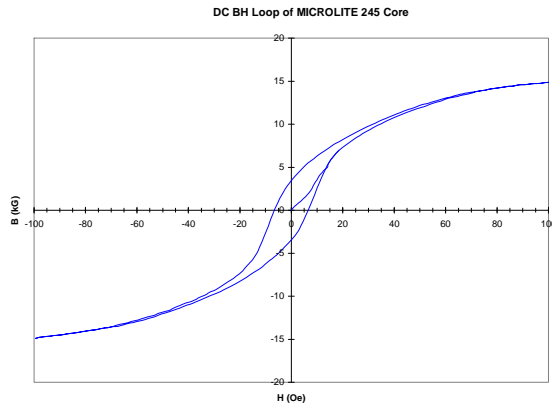


MICROLITE<sup>®</sup> Toroidal Cores are manufactured with Metglas<sup>®</sup> amorphous alloy 2605SA1 ribbon. Their unique combination of high saturation flux density and low loss make them the first choice for all energy storage applications, enabling the designer to achieve both size and system cost reduction.



**Applications**

- SMPS output inductors
- Flyback transformers
- Differential input inductors
- PVC inductors
- VRM inductors

**Benefits**

- High saturated flux density
- Significant size reduction
- Low core loss
- Extended bias capability
- Fewer turns due to higher permeability

**Physical Properties Metglas MICROLITE XP Cores**

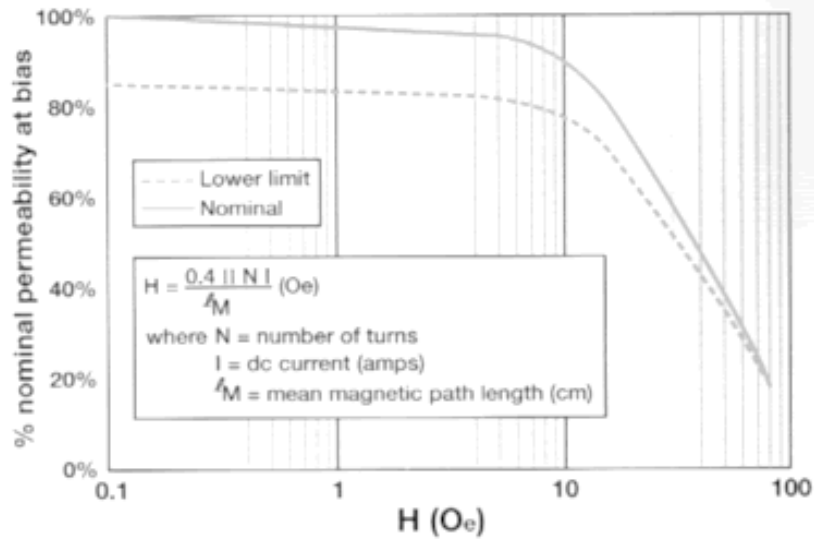
Ribbon Thickness (µm) . . . . .	.23
Density (g/cm <sup>3</sup> ) . . . . .	7.18
Thermal Expansion (ppm/°C) . . . . .	7.6
Crystallization Temperature (°C) . . . . .	508
Curie Temperature (°C) . . . . .	399
Continuous Service Temperature (°C) . . . . .	150

