DLC70F (.600" x .400")

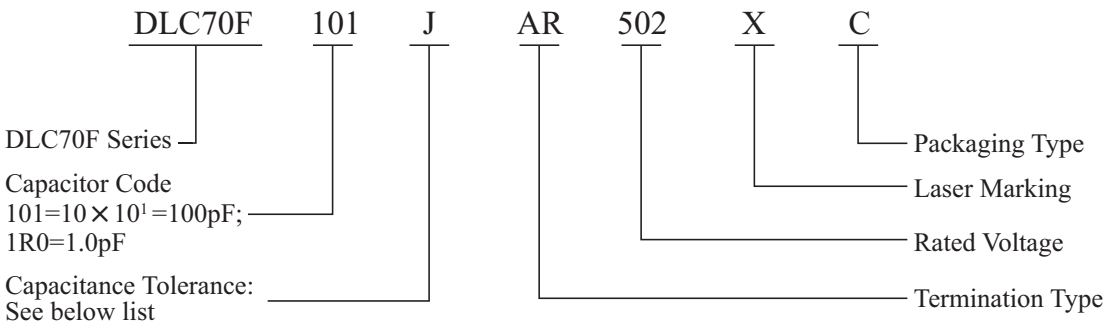
◆Product Features

High Q, High RF Current/Voltage, High RF Power, Low ESR/ESL, Low Noise, Ultra-Stable Performance.

◆DLC70F Capacitance & Rated Voltage Table

Cap.pF	Code	Tol.	Rated WVDC	Cap.pF	Code	Tol.	Rated WVDC	Cap.pF	Code	Tol.	Rated WVDC
1.0	1R0	B,C, D	5000V Code502 Extended Voltage 8000V Code802	33	330	F,G, J	5000V Code502 Extended Voltage 8000V Code802	820	821	F,G, J	2000V Code202 Extended Voltage 3000V Code302
1.2	1R2			39	390			1000	102		
1.5	1R5			47	470			1200	122		
1.8	1R8			56	560			1500	152		
2.2	2R2			68	680			1800	182		
2.7	2R7			82	820			2200	222		
3.3	3R3			100	101			2700	272		1000V Code102 Extended Voltage 2000V Code202
3.9	3R9			120	121		3000V Code302 Extended Voltage 5000V Code502	3300	332		
4.7	4R7			150	151			4700	472		
5.6	5R6			180	181			5100	512		
6.8	6R8			220	221			5600	562		
8.2	8R2			270	271			6800	682		
10	100	F,G, J		330	331						
12	120			390	391						
15	150			470	471						
18	180			560	561						
22	220			680	681						
27	270										

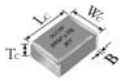
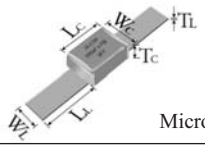
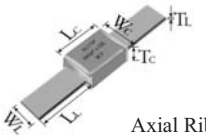
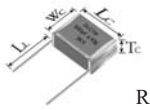
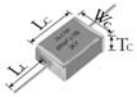
◆Part Numbering

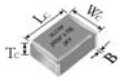
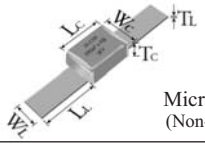
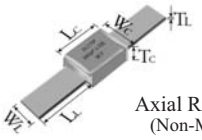
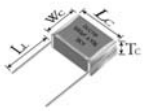
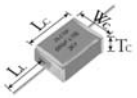


Code	B	C	D	F	G	J
Tolerance	±0.1pF	±0.25pF	±0.5pF	±1%	±2%	±5%

◆DLC70F Capacitor Dimensions

unit:inch(millimeter)

