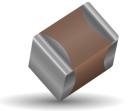
# **Y5V Dielectric General Specifications**



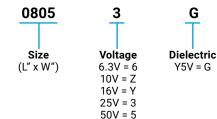


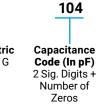
### **GENERAL DESCRIPTION**

Y5V formulations are for general-purpose use in a limited temperature range. They have a wide temperature characteristic of +22% -82% capacitance change over the operating temperature range of -30°C to +85°C. These characteristics make Y5V ideal for decoupling applications within limited temperature range.



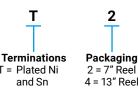
## PART NUMBER (SEE PAGE 4 FOR COMPLETE PART NUMBER EXPLANATION)







Failure T = Plated Ni Rate A = Not

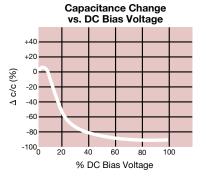


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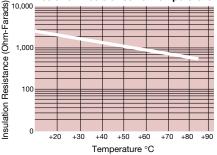
and Sn

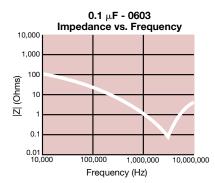


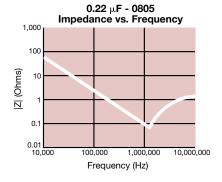
**Temperature Coefficient** +20 +10 0 % Δ Capacitance -10 -20 -30 -40 -50 -60 -70 -80 -35 +5 +25 +45 +65 +85 +105 +125 -55 -15 Temperature °C

