

## DIELECTRIC PERFORMANCE COMPARISONS TEMPERATURE °C

<b>DIELECTRIC CONSTANT @1kHz (TYP)</b>	<b>-55</b>	<b>-30</b>	<b>0</b>	<b>25</b>	<b>45</b>	<b>65</b>	<b>85</b>	<b>105</b>	<b>125</b>
POLYESTER		-	-	3.4	-	-	-	-	-
POLYSTYRENE	-	-	-	2.5	-	-	-	-	-
POLYCARBONATE	-	-	-	2.9	-	-	-	-	-
POLYPROPYLENE	-	-	-	2.2	-	-	-	-	-
PPS	-	-	-	2.8	-	-	-	-	-
<b>CAPACITANCE CHANGE % @1kHz (TYP)</b>									
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
<b>I.R. MEGOHM -MICROFARADS (WVDC2MIN. TYP)</b>									
POLYESTER	>10 <sup>9</sup>	>10 <sup>9</sup>	>10 <sup>9</sup>	10 <sup>9</sup>	4x10 <sup>4</sup>	7x10 <sup>3</sup>	10 <sup>3</sup>	4x10 <sup>2</sup>	500
POLYSTYRENE	>10 <sup>9</sup>	>10 <sup>9</sup>	>10 <sup>9</sup>	10 <sup>9</sup>	7x10 <sup>5</sup>	5x10 <sup>5</sup>	4x10 <sup>4</sup>	0	0
POLYCARBONATE	>10 <sup>9</sup>	>10 <sup>9</sup>	>10 <sup>9</sup>	3x10 <sup>9</sup>	2.5x10 <sup>5</sup>	2x10 <sup>5</sup>	10 <sup>5</sup>	5x10 <sup>4</sup>	10 <sup>3</sup>
POLYPROPYLENE	>10 <sup>9</sup>	>10 <sup>9</sup>	>10 <sup>9</sup>	5x10 <sup>9</sup>	4x10 <sup>9</sup>	3x10 <sup>9</sup>	10 <sup>9</sup>	10 <sup>4</sup>	-
PPS	>10 <sup>9</sup>	>10 <sup>9</sup>	>10 <sup>9</sup>	>10 <sup>9</sup>	2x10 <sup>4</sup>	10 <sup>4</sup>	6x10 <sup>3</sup>	4x10 <sup>3</sup>	2x10 <sup>3</sup>
<b>DISSIPATION FACTOR % @1kHz (TYP)</b>									
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
<b>DIELECTRIC ABSORPTION % TYPICAL</b>									
POLYESTER	-	-	-	0.30	-	-	-	-	-
POLYSTYRENE	-	-	-	0.01	-	-	-	-	-
POLYCARBONATE	-	-	-	0.10	-	-	-	-	-
POLYPROPYLENE	-	-	-	0.02	-	-	-	-	-
PPS	-	-	-	0.05	-	-	-	-	-
<b>DC WORKING VOLTAGE VOLTS/MICRON (TYP)*</b>									
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									
	<b>60Hz</b>		<b>120Hz</b>		<b>10kHz</b>		<b>100kHz</b>		<b>1MHz</b>
<b>DISSIPATION FACTOR % @25°C (TYP)</b>									
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