

Technical Data Sheet

Ceramic Powders and Formulations for Passive Components MW8U and MW40U Low Temperature Ceramic Formulations

Application

MW8U and MW40U are co-firable ceramic dielectric formulations for passive electronic component applications that can include band-pass filters, ESD/EMI filters, MLCC and

single layer devices. These dielectric formulations are co-firable with 100% Ag and 95Ag/5Pd conductors. All are formulated and processed to be RoHS compliant.

Microwave LTCC Type Dielectric Products

Product Code		MW8U	MW8U HQ	MW40U
Dielectric Type		P140	P140	N1000
Dielectric Constant	@ 1 MHz	8	9	45
RoHS Compliant?		Yes	Yes	Yes
Dielectric Constant (at F _r)		7.78	8.46	40.8
Q*F Product		17,582	30,313	5,261
Resonant Frequency (F _r)	GHz	15.51	14.81	16.10
Quality Factor	@ 1 MHz	≥100,000	≥100,000	≥100,000
Dissipation Factor	% @ 1 MHz	≤0.001	≤0.001	≤0.001
Insulation Resistance (IR) at 25°C	GΩ	>20,000	>20,000	>20,000
Insulation Resistance (IR) at 125°C	GΩ	>1000	>1000	>20,000
Breakdown Strength	V/μm	>140	>140	>120
Particle Size	D50 μm	1.0	0.9	1.0
Surface Area	m ² /g	6.3	7.5	7.5
Powder Density ¹	g/cc	5.1	5.5	4.8
Peak Firing Temperature	°C	880	880	880
Time at Peak Temperature	Hours	0.5	0.5	0.5
Electrode Composition	Ag	100 Ag	100 Ag	100 Ag
Ferro Electrode Ink Product		EL43-040	EL43-040	EL43-040
Ferro Termination Ink Product ²		TM63-150	TM63-150	TM63-150

¹ Helium Pycnometer.

² Products shown are for platable applications. Other types are available.



EU RoHS Directive 2011/65/EU

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