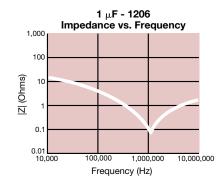


Insulation Resistance vs. Temperature 10,000









The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

# **Y5V Dielectric** Specifications and Test Methods



Instruction Resistance     whichever is less     Image: Comparison of the seconds, w/charge and discharge current 1-3 seconds, w/charge and seconds, w/charge and, seconds, w/charge and seconds, w/charge and seconds	Parame	ter/Test	Y5V Specification Limits	Measuring Conditions							
Dissipation Factor     ± 50% for 25W D0 rating ± 20% for 16V DC rating ± 20% for 16V DC rating ± 20% for 16V DC rating ± 12.5% for 16V DC rating     Freq: 10.4K± 10%. Voltage 12Wms ± 2V For Cap > 10 µF, 0.5Vms @ 120Hz       Insulation Resistance     10,000M0 or 500M0. µF, whichwer is less     Charge device with rated voltage for 1.5 seconds, wicharge and discharge current @ 1000 temp/undity.       Dielectric Strength     No breakdown or visual defects     Charge device with 20% of rated voltage for 1.5 seconds, wicharge and discharge current @ 1.5 seconds.     Deflection: 2mm Test Time: 30 seconds       Resistance to Stresses     Appearance Uniside to Dissipation     × 95% of each terminal should be covered with fresh 30db     Dip device in eutectic solder at 230 ± 5°C for 5 0 ± 0.5 seconds       Resistance to Solder hiet     Appearance Variation     × 10%     Modefects.     Step 1: -30°C ± 2°     30 ± 3 minutes       Resistance to Solder hiet     Appearance Variation     No defects.     Step 1: -30°C ± 2°     30 ± 3 minutes       Resistance to Solder hiet     Pactor     Meets Initial Values (As Above)     Step 1: -30°C ± 2°     30 ± 3 minutes       Appearance Variation     % studie feets     Step 1: -30°C ± 2°     30 ± 3 minutes       Appearance Variation     Mo defects     Step 1: -30°C ± 2°     30 ± 3 minutes       Eator     Fastor	Operating Temperature Range		-30°C to +85°C	Temperature Cycle Chamber							
Dissipation Factor     - 2 70 % for 25V DC rating	Capacitance		Within specified tolerance	-							
Instantion resistance     whichever is less     @ toom temp/humidity       Dielectric Strength     No breakdown or visual defects     Charge device with 25% of rade voltage for 1-5 seconds, w/charge and discharge current limited to 50 mA (max)       Resistance to Flexure Stresses     Appearance Qapacitance statuation     No defects s ± 30%     Defection: 2mm Test Time: 30 seconds imm/sec       Appearance Solderability     2 95% of each terminal should be covered with freah solder     Dip device in eutectic solder at 230 ± 5°C for 5.0 ± 0.5 seconds       Resistance to Solder Heat     Appearance Variation     No defects, <25% leaching of either end terminal capacitance sistenace     Dip device in eutectic solder at 250% for 60 seconds. Store at room temperature for 24 ± 5 hours before measuring electrical properties.       Resistance to Solder Heat     Appearance No visual defects     Step 1: -30°C ± 2° 30 ± 3 minutes       Appearance Solder Heat     Mo ets initial Values (As Above)     Step 2: Room Temp     3 minutes       Appearance Solder Heat     Appearance No visual defects     Step 1: -30°C ± 2° 30 ± 3 minutes     30 ± 3 minutes       Appearance Solder Heat     Meets Initial Values (As Above)     Step 4: Room Temp     3 minutes       Factor Factor     Meets Initial Values (As Above)     Step 4: Room Temp     3 minutes       Appearance Variation     <	Dissipati	on Factor	$\leq$ 7.0% for 25V DC rating $\leq$ 9.0% for 16V DC rating	Voltage: 1.0Vrms ± .2V							
Dielectric Strength     No breakdown or visual defects     1-5 seconds, workange and discharge current limited to SD mA (max)       Resistance to Fixure Stresses     Appearance Qapacitance Variation     s ± 30%     Image: Stresses     Deflection: 2mm Test Time: 30 seconds       Solderability     ± 95% of each terminal should be covered with resh solder     Dip device in eutectic solder at 230 ± 5°C for 5.0 ± 0.5 seconds     Dip device in eutectic solder at 230 ± 5°C for 5.0 ± 0.5 seconds       Resistance to Solder Heat     Capacitance Variation     ≤ ±20%     Dip device in eutectic solder at 260°C for 60 seconds. Store at noom temperature for 24 ± 2 for 5.0 ± 0.5 seconds       Resistance to Solder Heat     Displayion Factor     Meets Initial Values (As Above)     Dip device in eutectic solder at 260°C for 60 seconds. Store at noom temperature for 24 ± 2 for 5.0 ± 0.5 seconds       Resistance to Solder Heat     Capacitance Variation     ≤ ±20%     Step 1:-30°C ± 2°     30 ± 3 minutes       Appearance Variation     ≤ ±20%     Step 2: Room Temp ≤ 3 minutes     3 minutes       Appearance Variation     ≤ ±20%     Step 3: +85°C ± 2°     30 ± 3 minutes       Appearance Variation     ≤ ±20%     Step 1:-30°C ± 2°     30 ± 3 minutes       Load Life     Appearance Variation     ≤ ±20%     Step 3: +85°C ± 2°     30 ± 3 minutes	Insulation Resistance			Charge device with rated voltage for 120 ± 5 sec @ room temp/humidity							
Capacitance Variation     ≤ ±30%     Deficition     Thet Time: 30 seconds       Piexure Stresses     Dissipation Pactor     Meets Initial Values (As Above)     Immisec     Immisec       Solderability     ≥ 95% of each terminal should be covered with fresh solder     Dip device in eutectic solder at 230 ± 5°C for 50 ± 0.5 seconds     Dip device in eutectic solder at 230 ± 5°C for 50 ± 0.5 seconds       Resistance to Solder Heat     Dissipation Factor     Meets Initial Values (As Above)     Dip device in eutectic solder at 260°C for 60 for 50 ± 0.5 seconds       Dissipation Factor     Meets Initial Values (As Above)     Dip device in eutectic solder at 260°C for 60 for 50 ± 0.5 seconds       Solder Heat     Dissipation Factor     Meets Initial Values (As Above)     Dip device in eutectic solder at 260°C for 60 for 50 ± 0.5 seconds       Appearance     No visual defects     Step 1: -30°C ± 2° 30 ± 3 minutes     3 minutes       Capacitance Variation     ≤ ±20%     Step 2: Room Temp     ≤ 3 minutes       Dissipation Resistance     Meets Initial Values (As Above)     Step 4: Room Temp     ≤ 3 minutes       Dissipation Resistance     Meets Initial Values (As Above)     Step 4: Room Temp     ≤ 3 minutes       Load Life     Dissipation Resistance     ≤ Initial Values (As Above) <td< td=""><td>Dielectric</td><td>Strength</td><td>No breakdown or visual defects</td><td colspan="7">Charge device with 250% of rated voltage for 1-5 seconds, w/charge and discharge current limited to 50 mA (max)</td></td<>	Dielectric	Strength	No breakdown or visual defects	Charge device with 250% of rated voltage for 1-5 seconds, w/charge and discharge current limited to 50 mA (max)							
