



<b>GENERAL</b>	Description	Magnetodielectric paint with Bismuth Ferrite loading (40% w/w)
	Substrates	Polyimide
	Features	<p>Water-based paint</p> <p>Through a photonic sintering step, the deposited paint is formed into a densified ferrite film. Before curing, the film can be washed away with water. S-band (2-4 GHz) components printed on this film can result in a roughly 2x miniaturization of those components. This flexible ceramic film is cured using a rapid photonic sintering step. The sintering process reflows the nanoparticle film into a densified ceramic layer suitable for flexible electronics applications. This economical process allows films thicker than 10 microns to be printed in minutes. This rate far outpaces the several hours required for vacuum deposition methods to produce high-quality thick films.</p>

<b>PHYSICAL PROPERTIES</b>	Viscosity	15 – 20 cP	<b>DEPOSITION</b>	Method	Dry brush Doctor blade Screen print Airbrush (diluted with IPA)
	Specific gravity	3.9			
	Surface tension	74 – 79 mN/m			
	Flash point	N/A (not flammable)	<b>STORAGE</b>	Temperature	Room temperature (sealed container)
	z-avg particle size	200 – 600 nm		Shelf life	6 months
	BFO content	40%		Cleaning solvent	Water or IPA
	Relative permittivity	4 – 5			
	Tan delta	0.05 – 0.1			
Relative permeability	1.3 – 2.0				

<b>PULSE PARAMETERS</b>	Pre-pulse prep	Dry at 60-100°C for 20 min
	Layer thickness	1-20 micron
	Shot energy	3.8 – 4.0 J/cm <sup>2</sup>
	Lamp voltage	400 – 450 V
	Magnetic field	0.1-0.5 T (one or more permanent magnets under sample region undergoing sintering during the pulse(s) is sufficient in most cases)
	Pulse envelope	5000 – 9000 micro-sec
	¼" distance 2-point resistance	1 – 10 Mega-ohm (minutes after sinter step) >20 Mega-ohm (after 1 – 3 days)