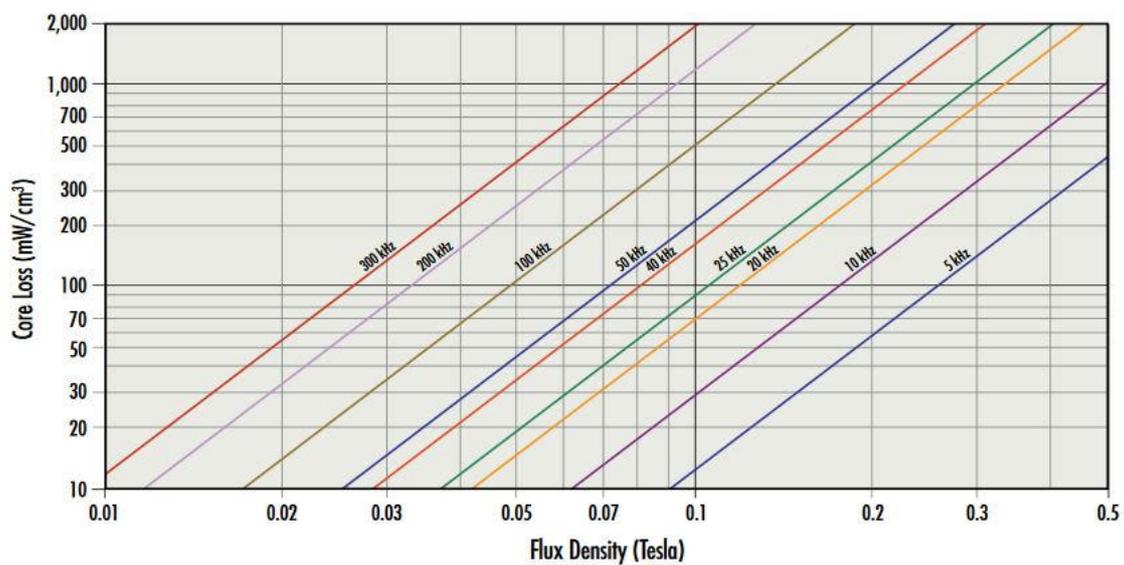
Edge™ Toroids 60µ
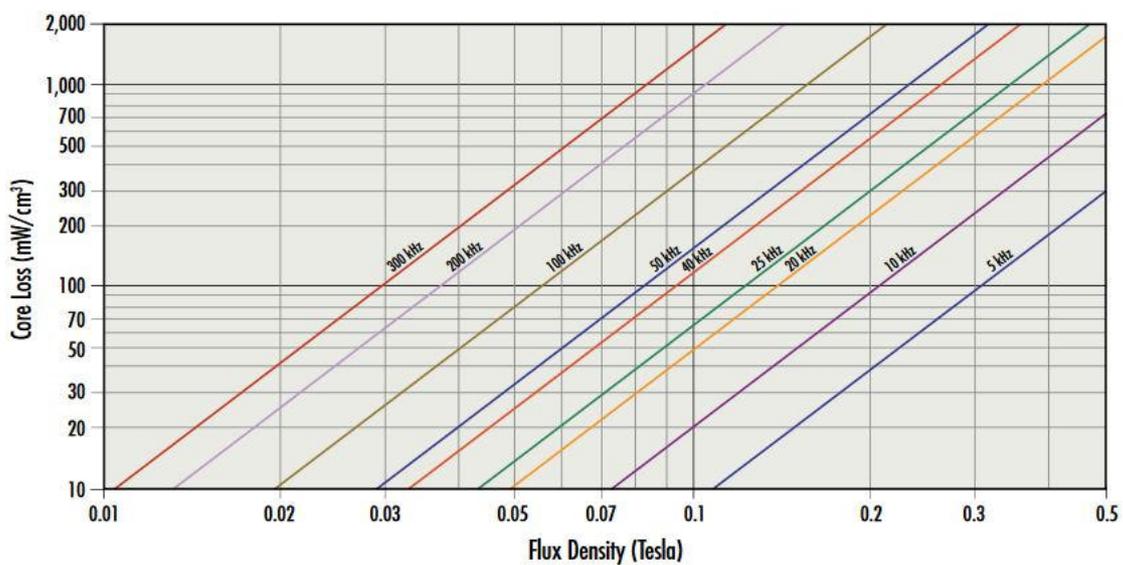