Resistance break     Capacitance wariation     ≤ ±30%     Test Time: 30 seconds       Dissipation Factor     Dissipation Factor     Meets Initial Values (As Above)     Imm/sec       Solderability     ≥ 95% of each terminal should be covered with fresh solder     Dip device in eutectic solder at 230 ± 5°C for 5.0 ± 0.5 seconds       Resistance to Solder Heat     Capacitance variation     ≤ ±20%     Dip device in eutectic solder at 260°C for 60 seconds. Store at room temperature for 24 ± 2 hours before measuring electrical properties.       Resistance to Solder Heat     Dissipation Factor     Meets Initial Values (As Above)     Dip device in eutectic solder at 260°C for 60 seconds. Store at room temperature for 24 ± 2 hours before measuring electrical properties.       Appearance     No visual defects     Step 1: -30°C ± 2°     30 ± 3 minutes       Capacitance Variation     ≤ ±20%     Step 2: Room Temp     ≤ 3 minutes       Dissipation Resistance     Meets Initial Values (As Above)     Step 3: +85°C ± 2°     30 ± 3 minutes       Capacitance Variation     ≤ ±20%     Step 4: Room Temp     ≤ 3 minutes       Factor     Meets Initial Values (As Above)     Step 4: Room Temp     ≤ 3 minutes       Factor     Stength     Meets Initial Values (As Above)     Repeat for 5 cycles and measure after 24		Appearance	No defects	Deflectio	n: 2mm						
Stresses     Displation Resistance     Meets Initial Values (As Above)       Insulation Resistance     2 Initial Values (As Above)     Dip device in eutectic solder at 230 ± 5°C for 5.0 ± 0.5 seconds       Solderability     2 95% of each terminal should be covered with fresh solder     Dip device in eutectic solder at 230 ± 5°C for 5.0 ± 0.5 seconds       Appearance     No defects, <25% leaching of either end terminal Capacitance     Solder the end terminal factor       Dissipation Resistance     Meets Initial Values (As Above)     Dip device in eutectic solder at 260°C for 60 seconds. Store at room temperature for 24 ± 2 hours before measuring electrical properties.       Appearance     Meets Initial Values (As Above)     Dip device in eutectic solder at 260°C for 60 seconds. Store at room temperature for 24 ± 2 hours before measuring electrical properties.       Appearance     No visual defects     Step 1: :30°C ± 2°     30 ± 3 minutes       Capacitance Variation     ≤ ± 20%     Step 2: Room Temp     s minutes       Dissipation Factor     Meets Initial Values (As Above)     Step 4: Room Temp     s minutes       Dissipation Factor     Meets Initial Values (As Above)     Step 4: Room Temp     s minutes       Dissipation Factor     Meets Initial Values (As Above)     Repeat for 5 cycles and measure after 24 ± 2 hours at room temperature	Resistance to		≤ ±30%	Test Time: 30 seconds							
Resistance     2 initial value x 0.1     0 mm       Solderability     2 95% of each terminal should be covered with fresh solder     Dip device in eutectic solder at 230 ± 5°C for 5.0 ± 0.5 seconds       Appearance     No defects, <25% leaching of either end terminal Capacitance Variation     ≤ ±20%     Dip device in eutectic solder at 230°C for 60 seconds. Store at room temperature for 24 ± 2 hours before measuring electrical properties.       Resistance to Solder Heat     Diseipation Factor     Meets Initial Values (As Above)     Dip device in eutectic solder at 260°C for 60 seconds. Store at room temperature for 24 ± 2 hours before measuring electrical properties.       Appearance     Meets Initial Values (As Above)     Step 1:-30°C ± 2°     30 ± 3 minutes       Appearance     No visual defects     Step 2: Room Temp     ≤ 3 minutes       Disipation Factor     Meets Initial Values (As Above)     Step 4: Room Temp     ≤ 3 minutes       Disipation Factor     Meets Initial Values (As Above)     Step 4: Room Temp     ≤ 3 minutes       Dielectric     Meets Initial Values (As Above)     Repeat for 5 cycles and measure after 24 ± 2 hours at room temperature       Load Life     Appearance     No visual defects     Charge device with twice rated voltage in test chamber set at 85°C ± 2°C       Load Life     Appearance     No visual			Meets Initial Values (As Above)								
Solderability     fresh solder     for 5.0 ± 0.5 seconds       Appearance     No defects, <25% leaching of either end terminal Capacitance     5 ± 20%       Dissipation Factor     Dissipation Factor     s ± 20%     Dip device in eutectic solder at 260°C for 60 seconds. Store at room temperature for 24 ± 2 hours before measuring electrical properties.       Resistance     Meets Initial Values (As Above)     Store at room temperature for 24 ± 2 dougacitance     30 ± 3 minutes       Appearance     No visual defects     Step 1: -30°C ± 2°     30 ± 3 minutes       Capacitance Variation     s ± 20%     Step 2: Room Temp     s 3 minutes       Dissipation Factor     Meets Initial Values (As Above)     Step 3: +85°C ± 2°     30 ± 3 minutes       Insulation Resistance     Meets Initial Values (As Above)     Step 4: Room Temp     s 3 minutes       Insulation Resistance     Meets Initial Values (As Above)     Step 4: Room Temp     s 3 minutes       Dislectric     Dislectric     Meets Initial Values (As Above)     Repeat for 5 cycles and measure after 24 ± 2 hours at room temperature       Load Life     Dislepation Factor     s Initial Values (As Above)     Remove from test chamber and stabilize at room temperature of 0 24 ± 2 hours before measuring       Load Life			≥ Initial Value x 0.1	90 mm							