**Magnetic Properties Metglas MICROLITE XP Cores**

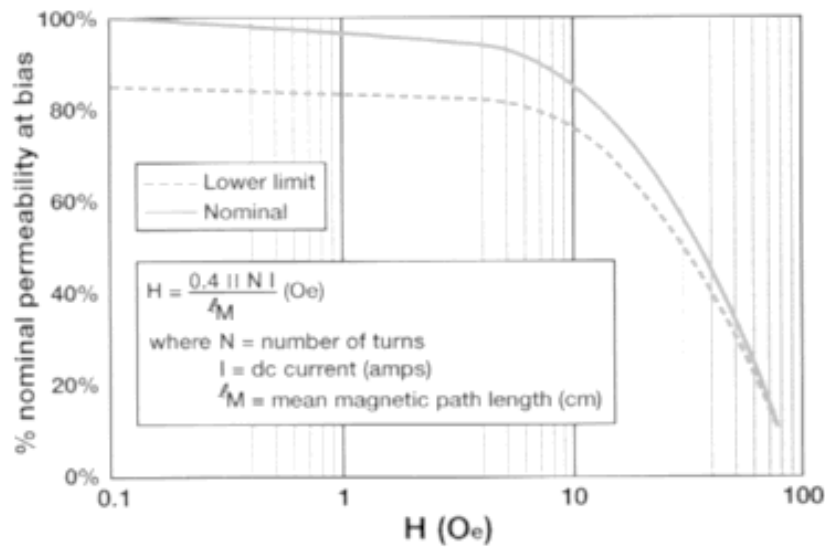
Saturation Flux Density (T) . . . . .	1.56
Permeability (depending on core size) . . . . .	.245/270

**Percent Permeability vs. DC Bias @ 25°C**

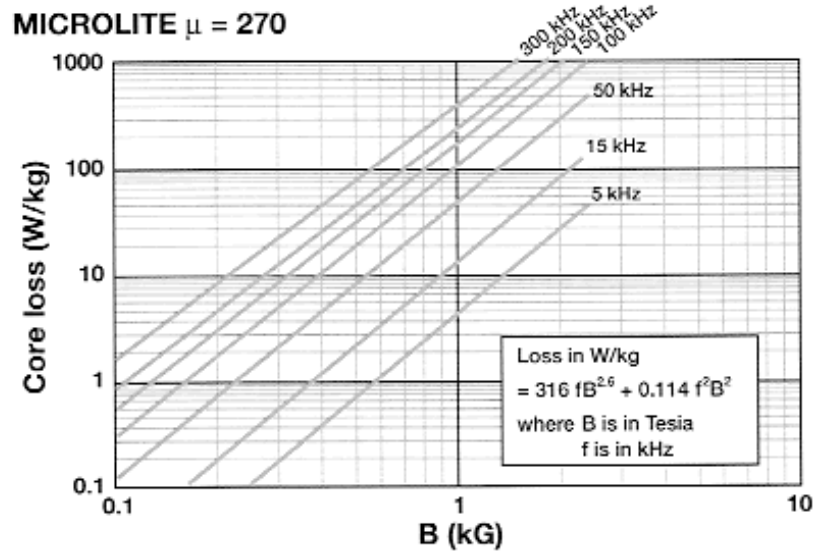
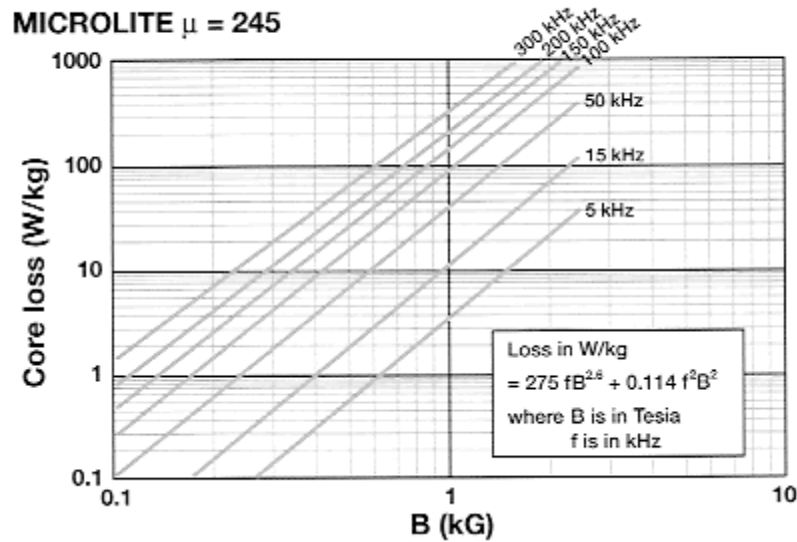
MICROLITE  $\mu = 245$