Series	Term. Code	Type/Outlines	Capacitor Dimensions				Lead Dimensions			Plated Material
			Length (L_C)	Width (W_C)	Thick. (T_C)	Overlap (B)	Length (L_L)	Width (W_L)	Thickness (T_L)	
70F	W	 Chip	.614 +.015 to −.010 (15.6 +0.38 to −0.25)	.433 ±.010 (11.0± 0.25)	.197 (5.00) max	.063 (1.60) max	–	–	–	100% Sn over Nickel Plating
70F	L									90 Sn10Pb over Nickel Plating
70F	MS	 Microstrip				–	.748 (19.00) min	.350 ± .010 (8.89 ±0.25)	.008 ± .001 (0.20 ±0.025)	Silver-plated Copper
70F	AR	 Axial Ribbon								
70F	RW	 Radial Wire					.748 (19.00) min	Dia.=.030±.004 (0.80±0.10)		
70F	AW	 Axial Wire					.906 (23.00) min			

Series	Term. Code	Type/Outlines	Capacitor Dimensions				Lead Dimensions			Plated Material
			Length (L_C)	Width (W_C)	Thick. (T_C)	Overlap (B)	Length (L_L)	Width (W_L)	Thickness (T_L)	
70F	P	 Chip (Non-Mag)	.614 +.015 to −.010 (15.6 +0.38 to −0.25)	.433 ±.010 (11.0± 0.25)	.197 (5.00) max	.063 (1.60) max	–	–	–	100% Sn over Copper Plating
70F	MN	 Microstrip (Non-Mag)				–	.748 (19.00) min	.350 ± .010 (8.89 ±0.25)	.008 ± .001 (0.20 ±0.025)	Silver-plated Copper
70F	AN	 Axial Ribbon (Non-Mag)								
70F	RN	 Radial Wire (Non-Mag)					.748 (19.00) min	Dia.=.030±.004 (0.80±0.10)		
70F	BN	 Axial Wire (Non-Mag)					.906 (23.00) min			

◆Performance

Item	Specifications
Quality Factor (Q)	No less than 1000pF, Q value more than 2000, Test frequency 1MHz; More than 1000pF, Q value more than 2000, Test frequency 1KHz;
Insulation Resistance (IR)	Test Voltage: 500V 10^5 Megohms min. @ +25°C at rated WVDC. 10^4 Megohms min. @ +125°C at rated WVDC.
Rated Voltage	See Rated Voltage Table
Dielectric Withstanding Voltage (DWV)	250% of Rated Voltage for 5 seconds, Rated Voltage≤500VDC 150% of Rated Voltage for 5 seconds, 500VDC< Rated Voltage≤1250VDC 120% of Rated Voltage for 5 seconds, Rated Voltage>1250VDC
Operating Temperature Range	−55°C to +175°C
TemperatureCoefficient (TC)	0±30 ppm/℃ (−55°C to +125°C)
Capacitance Drift	±0.02% or ±0.02pF, whichever is greater.
Piezoelectric Effects	None
Termination Type	See Termination Type Table

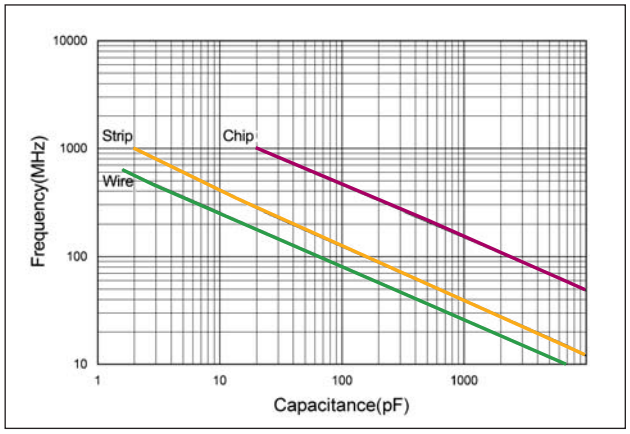
Capacitors are designed and manufactured to meet the requirements of MIL-PRF-55681 and MIL-PRF-123.