Capacitance Variation     5 ±20%       Dissipation Factor     Meets Initial Values (As Above)     Dip device in eutectic solder at 260°C for 60 seconds. Store at room temperature for 24 ± 2 hours before measuring electrical properties.       Dielectric Strength     Meets Initial Values (As Above)     Display       Appearance     No visual defects     Step 1: -30°C ± 2°     30 ± 3 minutes       Capacitance Variation     ≤ ±20%     Step 2: Room Temp     ≤ 3 minutes       Insulation Resistance     Meets Initial Values (As Above)     Step 2: Room Temp     ≤ 3 minutes       Insulation Resistance     Meets Initial Values (As Above)     Step 3: +85°C ± 2°     30 ± 3 minutes       Diseipation Resistance     Meets Initial Values (As Above)     Step 4: Room Temp     ≤ 3 minutes       Dielectric Strength     Meets Initial Values (As Above)     Repeat for 5 cycles and measure after 24 ± 2 hours at room temperature       Load Life     Disipation Factor     ≤ Initial Values x 1.5 (See Above)     Remove from test chamber and stabilize at room temperature for 24 ± 2 hours before measuring       Diselectric Strength     Meets Initial Values (As Above)     Remove from test chamber set at 85°C ± 2°C for 1000 hours (+48, -0)       Resistance     Initial Values x 0.1 (See Above)     Remove from test chamber set at 8	Solder	rability									
Variation     \$ ±20%       Dissipation     Meets Initial Values (As Above)     Dip device in eutectic solder at 260°C for 60 seconds. Store at noom temperature for 24 ± 2 hours before measuring electrical properties.       Insulation     Resistance     Meets Initial Values (As Above)     Dielectric       Dielectric     Strength     Meets Initial Values (As Above)     Dielectric       Appearance     No visual defects     Step 1: -30°C ± 2°     30 ± 3 minutes       Capacitance     ± ± 20%     Step 2: Room Temp     ≤ 3 minutes       Dissipation     Meets Initial Values (As Above)     Step 3: +85°C ± 2°     30 ± 3 minutes       Dissipation     Meets Initial Values (As Above)     Step 4: Room Temp     ≤ 3 minutes       Dissipation     Meets Initial Values (As Above)     Step 4: Room Temp     ≤ 3 minutes       Dielectric     Meets Initial Values (As Above)     Repeat for 5 cycles and measure after     24 ± 2 hours at noom temperature       Capacitance     ≤ ±30%     Charge device with twice rated voltage in test chamber and stabilize at noot temperature for 24 ± 2 hours before measuring       Insulation     ≥ Initial Values (As Above)     Remove from test chamber set at 85°C ± 2°C for 1000 hours (±48, -0)       Insulation     ≥ Initi	Resistance to Solder Heat	Appearance	No defects, <25% leaching of either end terminal								
Resistance to Solder Heat     Factor     Meets Initial Values (As Above)     seconds. Store at noom temperature for 24 ± 2 hours before measuring electrical properties.       Insulation Resistance     Meets Initial Values (As Above)     hours before measuring electrical properties.       Appearance     No visual defects     Step 1: -30°C ± 2°     30 ± 3 minutes       Capacitance Variation     ≤ ±20%     Step 2: Room Temp     ≤ 3 minutes       Factor     Meets Initial Values (As Above)     Step 3: +85°C ± 2°     30 ± 3 minutes       Factor     Meets Initial Values (As Above)     Step 3: +85°C ± 2°     30 ± 3 minutes       Factor     Meets Initial Values (As Above)     Step 4: Room Temp     ≤ 3 minutes       Factor     Meets Initial Values (As Above)     Step 4: Room Temp     ≤ 3 minutes       Factor     Meets Initial Values (As Above)     Step 4: Room Temp     ≤ 3 minutes       Load Life     Capacitance Variation     ≤ 1nitial Values (As Above)     Repeat for 5 cycles and measure after 24 ± 2 hours at room temperature chamber set at 85°C ± 2°C for 1000 hours (±48, -0)       Load Life     Dissipation Factor     ≤ Initial Value x 0.1 (See Above)     Remove from test chamber set at 85°C ± 2°C for 10 lought between the set at toom temperature for 24 ± 2 hours before measuring			≤ ±20%	seconds. Store at room temperature for $24 \pm 2$							
Institution     Meets Initial Values (As Above)       Dielectric Strength     Meets Initial Values (As Above)       Appearance     No visual defects       Capacitance Variation     ≤ ±20%       Dissipation Resistance     Meets Initial Values (As Above)       Insulation Resistance     Meets Initial Values (As Above)       Step 2: Room Temp Variation     ≤ 3 minutes       Insulation Resistance     Meets Initial Values (As Above)       Step 3: +85°C ± 2°     30 ± 3 minutes       Insulation Resistance     Meets Initial Values (As Above)       Step 4: Room Temp Strength     ≤ 3 minutes       Appearance     No visual defects       Capacitance Variation Factor     ≤ ±30%       Dissipation Factor     ≤ Initial Value x 1.5 (See Above)       Insulation Resistance     ≥ Initial Value x 0.1 (See Above)       Dielectric Strength     Meets Initial Values (As Above)       Dislegation Factor     ≤ Initial Value x 1.5 (See above)       Insulation Resistance     ≤ Initial Value x 1.5 (See above)       Isolectric Variation     ≤ Initial Value x 1.5 (See above)       Insulation Resistance     ≤ Initial Value x 0.1 (See Above)       Insulation Resistance			Meets Initial Values (As Above)								
Strength     Meets Initial Values (As Above)       Appearance     No visual defects     Step 1: -30°C ± 2°     30 ± 3 minutes       Capacitance Variation     ≤ ±20%     Step 2: Room Temp     ≤ 3 minutes       Dissipation Resistance     Meets Initial Values (As Above)     Step 3: +85°C ± 2°     30 ± 3 minutes       Insulation Resistance     Meets Initial Values (As Above)     Step 3: +85°C ± 2°     30 ± 3 minutes       Appearance     Meets Initial Values (As Above)     Step 4: Room Temp     ≤ 3 minutes       Appearance     Meets Initial Values (As Above)     Step 4: Room Temp     ≤ 3 minutes       Dislectric     Meets Initial Values (As Above)     Repeat for 5 cycles and measure after 24 ± 2 hours at room temperature       Load Life     Appearance     No visual defects     Charge device with twice rated voltage in test chamber set at 85°C ± 2°C for 1000 hours (+48, -0)       Insulation Resistance     ≥ Initial Value x 0.1 (See Above)     Remove from test chamber and stabilize at roo temperature for 24 ± 2 hours before measuring       Variation     ≤ 1nitial Value x 1.5 (See above)     Store in a test chamber set at 85°C ± 2°C/ 85% 5% relative humidity for 1000 hours (+48, -0) with rated voltage applied.       Humidity     Dissipation Factor     ≤ Initial Value x 1.5 (See above)			Meets Initial Values (As Above)	nours before measuring	g electrical properties.						
