

ELECTRON PRODUCTS INC.

DIELECTRIC SELECTION GUIDE

| ELECTRON DIELECTRIC CODE | BW | C | D | E | F/G | H | K | N | V | S | T | X | Y | Z |
|---|----------------------------|--|------------------|----------------|--|----------------------------|------------------|----------------------------|--------------------------------|------------------------|---------------------------------|--------------------|----------------------|--------------------------------|
| Typical Characteristics of Capacitors | High Voltage Paper & Mylar | Combination Metallized Mylar & Polypropylene | Metallized Mylar | Mylar & Foil | KF Polymer F = Foil G = Metallized | Metallized Polycarbonate | Kapton & Foil | Metallized Polypropylene | Super Metallized Polypropylene | Metallized Polysulfone | Teflon & Foil | Polystyrene & Foil | Polypropylene & Foil | Super Metallized Polypropylene |
| Capacitance Range in MFD | .001-1.0 | .001-50.0 | .001-100.0 | .001-10.0 | .10-100.0 | .001-100.0 | .001-10.0 | .001-100.0 | .001-100.0 | .001-50.0 | .001-5.0 | .001-10.0 | .001-5.0 | .10-50.0 |
| Standard Tolerance Ranges | 5%-20% | 1%-20% | 1%-20% | 1%-20% | 10%-20% | 1%-20% | 5%-20% | 1%-20% | 1%-20% | 1%-20% | 1%-20% | 1%-20% | 1%-20% | 1%-20% |
| DC Voltages | 1000V - 40,000V | 100V - 600V | 25V - 40,000V | 10V - 600V | 200V - 1000V | 25V - 4000V | 100V - 600V | 100V - 4000V | 200V - 2000V | 50V - 1000V | 25V - 1000V | 50V - 1000V | 50V - 1000V | 50V - 1000V |
| AC Voltages | 400VAC - 1200VAC | 50VAC - 250VAC | 10VAC - 2000VAC | 10VAC - 600VAC | N/A | 10VAC - 2000VAC | 50VAC - 1200VAC | 25VAC - 2000VAC | 25VAC - 2000VAC | 50VAC - 600VAC | 10VAC - 350VAC | 50VAC - 350VAC | 10VAC - 600VAC | 25VAC - 2000VAC |
| Dissipation Factor % at 60 HZ | .10 | .10 | .10 | .15 | 5.0 | .05 | .25 | .03 | .03 | .05 | .03 | .03 | .03 | .03 |
| Dissipation Factor % at 1000 HZ | .40 | .40 | .40 | .25 | 1.8 | .15 | .40 | .10 | .10 | .15 | .03 | .03 | .03 | .10 |
| Insulation Resistance, megohm-MFD at 25°C | 30K | 50K | 30K | 50K | 1K | 300K | 50K | 500K | 200K | 300K | 10,000K | 1000K | 500K | 200K |
| Dielectric Absorption at 25°C | .20 | .20 | .20 | .20 | N/A | .08 | N/A | .03 | .03 | .08 | .02 | .02 | .03 | .08 |
| Operating Range °C | -55° +125° | -55° +125° | -55° +125° | -55° +125° | -35° +180° | -55° +125° | -55° +250° | -55° +105° | -55° +105° | -55° +150° | -55° +250° | -55° +85° | -55° +105° | -55° +125° |
| Capacitance Change with Temperature <i>Cold</i> <i>Hot</i> | -8% +12% | -3% +6% | -6% +15% | -6% +15% | -50% +40% | -2% +2% | N/A | +2% -4% | +2% -4% | -2% +2% | +1% -1% | +1% -1% | +2% -4% | -2% +2% |
| Best Characteristics | High Voltage | Low T/C | Low Cost | Low Cost | Small Size | Good Electrical Properties | High Temperature | Good Electrical Properties | Very High Current | High IR | Excellent Electrical Properties | High Stability | Low DF | Very High Current |
| Relative Cost | Higher | Moderate | Lowest | Low | Highest | Higher | Higher | Moderate | Moderate | Higher | Highest | Higher | Moderate | Higher |

This Dielectric selection guide is intended to give the engineer a quick reference of the electrical characteristics for many different dielectrics. Values shown are typical for each dielectric. If you're not sure which dielectric is best for your specific application, please contact the Electron Products sales staff, we have knowledgeable sales engineers that will be glad to help find exactly the right capacitor for your application. For specific Acceptance Criteria, Parametric Trend Curves, Environmental Data and Size information for all Case Styles refer to the Engineering Data Sheets available on the Dielectric you need.

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