Permeability versus Temperature Curves
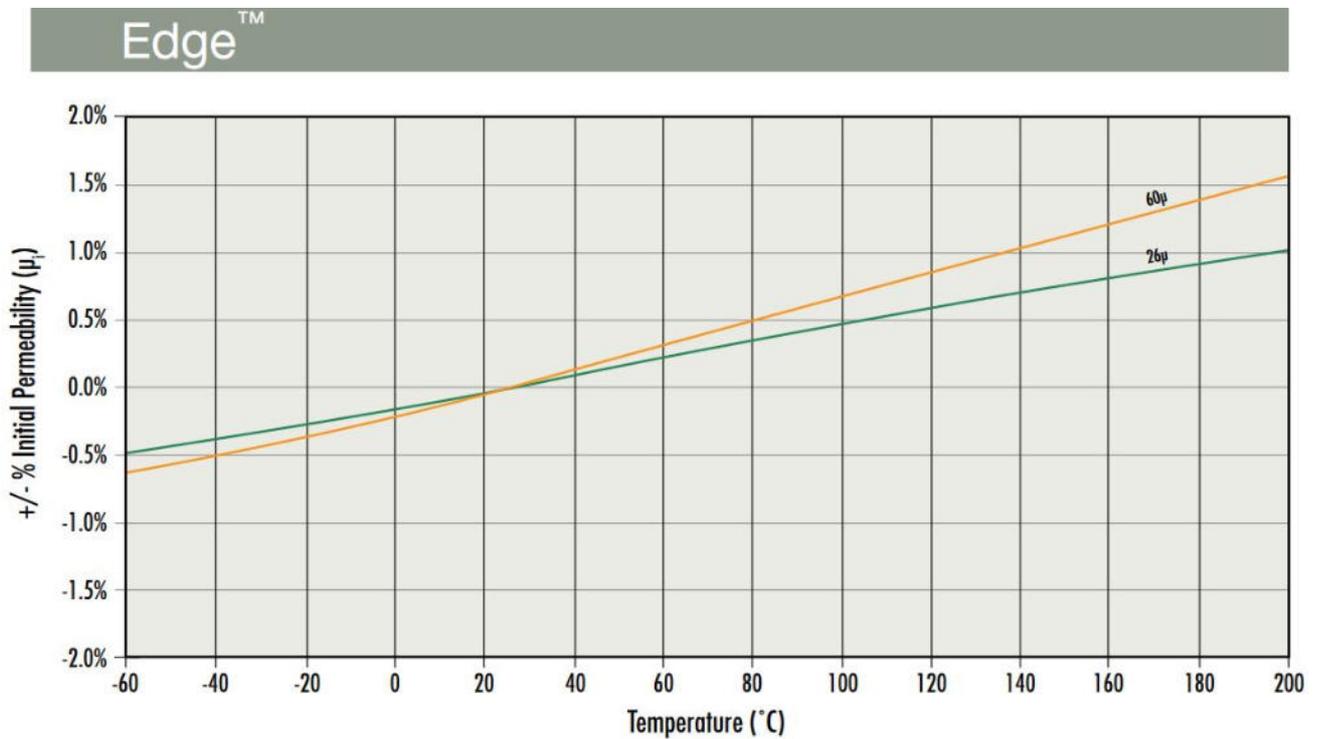
Edge™

