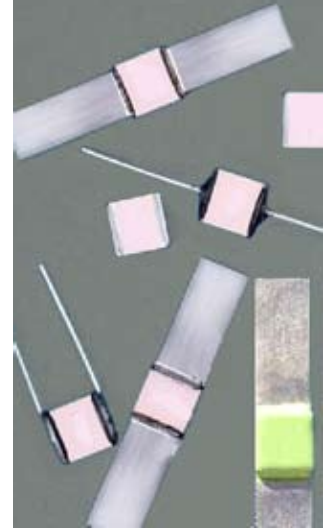


MPH Series Overview

High Power, High Current Capacitors

The MPH Series of capacitors are the updated version of Microelectronics Group MHP series and designed specifically for high voltage and high RF current applications. They are offered either in chip form, with axial or radial wire leads or axial silver ribbon leads. This configuration assures low ESR, minimum inductance and high RF current capabilities. Glass or epoxy encapsulation is available to protect the capacitors against contaminants and humidity and to minimize partial discharge activity. Non standard capacitance values, special tolerances and voltages, alternative dielectrics and other mechanical configurations are available. The MPH Series can be supplied compliant to the EU's **RoHS** standard.



Features

- Capacitance Range: 1pF to 5100pF
- High Operating Voltages
 - DC Voltage: 300Vdc to 7KVdc
 - RF Voltage: 200Vrms to 5000Vrms
- RF Current Rating up to 12A rms
- Ultra Low ESR
- High Q
- Chip and Leaded Configurations Available
- Encapsulation Options Available
- High Reliability

Applications

- MRI Coils
- HF/RF Power Amplifiers
- Plasma Chambers
- Antenna Tuning
- High Power RF Transmitters
- Inductive Heating
- Semiconductor Equipment

Specification and Performance

Piezoelectric and Aging Effects:	None
Temperature Range:	-55°C to +125°C
Temperature Coefficient of Capacitance (TCC):	+90±30ppm/°C (-55°C to +125°C)
Q:	>10,000 (1.0pF to 1000pF) at 1 MHz >10,000 (>1000pF) at 1KHz
Insulation Resistance:	>10 ⁵ MΩ at 25°C , at 500VDC >10 ⁴ MΩ at 125°C , at 500VDC
Drift and Retrace:	±0.02% or 0.02pF Whichever is Greater

Condensed Data for MPH RF Power Capacitors

Series		MPH												
Range (Case Size Format)		MPH25					MPH1			MPH2	MPH3			
Electrical Characteristics	Capacitance Range (pF)	1-2700					1-5100			10-75	82-620			
	Standard Capacitance Values	E-24					E-24			E-24	E-24			
	Capacitance Tolerances	B, C, D for capacitance $C < 10\text{pF}$; F, G, J, K, M for capacitance $C \geq 10\text{pF}$;												
	Capacitance Range (pF) for Voltage Range	1-270	300-470	510-1200	1300-1800	2000-2700	1-390	430-680	750-2200	2400-5100	10-75	82-155	160-330	360-620
	VR Rated Voltage Vdc	2500	1500	1000	500	300	3600*	2500	1000	600	7000	7000	5000	3600
	RF Rated Voltage Vrms	1768	1060	707	354	212	2500	1800	700	425	5000	5000	3500	2500
	Test Voltage Vdc	3000	1800	1500	750	450	4320	3000	1500	900	8400	8400	6000	4320
	Reactive Power (KVAR) Rating (kw)	4	2.2	1.5	1.2	1.0	12	6	6	3	18	18	18	12
	RF Current Rating (Arms)	6					12							
Dimensional Data	Length of Chip (L) in (mm)	.230 (5.84) (Non-Encapsulated)					.380 (9.65)			.760 (19.30)				
	Width of Chip (W) in (mm)	.250 (6.35) (Non-Encapsulated)					.380 (9.65)				.760 (19.30)			
	Thickness of Chip (T) in (mm) (Encapsulated) (max)	.145 (3.68) for Capacitance Value $\leq 680\text{pF}$.165 (4.19) for Capacitance Value $\geq 680\text{pF}$.177 (4.50) may Increase to .236 (6.0) Max. After Glass Encapsulation							
	Ribbon Lead Dimension in (mm)	Length: .500 (12.7) min Width: .24 (6.1) Thickness: .01 (0.25)					Length: .750 (19.05) min Width: .350 (8.89) Thickness: .010 (0.25)							
Construction Features	Ribbon Leaded	Lead Material	Pure Silver (99.9%)						Tin plated copper					
		Lead Bonding	Silver Brazed						280°C Solder					
		Encapsulation	Glass-Ceramic Coated on all 6 Sides High Frequency Polymer Optional						Glass-Ceramic Coated on 4 Sides High Frequency Polymer Optional					
	Wire Leaded MPH25 Only	Lead Material	Solder Coated Copper											
		Lead Bonding	High Temperature Solder											
		Encapsulation	Glass-Ceramic Coated on all 6 Sides High Frequency Polymer Optional											
		Lead Dimension	Dia=0.024±0.002 (0.61±0.051) Lenth=0.5 (12.7) min											

* 1-100pF with extended working voltage 7000Vdc