◆Environmental Tests

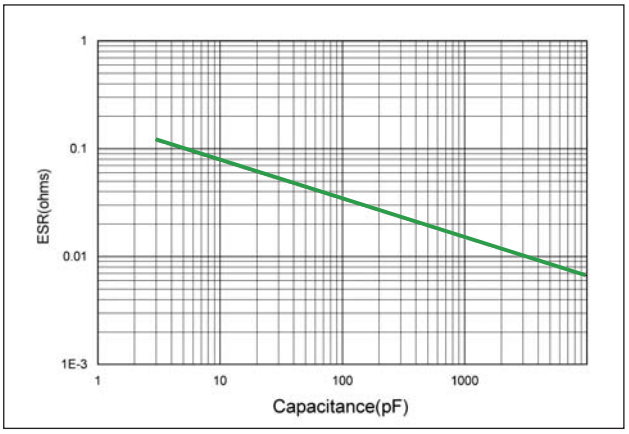
Item	Specifications	Method
Thermal Shock	DWV: the initial value IR: Shall not be less than 30% of the initial value Capacitance change: no more than 0.5% or 0.5pF. whichever is greater.	MIL-STD-202, Method 107, Condition A. At the maximum rated temperature (-55℃ and 125℃) stay 30 minutes. The time of removing shall not be more than 3 minutes. Perform the five cycles.
Moisture Resistance		MIL-STD-202, Method 106.
Humidity (steady state)	DWV: the initial value IR: the initial value Capacitance change: no more than 0.3% or 0.3pF. whichever is greater.	MIL-STD-202, Method 103, Condition A, with 1.5 Volts D.C. applied while subjected to an environment of 85℃ with 85% relative humidity for 240 hours minimum.
Life	IR: Shall not be less than 30% of the initial value Capacitance change: no more than 2.0% or 0.5pF. whichever is greater.	MIL-STD-202, Method 108, for 2000 hours, at 125℃. 200% of Rated Voltage for Capacitors, Rated Voltage≤500VDC 120% of Rated Voltage for Capacitors, 500VDC< Rated Voltage≤1250VDC 100% of Rated Voltage for Capacitors, Rated Voltage>1250VDC

◆DLC70F Performance Curve

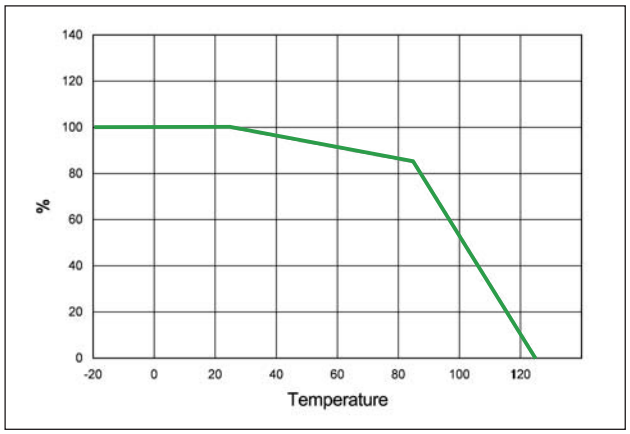
Self Resonant Frequency
vs Capacitance



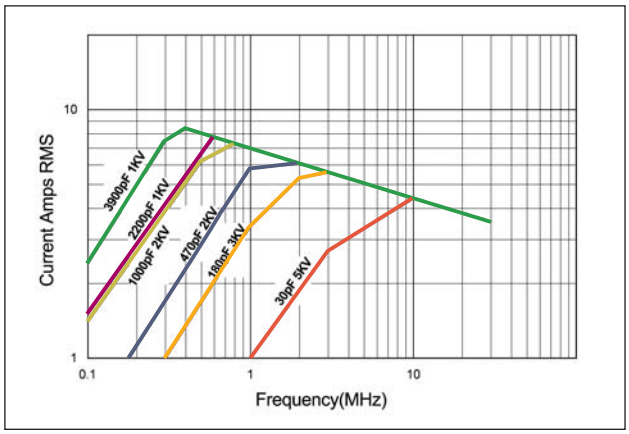
ESR vs Capacitance
Measured @ 30MHz



% Maximum Current vs
Amhient Temperature



DLC70F Wire Terminals
Rated Current vs Frequency



DLC70F Strip Terminals
Rated Current vs Frequency