Load Life     Capacitance Variation     ≤ ±20%     Step 2: Room Temp     ≤ 3 minutes       Load Life     Dissipation Factor     Meets Initial Values (As Above)     Step 3: +85°C ± 2°     30 ± 3 minutes       Load Life     Misulation Resistance     Meets Initial Values (As Above)     Step 4: Room Temp     ≤ 3 minutes       Load Life     Dielectric Strength     Meets Initial Values (As Above)     Step 4: Room Temp     ≤ 3 minutes       Load Life     Capacitance Variation     Meets Initial Values (As Above)     Repeat for 5 cycles and measure after 24 ± 2 hours at room temperature       Load Life     Capacitance Variation     ≤ ±30%     Charge device with twice rated voltage in test chamber set at 85°C ± 2°C for 1000 hours (+48, -0)       Resistance     ≥ Initial Value x 0.1 (See Above)     Remove from test chamber and stabilize at root temperature for 24 ± 2 hours before measuring       Load Humidity     Dissipation Factor     ≤ Initial Value x 0.1 (See Above)     Store in a test chamber set at 85°C ± 2°C (48% Variation       Dissipation Factor     ≤ Initial Value x 1.5 (See above)     Store in a test chamber set at 85°C ± 2°C (48% 5% relative humidity for 1000 hours (+48, -0) with rated voltage applied.       Humidity     Dissipation Factor     ≤ Initial Value x 0.1 (See Above)     Remove from chamber and stabilize			Meets Initial Values (As Above)		1						
Variation     Step 2: Room Temp     S 3 minutes       Dissipation Factor     Meets Initial Values (As Above)     Step 3: +85°C ± 2°     30 ± 3 minutes       Insulation Resistance     Meets Initial Values (As Above)     Step 4: Room Temp     ≤ 3 minutes       Dielectric Strength     Meets Initial Values (As Above)     Step 4: Room Temp     ≤ 3 minutes       Appearance     No visual defects     Repeat for 5 cycles and measure after 24 ± 2 hours at room temperature       Charge device with twice rated voltage in test chamber set at 85°C ± 2°C for 1000 hours (+48, -0)     Charge device with twice rated voltage in test chamber set at 85°C ± 2°C for 1000 hours (+48, -0)       Insulation Resistance     ≥ Initial Value x 1.5 (See Above)     Remove from test chamber and stabilize at room temperature for 24 ± 2 hours before measuring       Dielectric Strength     Meets Initial Values (As Above)     Store in a test chamber set at 85°C ± 2°C (48%) 5% relative humidity for 1000 hours (+48, -0) with rated voltage applied.       Humidity     Dissipation Factor     ≤ Initial Value x 1.5 (See above)     Store in a test chamber set at 85°C ± 2°C (48%) 5% relative humidity for 1000 hours (+48, -0) with rated voltage applied.       Humidity     Dissipation Factor     ≤ Initial Value x 0.1 (See Above)     Remove from chamber and stabilize at room temperature and humidity for 24 ± 2 hours before measuring.		Appearance	No visual defects	Step 1: -30°C ± 2°	30 ± 3 minutes						
Load Life     Factor     Meets Initial Values (As Above)     Step 3: +85°C ± 2°     30 ± 3 minutes       Load Life     Insulation Resistance     Meets Initial Values (As Above)     Step 4: Room Temp     ≤ 3 minutes       Load Life     Dielectric Strength     Meets Initial Values (As Above)     Repeat for 5 cycles and measure after 24 ± 2 hours at room temperature       Load Life     Appearance     No visual defects     Charge device with twice rated voltage in test chamber set at 85°C ± 2°C for 1000 hours (+48, -0)       Load Life     Insulation Factor     ≤ Initial Value x 0.1 (See Above)     Remove from test chamber and stabilize at room temperature for 24 ± 2 hours before measuring       Load Life     Appearance     No visual defects     Store in a test chamber set at 85°C ± 2°C for 1000 hours (+48, -0)       Remove from test chamber set at 85°C ± 2°C/85% S% relative humidity for 1000 hours (+48, -0) with rated voltage applied.     Store in a test chamber set at 85°C ± 2°C/85% 5% relative humidity for 1000 hours (+48, -0) with rated voltage applied.       Humidity     Dissipation Factor     ≤ Initial Value x 0.1 (See Above)     Remove from chamber and stabilize at room temperature and humidity for 24 ± 2 hours before measuring.			≤ ±20%	Step 2: Room Temp	≤ 3 minutes						
Resistance   Meets Initial Values (As Above)   Step 4: Room Temp   ≤ 3 minutes     Dielectric Strength   Meets Initial Values (As Above)   Repeat for 5 cycles and measure after 24 ±2 hours at room temperature     Appearance   No visual defects   Capacitance Variation   ≤ ±30%   Charge device with twice rated voltage in test chamber set at 85°C ± 2°C for 1000 hours (±48, -0)     Issipation Factor   ≤ Initial Value x 1.5 (See Above)   Remove from test chamber and stabilize at room temperature for 24 ± 2 hours before measuring     Dielectric Strength   Meets Initial Values (As Above)   Remove from test chamber set at 85°C ± 2°C for 1000 hours (±48, -0)     Appearance   No visual defects   Remove from test chamber and stabilize at room temperature for 24 ± 2 hours before measuring     Load Humidity   Appearance   No visual defects   Store in a test chamber set at 85°C ± 2°C/ 85% 5% relative humidity for 1000 hours (±48, -0) with rated voltage applied.     Factor   ≤ Initial Value x 1.5 (See above)   Remove from chamber and stabilize at room temperature and humidity for 24 ± 2 hours before measuring.	Thermal Shock		Meets Initial Values (As Above)	Step 3: +85°C ± 2°	30 ± 3 minutes						
