DATA SHEET

Microwave Ferrites

Applications

- Point-to-point radio
- Radar and switching
- Latching devices

Description

Skyworks, through its wholly owned subsidiary, Trans-Tech, offers a line of microwave ferrites that are designed to meet the needs of below-resonance applications from X band to millimetric frequencies. The table below provides the specifications for Magnesium, Nickel, and Millimeterwave Ferrites.

Specifications for Microwave Ferrites (1 of 2)

Composition and Type Number	Saturation Magnetization $4\pi M_s$ (Gauss)	Lande'§ G-factor g-eff	Line Width§ Δh Oe @ -3 dB	Dielectric§ Constant ε'	Dielectric Loss Tangent Tan δ = ε"/ε'	Curie Temperature T^c (°C) (Nominal Value)	Spin Wave Line Width ΔH_k oe (Nominal Value)	Remanent Induction* B_r (Gauss) (Nominal Value)	Coercive Force* H_c (oe) (Nominal Value)	Initial Permeability† μo (Nominal Value)
Magnesium Ferrites										
TTI-105	1750 ± 5%	1.98	<270	12.2 ± 5%	<0.00025	225	2.2	1220	1.20	55
TTI-2000	2000 ± 5%	1.98	<300	12.4 ± 5%	<0.00025	290	2.1	1385	1.60	52
TT1-390	2150 ± 5%	2.04	<648	12 ± 5%	<0.00025	320	2.5	1288	1.80	50
TT1-2500	2500 ± 5%	2.03	<624	12.9 ± 5%	≤0.0005	275	3.0	1410	1.33	57
TT1-2650	2650 ± 5%	2.02	<636	13.0 ± 5%	<0.0005	245	2.8	1511	1.33	85
TT1-2800	2800 ± 5%	2.01	<648	13.1 ± 5%	<0.0005	225	2.2	1477	0.83	140
TT1-3000	3000 ± 5%	1.99	<228	12.9 ± 5%	<0.0005	240	3.2	2100	0.85	54
Nickel Ferrites										
TT2-125	2100 ± 10%	2.30	<575	12.6 ± 5%	≤0.0002	560	6.1	1426	4.42	26
TT2-102	2500 ± 10%	2.25	<610	12.7 ± 5%	<0.0020	570	6.9	1485	4.42	23
TT2-2750	2750 ± 10%	2.20	<540	12.8 ± 5%	<0.0025	580	9.0	1130	3.00	20
TT2-101	3000 ± 10%	2.19	<375	13.0 ± 5%	<0.0025	585	12.4	1853	5.70	17
TT2-3250	3250 ± 10%	2.10	<440	12.8 ± 5%	<0.0025	550	10.5	1200	2.20	36
TT2-3500	3500 ± 10%	2.10	<500	12.8 ± 5%	<0.0025	540	9.0	1260	2.40	50
TT2-4000	4000 ± 10%	2.22	<425	12.3 ±10%	<0.0025	470	7.0	1800	3.00	93
TT2-4500	4500 ± 10%	2.22	<425	12.3 ±10%	≤0.0015	–	–	–	–	–

Specifications for Microwave Ferrites (2 of 2)

Composition and Type Number	Saturation Magnetization $4\pi M_s$ (Gauss)	Lande'§ G-factor g-eff	Line Width§ Δh Oe @ -3 dB	Dielectric§ Constant ε'	Dielectric Loss Tangent Tan $\delta = \varepsilon''/\varepsilon'$	Curie Temperature T^c (°C) (Nominal Value)	Spin Wave Line Width ΔH_k oe (Nominal Value)	Remanent Induction* B_r (Gauss) (Nominal Value)	Coercive Force* H_c (oe) (Nominal Value)	Initial Permeability† μo (Nominal Value)
Millimeterwave Ferrites										
TT2-111	5000 ± 10%	2.11	<200	12.9 ±6.8%	<0.0010 @9300	375	6.0	1956	0.96	317
TT86-6000	5000 ± 10%	2.11	<200	12.5 ± 5%	<0.0002	363	6.0	3800	1.50	317

§ Measured @ 9.4 GHz

† Measured @ 1 KHz

* Measured @ 60 Hz or 2 KHz with H_{app} = 5xHc

** Anneal @ 1100 ° C in oxygen after machining

Bars and Rods are Available for All Material Types