Fit Formula

Change compared with $\mu_{25°C} = \dfrac{\mu_T - \mu_{25°C}}{\mu_{25°C}} = a + bT + cT^2 + dT^3 + eT^4$

	Perm	a	b	c	d	e
Edge™	26μ	-1.532E-03	6.054E-05	7.220E-08	-6.624E-10	1.250E-12
	60μ	-2.134E-03	8.192E-05	1.643E-07	-1.242E-09	2.938E-12

Permeability versus DC Bias Formula

Fit Formula

$$\% \text{ initial permeability} = \frac{1}{(a + bH^c)} \quad \text{where H is Oersteds (Oe)}$$

	Perm	a	b	c
Edge™ Toroids	26μ	0.01	3.646E-11	3.192
	60μ	0.01	9.202E-10	3.044

Permeability versus Frequency Curves

Edge™
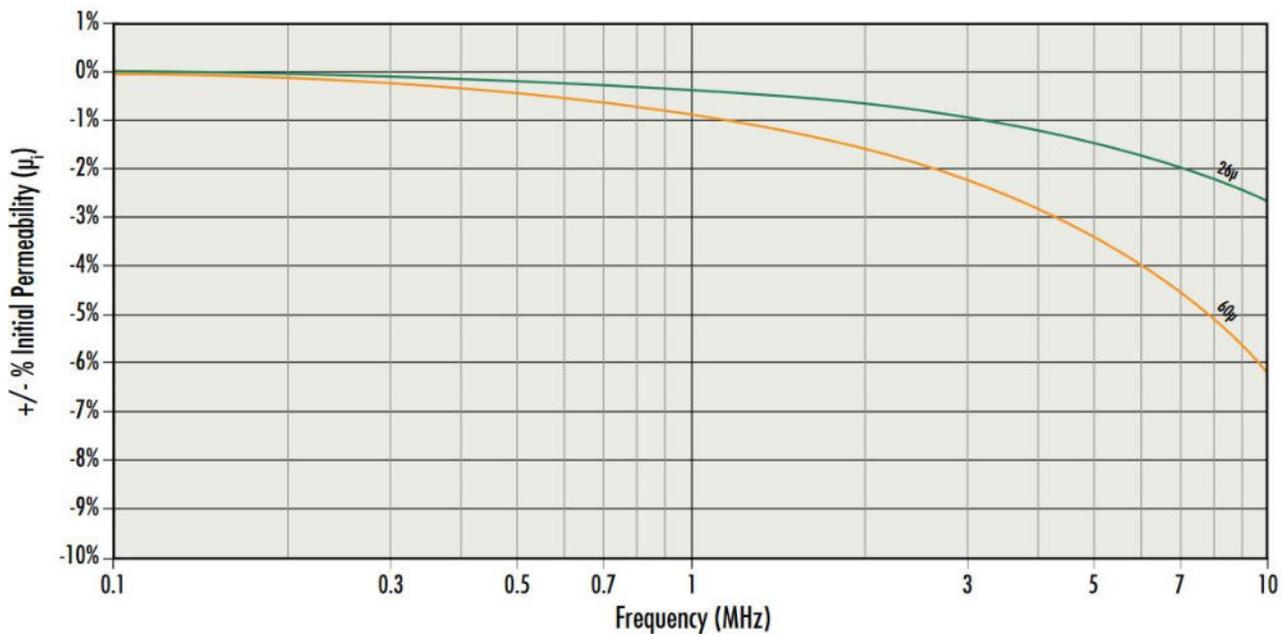
Fit Formula

$$\pm\,\%\mu_i = a + bf + cf^2 + df^3 + ef^4 \quad \text{where } f = \text{megahertz (MHz)}$$

	Perm	a	b	c	d	e
Edge™	26µ	0	-4.484E-03	3.175E-04	-1.379E-05	0
	60µ	0	-1.035E-02	7.327E-04	-3.182E-05	0