Load Life     Strength     Meets Initial Values (As Above)     24 ±2 hours at room temperature       Load Life     Appearance     No visual defects     Charge device with twice rated voltage in test chamber set at 85°C ± 2°C for 1000 hours (±48, -0)     Charge device with twice rated voltage in test chamber set at 85°C ± 2°C for 1000 hours (±48, -0)       Insulation     ≥ Initial Value x 0.1 (See Above)     Remove from test chamber and stabilize at room temperature for 24 ± 2 hours before measuring       Diselectric     Meets Initial Values (As Above)     Store in a test chamber set at 85°C ± 2°C/85% 5% relative humidity for 1000 hours (±48, -0)       Load     Dissipation     ≤ Initial Value x 1.5 (See above)     Store in a test chamber set at 85°C ± 2°C/85% 5% relative humidity for 1000 hours (±48, -0) with rated voltage applied.       Humidity     Dissipation     ≤ Initial Value x 1.5 (See above)     Store in a test chamber and stabilize at room temperature and humidity for 1000 hours (±48, -0) with rated voltage applied.       Humidity     Dissipation     ≤ Initial Value x 0.1 (See Above)     Remove from chamber and stabilize at room temperature and humidity for 24 ± 2 hours before measuring.			Meets Initial Values (As Above)	Step 4: Room Temp	≤ 3 minutes						
Load LifeCapacitance Variation $\leq \pm 30\%$ Charge device with twice rated voltage in test chamber set at $85^{\circ}C \pm 2^{\circ}C$ for 1000 hours (+48, -0)Load LifeDissipation Factor $\leq Initial Value x 1.5$ (See Above)Remove from test chamber and stabilize at root temperature for 24 ± 2 hours before measuringLoad HumidityAppearanceNo visual defectsStore in a test chamber set at $85^{\circ}C \pm 2^{\circ}C$ / $85\%$ $5\%$ relative humidity for 1000 hours (+48, -0)Load HumidityDissipation Factor $\leq Initial Value x 1.5$ (See above)Store in a test chamber set at $85^{\circ}C \pm 2^{\circ}C/85\%$ $5\%$ relative humidity for 1000 hours (+48, -0) with rated voltage applied.Load HumidityDissipation Factor $\leq Initial Value x 0.1$ (See Above)Store in a test chamber set at $85^{\circ}C \pm 2^{\circ}C/85\%$ $5\%$ relative humidity for 1000 hours (+48, -0) with rated voltage applied.Load HumidityDissipation Factor $\geq Initial Value x 0.1$ (See Above)Remove from chamber and stabilize at room temperature and humidity for $24 \pm 2$ hours before measuring.			Meets Initial Values (As Above)								
Load Life   Variation   ≤ ±30%   Charge device with twice rated voltage in test chamber set at 85°C ± 2°C for 1000 hours (±48, -0)     Insulation   ≤ Initial Value x 0.1 (See Above)   Remove from test chamber and stabilize at room temperature for 24 ± 2 hours before measuring     Dielectric   Meets Initial Values (As Above)   Remove from test chamber set at 85°C ± 2°C for 1000 hours (±48, -0)     Dielectric   Meets Initial Values (As Above)   Remove from test chamber and stabilize at room temperature for 24 ± 2 hours before measuring     Load   Appearance   No visual defects   Store in a test chamber set at 85°C ± 2°C/ 85% 5% relative humidity for 1000 hours (±48, -0) with rated voltage applied.     Humidity   Dissipation   ≤ Initial Value x 1.5 (See above)   Store in a test chamber and stabilize at room temperature and humidity for 24 ± 2 hours before measuring.     Load   Dissipation   ≤ Initial Value x 1.5 (See above)   Remove from chamber and stabilize at room temperature and humidity for 24 ± 2 hours before measuring.	Load Life	Appearance	No visual defects	-							
Load Life   Dissipation Factor   ≤ Initial Value x 1.5 (See Above)   for 1000 hours (+48, -0)     Insulation Resistance   ≥ Initial Value x 0.1 (See Above)   Remove from test chamber and stabilize at room temperature for 24 ± 2 hours before measuring     Dielectric Strength   Meets Initial Values (As Above)   Remove from test chamber and stabilize at room temperature for 24 ± 2 hours before measuring     Load Humidity   Appearance   No visual defects   Store in a test chamber set at 85°C ± 2°C/ 85% 5% relative humidity for 1000 hours (+48, -0) with rated voltage applied.     Load Humidity   Dissipation Factor   ≤ Initial Value x 1.5 (See above)   Store in a test chamber and stabilize at room temperature and humidity for 24 ± 2 hours before measuring.			≤ ±30%								
Resistance   ≥ Initial Value x 0.1 (See Above)   Nethole from the origination the origination temperature for 24 ± 2 hours before measuring     Load   Appearance   No visual defects     Capacitance   ≤ ±30%   Store in a test chamber set at 85°C ± 2°C/85%     Dissipation   ≤ Initial Value x 1.5 (See above)   Store in a test chamber set at 85°C ± 2°C/85%     Insulation   ≥ Initial Value x 0.1 (See Above)   Remove from chamber and stabilize at room temperature and humidity for 24 ± 2 hours before measuring.     Dielectric   Meets Initial Values (As Above)   Remove from chamber and stabilize at room temperature and humidity for 24 ± 2 hours before measuring.			≤ Initial Value x 1.5 (See Above)								
Load Humidity Appearance No visual defects   Capacitance Variation ≤ ±30%   Dissipation Factor ≤ Initial Value x 1.5 (See above)   Insulation Resistance ≥ Initial Value x 0.1 (See Above)   Dielectric Meets Initial Values (As Above)		Resistance	≥ Initial Value x 0.1 (See Above)								
Load Humidity   Capacitance Variation   ≤ ±30%   Store in a test chamber set at 85°C ± 2°C/ 85%     Dissipation Factor   ≤ Initial Value x 1.5 (See above)   Store in a test chamber set at 85°C ± 2°C/ 85%     Insulation Resistance   ≤ Initial Value x 1.5 (See above)   Remove from chamber and stabilize at room temperature and humidity for 24 ± 2 hours before measuring.			Meets Initial Values (As Above)								
Load Humidity Variation ≤ ±30% Store in a test chamber set at 85°C ± 2°C/85%   Dissipation Factor ≤ Initial Value x 1.5 (See above) 5% relative humidity for 1000 hours (+48, -0) with rated voltage applied.   Insulation Resistance ≥ Initial Value x 0.1 (See Above) Remove from chamber and stabilize at room temperature and humidity for 24 ± 2 hours before measuring.			No visual defects	(+48, -0) with rated voltage applied. Remove from chamber and stabilize at room temperature and humidity for							
Load Humidity   Dissipation Factor   ≤ Initial Value x 1.5 (See above)   (+48, -0) with rated voltage applied.     Insulation Resistance   ≥ Initial Value x 0.1 (See Above)   Remove from chamber and stabilize at room temperature and humidity for 24 ± 2 hours before measuring.			≤ ±30%								
Insulation Resistance ≥ Initial Value x 0.1 (See Above) Remove from chamber and stabilize at room temperature and humidity for 24 ± 2 hours before measuring.			≤ Initial Value x 1.5 (See above)								
Dielectric Meets Initial Values (As Above)			≥ Initial Value x 0.1 (See Above)								
			Meets Initial Values (As Above)								