MICROLITE  $\mu = 270$

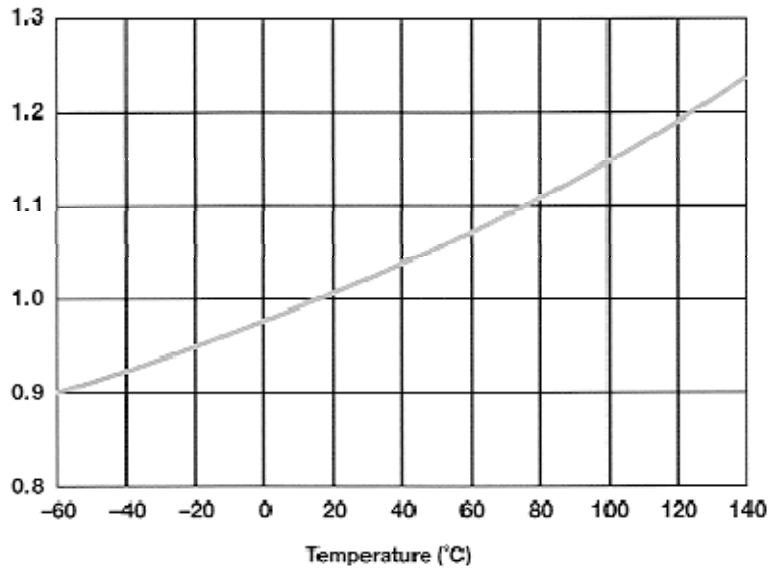


**Core Loss vs. Flux Density @ 25°C**

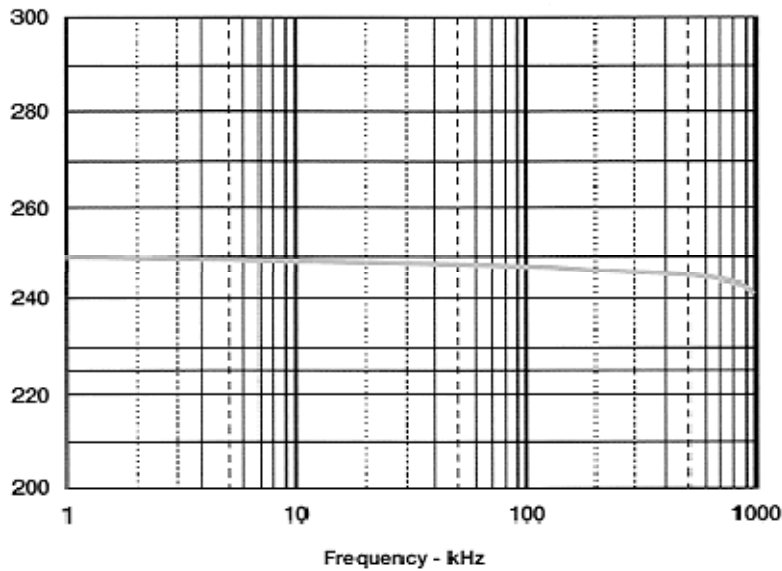


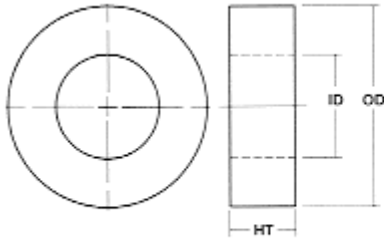
### Temperature Dependence of Inductance

MICROLITE  $\mu = 245$



### Permeability vs. Frequency





**Ordering Information**

Example:  
**MP1710XDGC**

METGLAS Products ——— Distributed Gap Core  
 Outside Diameter (OD) ———  
 Height (HT) ———

Case Material					
Box Type (X)	DuPont Material	UL File No.	Flam. Rating UL 94	Elec. Rel. Temp. Rec. Index (UL746B) Temp.	
P	Zyrel® 7DG33L	E41938	HB	120	
L	Zyrel® FR50	E41938	V-0	130	
V	Rynite® FR530L	E68578	V-0	150	
M	Epoxy FR534SD	E206123	—	Class B, F	

Encapsulated cores are available upon request.

