

Y-I-G
Yttrium - Iron Garnet

- Characteristics**

The material exhibits outstanding electromagnetic performance, characterized by a narrow resonance line width, minimal dielectric loss, and a high Curie temperature.

- Applications**

Ferrite isolators and circulators designed for communication bands.

TYPES	$4\pi M_s$ (Gs) ± 5	ΔH (Oe)	ϵ' $\pm 5\%$	$\tan\delta_e$	T_c (°C)	ΔH_k (Oe) $\pm 2\%$
FXY178	1780	≤ 35	14.5	≤ 0.0002	280	2.0

Bi-Ca-V
Bismuth - Calcium - Vanadium Iron Garnet

- Characteristics**

Low cost, Low magnetic moment, Low ΔH , High Curie temperature

- Applications**

Ferrite isolators and circulators for communication bands

TYPES	$4\pi M_s$ (Gs) ± 5	ΔH (Oe)	ϵ' $\pm 5\%$	$\tan\delta_e$	T_c (°C)	ΔH_k (Oe) $\pm 2\%$
FXB58	580	≤ 55	13.7	≤ 0.0002	220	2.0

Y - Al
Yttrium - Aluminum Iron Garnet

- Characteristics**

Wide range of adjustable saturation magnetization (Ms), Low magnetic and dielectric losses.

- Applications**

Isolators and circulators for the P-X frequency band

TYPES	$4\pi M_s$ (Gs) ± 5	ΔH (Oe)	ϵ' $\pm 5\%$	$\tan\delta_e$	T_c (°C)	ΔH_k (Oe) $\pm 2\%$
FXA160	1600	≤ 40	14.0	≤ 0.0002	250	2.0
FXA140	1400	≤ 40	14.0	≤ 0.0002	230	2.0
FXA120	1200	≤ 40	13.9	≤ 0.0002	220	2.0
FXA100	1000	≤ 40	13.9	≤ 0.0002	205	2.0
FXA80	800	≤ 40	13.8	≤ 0.0002	190	2.0
FXA60	600	≤ 40	13.8	≤ 0.0002	160	2.0
FXA30	300	≤ 40	13.6	≤ 0.0002	140	2.0

Y - Gd
Yttrium – Gadolinium Iron Garnet

● **Characteristics**

Low temperature coefficient and high Curie temperature.

Capable of handling medium to high peak power levels.

● **Applications**

This Yttrium - Gadolinium garnet family is especially useful in applications where a high degree of temperature stability is required. These materials can be used with a moderate level of peak power.

broadband, medium power of microwave frequency bands; high power coaxial, strip-line, micro-strip, waveguide isolators, circulators, etc.

TYPES	4πMs (Gs)±5%	ΔH (Oe)	ε' ±5%	tanδ _s	T _c (°C)	ΔH _k (Oe)±2%
FXG140	1400	≅70	14.2	≅0.0002	260	6.0
FXG120	1200	≅70	14.0	≅0.0002	250	8.0
FXG100	1000	≅80	14.0	≅0.0002	240	9.0
FXG80	800	≅90	13.8	≅0.0002	220	10.0
FXG60	600	≅100	13.8	≅0.0002	180	10.0
FXG30	300	≅120	13.6	≅0.0002	140	10.0
FXG180P	1800	≅35	14.2	≅0.0002	255	4.0
FXG160P	1600	≅35	14.1	≅0.0002	265	5.0
FXG140P	1400	≅45	13.8	≅0.0002	255	6.0
FXG120P	1200	≅50	13.7	≅0.0002	260	7.0
FXG100P	1000	≅50	13.6	≅0.0002	240	7.2
FXG80P	800	≅50	13.4	≅0.0002	235	8.5

Y-Ca-V Narrow Line Width Garnet
Yttrium - Calcium – Vanadium Iron Garnet

- **Characteristics**

Narrow Ferromagnetic Resonance Linewidth, Low dielectric loss, High density & compactness

- **Applications**

Used for low loss coaxial, strip-line, micro-strip, waveguide isolator, circulator, etc.

TYPES	$4\pi M_s$ (Gs) ± 5	ΔH (Oe)	ϵ' $\pm 5\%$	$\tan\delta_\epsilon$	T_c ($^{\circ}C$)	ΔH_k (Oe) $\pm 2\%$
FXC195	1950	≤ 16	14.5	≤ 0.0002	235	2.0
FXC190	1900	≤ 16	14.5	≤ 0.0002	240	2.0
FXC185	1850	≤ 16	14.3	≤ 0.0002	260	2.0
FXC180	1800	≤ 16	14.2	≤ 0.0002	270	2.0
FXC160	1600	≤ 16	14.0	≤ 0.0002	240	2.0
FXC140	1400	≤ 16	13.8	≤ 0.0002	220	2.0
FXC120	1200	≤ 16	13.6	≤ 0.0002	210	2.0
FXC100	1000	≤ 16	13.4	≤ 0.0002	200	2.0
FXC800	800	≤ 16	13.2	≤ 0.0002	190	2.0



