



Film Capacitor Innovation Without Limits

DIELECTRIC PERFORMANCE COMPARISONS TEMPERATURE °C

DIELECTRIC CONSTANT @1kHz (TYP)	-55	-30	0	25	45	65	85	105	125
POLYESTER	-	-	-	3.4	-	-	-	-	-
POLYSTYRENE	-	-	-	2.5	-	-	-	-	-
POLYCARBONATE	-	-	-	2.9	-	-	-	-	-
POLYPROPYLENE	-	-	-	2.2	-	-	-	-	-
PPS	-	-	-	2.8	-	-	-	-	-
CAPACITANCE CHANGE % @1kHz (TYP)									
POLYESTER	-6	-3	-1	0	1	1.5	2	5	10
POLYSTYRENE	1	0.7	0.3	0	-0.3	-0.6	-0.9	-	-
POLYCARBONATE	-2.5	-1.5	-1.0	0	0.3	0.6	1.0	1.5	2.0
POLYPROPYLENE	2.0	1.2	0.6	0	-0.4	-1.6	-2.5	-3.5	-
PPS	2.0	1.5	1.0	0	-0.4	-0.8	-1.0	-1.5	-2.0
I.R. MEGOHM-MICROFARADS (WVDC2MIN. TYP)									
POLYESTER	>10 ⁵	>10 ⁵	>10 ⁵	10 ⁵	4x10 ⁴	7x10 ³	10 ³	4x10 ²	500
POLYSTYRENE	>10 ⁶	>10 ⁶	>10 ⁶	10 ⁶	7x10 ⁵	5x10 ⁵	4x10 ⁴	0	0
POLYCARBONATE	>10 ⁶	>10 ⁶	>10 ⁶	3x10 ⁵	2.5x10 ⁵	2x10 ⁵	10 ⁵	5x10 ⁴	10 ³
POLYPROPYLENE	>10 ⁶	>10 ⁶	>10 ⁶	5x10 ⁵	4x10 ⁵	3x10 ⁵	10 ⁵	10 ⁴	-
PPS	>10 ⁵	>10 ⁵	>10 ⁵	>10 ⁵	2x10 ⁴	10 ⁴	6x10 ³	4x10 ³	2x10 ³
DISSIPATION FACTOR % @1kHz (TYP)									
POLYESTER @0.10 uF	1.0	1.1	0.70	0.32	0.16	0.10	0.15	0.52	1.20
POLYSTYRENE @0.10 uF	0.07	0.08	0.04	0.03	0.05	0.07	0.08	-	-
POLYCARBONATE @0.10 uF	0.45	0.30	0.20	0.07	0.08	0.08	0.08	0.08	0.09
POLYPROPYLENE @0.10 uF	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	-
PPS @0.10 uF	0.06	0.05	0.04	0.03	0.03	0.03	0.03	0.05	0.15
DIELECTRIC ABSORPTION % TYPICAL									
POLYESTER	-	-	-	0.30	-	-	-	-	-
POLYSTYRENE	-	-	-	0.01	-	-	-	-	-
POLYCARBONATE	-	-	-	0.10	-	-	-	-	-
POLYPROPYLENE	-	-	-	0.02	-	-	-	-	-
PPS	-	-	-	0.05	-	-	-	-	-
DC WORKING VOLTAGE VOLTS/MICRON (TYP)*									
POLYESTER	-	-	-	50	-	-	-	-	-
POLYSTYRENE	-	-	-	10	-	-	-	-	-
POLYCARBONATE	-	-	-	35	-	-	-	-	-
POLYPROPYLENE	-	-	-	65	-	-	-	-	-
PPS	-	-	-	35	-	-	-	-	-
*These values are represented for standard metallization – advanced techniques yield 2x-5x for DC applications only									
	60Hz		120Hz		10kHz		100kHz		1MHz
DISSIPATION FACTOR % @25°C (TYP)									
POLYESTER @0.10uF	0.15		0.20		0.90		1.8		10
POLYSTYRENE @0.10uF	0.01		0.01		0.01		0.01		0.04
POLYCARBONATE @0.10uF	0.04		0.04		0.20		1.30		4.0
POLYPROPYLENE @0.10uF	0.01		0.01		0.02		0.05		0.15
PPS @0.10uF	0.02		0.02		0.20		1.9		4.0