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## **PREFERRED SIZES ARE SHADED**

SIZE 0201		01	0402					0603			0805				1206				1210					
Soldering Reflow Only		Reflow/Wave					Reflow/Wave				Reflow/Wave				ReflowMfeve				Reflow/Wave					
Packaging All Paper		All Paper					All Paper				Paper/Embossed				Paper/Embossed				Paper/Embossed					
(L) Length $\begin{array}{c} mm & 0.60 \pm 0.09 \\ (in.) & (0.024 \pm 0.004) \end{array}$		1.00 ± 0.10					1.60 ± 0.15				2.01 ± 0.20				3.20 ± 0.20				3.20 ± 0.20					
		(0.024 ±	0.004)	(0.040 ± 0.004					(0.063 ± 0.006)				(0.079 ± 0.008)				(0.126 ± 0.008)				(0.126 ± 0.008)			
W) Width	mm	0.30 ±	0.09	0.50 ± 0.10					.81 ± 0.15					1.25 ± 0.20				1.60 ± 0.20				2.50 ± 0.20		
w) wiath	(in.)	(0.011 ±	0.004)	(0.020 ± 0.004)					(0.032 ± 0.006)				(0.049 ± 0.008)				(0.063 ± 0.008)				(0.098 ± 0.008)			
(t) Terminal	mm	0.15 ±	0.05	0.25			± 0.15			0.35 ± 0.15			0.50 ± 0.25				0.50 ± 0.25				.50 ± 0.25			
(t) reminai	(in.)	(0.006 ± 0.002)		(0.010 ± 0.006			006)		(0.014 ± 0.006)			(0.020 ± 0.010)			0)	(0.020 ± 0.010)				(0.020 ± 0.010)				
	WVDC	6.3	10	6	10	16	25	50	10	16	25	50	10	16	25	50	10	16	25	50	10	16	25	50
Сар	820										1										$\mathbf{x}$		-w.	
(pF)	1000		Α																-	Ľ	<		5	<
	2200		Α																	(	5		$\mathcal{V}$	T
	4700		Α							1	1									5	$ \downarrow $	1		
Сар	0.010	Α	Α																		-	T		
(µF)	0.022	Α																			. '.			
	0.047	Α				С																		
	0.10				С	С					G	G				K								
	0.22						1			G														
	0.33									G														
	0.47					С				G	G													
	1.0			С	С				G	G	J			N	N	Ν		М	М	М				Ν
	2.2				С				J					Ν	N				Κ	Q				
	4.7												Ν	N	N			Р	Q			N	Ν	
	10.0												Ν	Р			Q	Q	Х		Х	Q	Q	Ζ
	22.0																Q				Х	Z		
	47.0																							
	WVDC	6.3	10	6	10	16	25	50	10	16	25	50	10	16	25	50	10	16	25	50	10	16	25	50
SIZE 0201		01	0402						06	603			0805			1206				1210				
								· · · ·							Х									
Letter	Α	С	E	G J 0.90 0.94				K	М		N		Р		Q			Y	Z 2.79					
Max.	0.33	0.56	0.71			4	1.02	1.27		1.4	)	1.52	1.78		2.2	9	2.54							
Thickness	(0.013)	(0.022)	(0.028)	(0.	.035)	(0.03	37)	(0.040)	(0.	050)	(0.05	5) (	(0.060)	0.060) (0.070) (0.09			0) (	) (0.100) (0.110)						
			PAPER	1									EMB	BOSSE	ED									