SPINEL POLYCRYSTALLINE FERRITES

Ni

Nickel series ferrite material

● **Characteristics**

High and adjustable saturation magnetization (Ms)

High spin wave line width

High Curie temperature and excellent temperature stability

High density, and good compactness

● **Applications**

Use for above X band and millimeter wave coaxial, strip-line, micro-strip, waveguide isolator, circulator

(The “P” suffix in some grades indicates the power material)

TYPES	$4\pi M_s$ (G)±5%	ΔH (Oe)	ϵ' ±5%	$\tan\delta_e$	T_c (°C)	ΔH_k (Oe)±2%
FXN520	5200	≤100	13.5	≤0.0005	400	8.0
FXN420	4200	≤250	13.0	≤0.0005	400	8.0
FXN400	4000	≤250	13.0	≤0.0005	400	12.0
FXN350	3500	≤250	13.0	≤0.0005	400	12.0
FXN300	3000	≤300	13.0	≤0.0005	400	12.0
FXN250	2500	≤240	12.6	≤0.0005	400	12.0
FXN210	2100	≤240	12.6	≤0.0005	400	12.0
FXN450P	4500	≤200	12.5	≤0.0005	400	20.0
FXN400P	4000	≤200	12.5	≤0.0005	400	20.0
FXN330P	3300	≤200	12.5	≤0.0005	400	20.0
FXN300P	3000	≤200	12.5	≤0.0005	400	20.0
FXN250P	2500	≤200	12.5	≤0.0005	400	20.0
FXN230P	2300	≤200	12.5	≤0.0005	400	20.0
FXN210P	2100	≤200	12.5	≤0.0005	400	20.0



SPINEL POLYCRYSTALLINE FERRITES

Li

Lithium series ferrite material

● **Characteristic**

High and adjustable saturation magnetization (Ms)

Low losses

High Curie temperature and excellent temperature stability

High remanence ratio with rectangular hysteresis loop

● **Applications**

Used in phase shifter and low field and low loss coaxial, strip-line isolator, circulator etc.

TYPES	$4\pi M_s$ (Gs) ± 5	ΔH (Oe)	ϵ' $\pm 5\%$	$\tan \delta_e$	T_c (°C)	ΔH_k (Oe) $\pm 2\%$
FXL400	4000	≤ 250	15.0	≤ 0.001	570	2.8
FXL380	3800	≤ 250	15.4	≤ 0.001	450	2.8
FXL320	3200	≤ 250	15.5	≤ 0.001	400	2.8
FXL300	3000	≤ 250	15.3	≤ 0.001	400	2.8
FXL280	2800	≤ 250	15.8	≤ 0.001	350	2.8
FXL260	2600	≤ 250	15.6	≤ 0.001	350	2.8
FXL230	2300	≤ 250	15.5	≤ 0.001	350	2.8
FXL210	2100	≤ 250	15.7	≤ 0.001	350	2.8



High Dielectric Constant Ferrite

- **Characteristics**

High dielectric constant high

- **Applications**

Widely used in isolator, circulator

TYPES	$4\pi Ms(Gs)$ $\pm 5\%$	$\Delta H(Oe)$	ϵ' $\pm 5\%$	$\text{tang}\delta$	Tc (°C)	$\Delta Hk(Oe)$ $\pm 2\%$
G1950DC30	1950	≤ 60	28	≤ 0.0005	220	2
G1950DC22	1950	≤ 30	22	≤ 0.0005	260	2
G1150DC25	1150	≤ 30	25	≤ 0.0005	200	2



Microwave Dielectric Ceramic Products

Microwave dielectric ceramics improve the size of devices and the packaging density of microwave integrated circuits. For this reason, it is widely used for the microwave filters and circuit boards in the base station of mobile communications and satellite communication systems.

- **Dielectric Constant Commonly Used for Microwave Dielectric Ceramics**

K20-dielectric constant 20;

K30-dielectric constant 30;

K50-dielectric constant 50;

- **Common Dimensions of Microwave Dielectric Ceramic Rings**

NO	Outer Diameter (mm)	Inner Diameter (mm)
1	D5	d3.8
2	D5.5	d4.4
3	D6	d4.8
4	D7	d5.8-d6.2
5	D8-D9	d5.5-d6.5
6	D10	d7.8-d8
7	D11-D13	d9.5-d10
8	D15	d11.3-d12.5
9	D19-D20	d17-d18
10	D20-D25	d15.4-d18.5

Note: Custom-made size, shape and multi-mode are available if required.