MICROLITE® Toroidal Cores											
Core No.	CORE DIMENSION			Performance Parameters							
	O.D. Max (mm)	I.D. Min (mm)	Ht. Max (mm)	Im (cm)	A <sub>c</sub> (cm <sup>2</sup> )	Vol (cm <sup>3</sup> )	W <sub>a</sub> (cm <sup>2</sup> )	W <sub>a</sub> A <sub>c</sub> (cm <sup>4</sup> )	Initial Perm	A <sub>L</sub> * (nH/N <sup>2</sup> )	
MP0803MDGC	8.712	4.466	4.699	1.98	0.036	0.071	0.157	0.006	270	61.35	
MP0903MDGC	9.498	4.466	4.699	2.10	0.046	0.097	0.157	0.007	270	74.86	
MP1005MDGC	11.318	4.466	6.121	2.40	0.102	0.245	0.157	0.016	270	144.11	
MP1105MDGC	12.188	6.066	6.287	2.80	0.096	0.270	0.289	0.028	270	116.49	
MP1205MDGC	13.659	7.463	6.287	3.22	0.093	0.298	0.437	0.041	270	97.71	
MP1306MDGC	14.675	7.463	7.874	3.37	0.151	0.509	0.437	0.066	245	137.75	
MP1603MDGC	17.031	8.987	4.699	3.98	0.087	0.345	0.634	0.055	270	73.91	
MP1710MDGC	18.680	12.162	11.049	4.74	0.198	0.938	1.162	0.230	245	128.51	
MP2010MDGC	21.248	12.162	11.049	5.13	0.300	1.538	1.162	0.348	245	180.12	
MP2310MDGC	24.354	12.162	11.049	5.60	0.425	2.382	1.162	0.494	245	233.68	
MP2505MDGC	26.682	18.512	6.287	7.01	0.135	0.944	2.692	0.363	245	59.20	
MP2510MDGC	26.840	18.512	11.049	7.01	0.269	1.888	2.692	0.725	245	118.39	
MP2610MDGC	26.919	15.972	11.049	6.61	0.375	2.475	2.004	0.751	245	174.58	
MP3210MDGC	33.572	21.687	11.049	8.54	0.411	3.515	3.694	1.520	245	148.31	
MP3310MDGC	34.061	14.702	11.049	7.49	0.712	5.336	1.698	1.210	245	292.91	
MP3505MDGC	36.395	21.687	6.287	8.97	0.262	2.350	3.694	0.968	245	89.95	
MP3510MDGC	36.516	18.512	11.049	8.48	0.658	5.577	2.692	1.770	245	238.85	
MP3710MDGC	38.499	21.687	11.049	9.29	0.609	5.662	3.694	2.251	245	201.89	
MP4010MDGC	41.578	21.687	11.049	9.76	0.732	7.148	3.694	2.706	245	231.08	
MP4510MDGC	46.733	21.687	11.049	10.55	0.940	9.910	3.694	3.472	245	274.39	