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D55342E07B523DR-T/R NCA1206X7R104K16TRPF NIN-FB391JTRF NIN-FC2R7JTRF NMC0402NPO220J50TRPF NMC0402X5R105K6.3TRPF NMC0402X5R224K6.3TRPF NMC0402X7R103J25TRPF NMC0402X7R153K16TRPF NMC0402X7R392K50TRPF NMC0603NPO1R8C50TRPF NMC0603NPO20JJ50TRPF NMC0603NPO330G50TRPF NMC0603NPO331F50TRPF NMC0603X5R475M6.3TRPF NMC0805NPO220J100TRPF NMC0805NPO270J50TRPF NMC0805NPO681F50TRPF NMC0603X5R475M6.3TRPF NMC1206X7R102K50TRPF NMC1210Y5V105Z50TRPLPF NMC-L0402NPO7R0C50TRPF NMC0805NPO820J50TRPF NMC1206X7R102K50TRPF NMC1210Y5V105Z50TRPLPF NMC-L0402NPO7R0C50TRPF NMC-L0603NPO2R2B50TRPF NMC-P1206X7R103K1KVTRPLPF NMC-Q0402NPO8R2D200TRPF C1206C101J1GAC C1608C0G2A221J C1608X7R1E334K C2012C0G2A472J 2220J2K00562KXT KHC201E225M76N0T00 1812J2K00332KXT CCR06CG153FSV CDR14BP471CJUR CDR31BX103AKWR CDR33BX683AKUS CGA2B2C0G1H010C CGA2B2C0G1H040C CGA2B2C0G1H050C CGA2B2C0G1H060D CGA2B2C0G1H070D CGA2B2C0G1H120J CGA2B2C0G1H151J CGA2B2C0G1H1R5C CGA2B2C0G1H2R2C CGA2B2C0G1H390J CGA2B2C0G1H391J CGA2B2C0G1H3R3C CGA2B2C0G1H680J CGA2B2C0G1H6R8D