Permeability versus AC Flux Curves
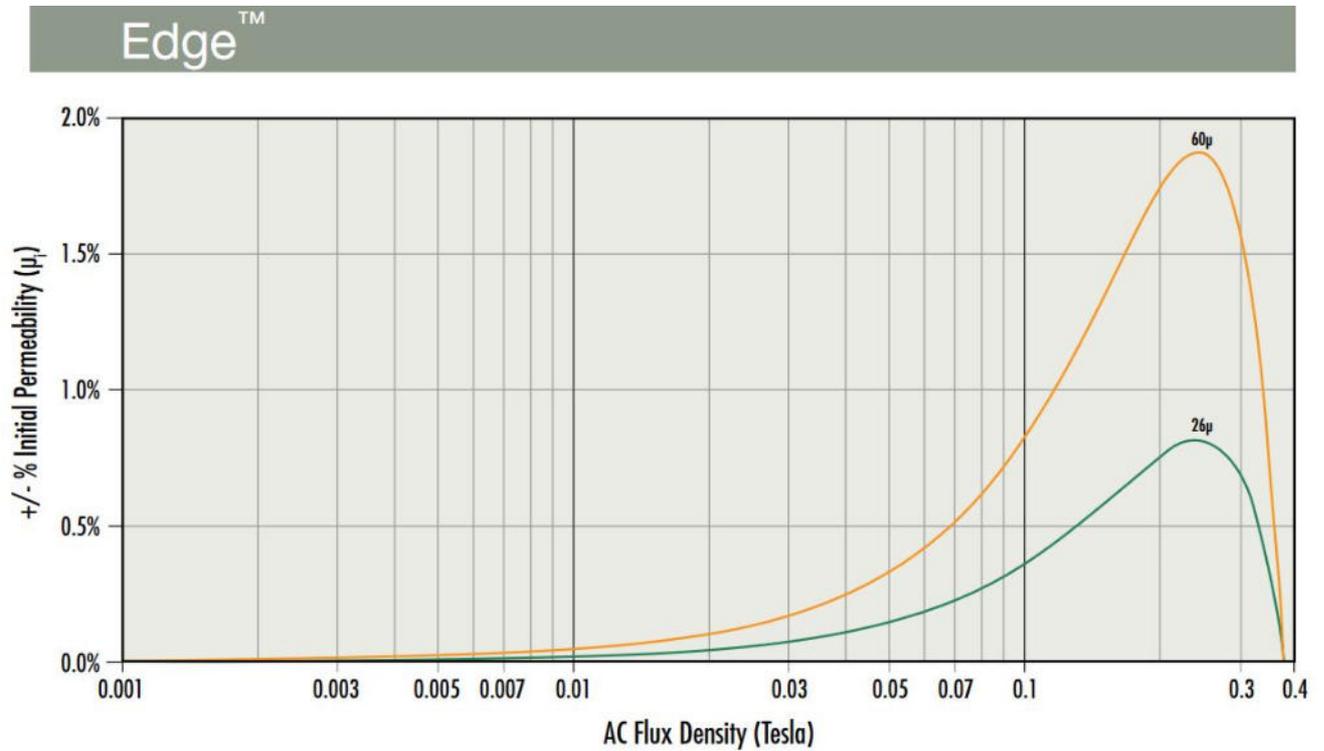
Edge™

Fit Formula

$$\pm\,\%\mu_i = (a + bB + cB^2 + dB^3 + eB^4) \quad \text{where B is Tesla}$$

	Perm	a	b	c	d	e
Edge™	26μ	0	1.647E-02	2.767E-01	-8.511E-01	9.325E-08
	60μ	0	3.801E-02	6.385E-01	-1.964E+00	2.152E-07

Core selection charts

Edge™ Toroids

- 59076 p. 111
- 59071 p. 109
- 59351 p. 107
- 59848 p. 105
- 59381 p. 104

- 59083 p. 112
- 59586 p. 110
- 59894 p. 108
- 59059 p. 106
- 59121 p. 103
- 59051 p. 102

Catalog Part Number

60µ

LI^2 (mH·A^2)