MICROLITE® Toroidal Cores										
Core No.	CORE DIMENSION			Performance Parameters						
	O.D.Max (mm)	I.D.Min (mm)	Ht. Max (mm)	lm (cm)	A <sub>c</sub> (cm <sup>2</sup> )	Vol (cm <sup>3</sup> )	W <sub>a</sub> (cm <sup>2</sup> )	W <sub>a</sub> A <sub>c</sub> (cm <sup>4</sup> )	Initial Perm	A <sub>L</sub> * (nH/N <sup>2</sup> )
MP0903LDGC	9.957	3.988	4.521	2.10	0.046	0.097	0.125	0.006	270	74.86
MP0903PDGC	9.957	3.988	4.521	2.10	0.046	0.097	0.125	0.006	270	74.86
MP0903VDGC	9.957	3.988	4.521	2.10	0.046	0.097	0.125	0.006	270	74.86
MP1306LDGC	15.798	6.172	8.128	3.37	0.151	0.509	0.299	0.045	245	137.75
MP1306PDGC	15.798	6.172	8.128	3.37	0.151	0.509	0.299	0.045	245	137.75
MP1306VDGC	15.798	6.172	8.128	3.37	0.151	0.509	0.299	0.045	245	137.75
MP1603LDGC	18.237	7.874	4.698	3.98	0.087	0.345	0.487	0.042	270	73.91
MP1603PDGC	18.237	7.874	4.698	3.98	0.087	0.345	0.487	0.042	270	73.91
MP1603VDGC	18.237	7.874	4.698	3.98	0.087	0.345	0.487	0.042	270	73.91
MP1710LDGC	20.218	10.871	11.429	4.74	0.198	0.938	0.928	0.184	245	128.51
MP1710PDGC	20.218	10.871	11.429	4.74	0.198	0.938	0.928	0.184	245	128.51
MP1710VDGC	20.218	10.871	11.429	4.74	0.198	0.938	0.928	0.184	245	128.51
MP2010LDGC	22.784	10.871	11.429	5.13	0.300	1.538	0.928	0.278	245	180.12
MP2010PDGC	22.784	10.871	11.429	5.13	0.300	1.538	0.928	0.278	245	180.12
MP2010VDGC	22.784	10.871	11.429	5.13	0.300	1.538	0.928	0.278	245	180.12
MP2310LDGC	25.908	10.795	11.481	5.60	0.425	2.382	0.915	0.389	245	233.68
MP2310PDGC	25.908	10.795	11.481	5.60	0.425	2.382	0.915	0.389	245	233.68
MP2310VDGC	25.908	10.795	11.481	5.60	0.425	2.382	0.915	0.389	245	233.68
MP2510LDGC	27.788	17.272	11.481	7.01	0.269	1.888	2.343	0.631	245	118.39
MP2510PDGC	27.788	17.272	11.481	7.01	0.269	1.888	2.343	0.631	245	118.39
MP2510VDGC	27.788	17.272	11.481	7.01	0.269	1.888	2.343	0.631	245	118.39
MP2610LDGC	28.321	14.148	11.481	6.61	0.375	2.475	1.572	0.589	245	174.58
MP2610PDGC	28.321	14.148	11.481	6.61	0.375	2.475	1.572	0.589	245	174.58
MP2610VDGC	28.321	14.148	11.481	6.61	0.375	2.475	1.572	0.589	245	174.58
MP3210LDGC	34.950	19.863	11.481	8.54	0.411	3.515	3.099	1.275	245	148.31
MP3210PDGC	34.950	19.863	11.481	8.54	0.411	3.515	3.099	1.275	245	148.31
MP3210VDGC	34.950	19.863	11.481	8.54	0.411	3.515	3.099	1.275	245	148.31
MP3310LDGC	36.068	12.954	11.481	7.49	0.712	5.336	1.318	0.939	245	292.91
MP3310PDGC	36.068	12.954	11.481	7.49	0.712	5.336	1.318	0.939	245	292.91
MP3310VDGC	36.068	12.954	11.481	7.49	0.712	5.336	1.318	0.939	245	292.91
MP3510LDGC	38.100	16.688	11.481	8.48	0.658	5.577	2.187	1.439	245	238.85
MP3510PDGC	38.100	16.688	11.481	8.48	0.658	5.577	2.187	1.439	245	238.85
MP3510VDGC	38.100	16.688	11.481	8.48	0.658	5.577	2.187	1.439	245	238.85
MP4010LDGC	43.053	19.863	11.481	9.76	0.732	7.148	3.099	2.270	245	231.08
MP4010PDGC	43.053	19.863	11.481	9.76	0.732	7.148	3.099	2.270	245	231.08
MP4010VDGC	43.053	19.863	11.481	9.76	0.732	7.148	3.099	2.270	245	231.08
MP4510LDGC	48.133	19.863	11.481	10.55	0.940	9.910	3.099	2.912	245	274.39
MP4510PDGC	48.133	19.863	11.481	10.55	0.940	9.910	3.099	2.912	245	274.39
MP4510VDGC	48.133	19.863	11.481	10.55	0.940	9.910	3.099	2.912	245	274.39

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