

High Voltage MLC Ledged

HV Styles (US Preferred Sizes) DIP Lead

COG Dielectric General Specifications

Capacitance Range
100 pF to 1.2 μ F
(25°C, 1.0 \pm 0.2 Vrms (open circuit voltage)
at 1 KHz, for \leq 100 pF use 1 MHz)

Capacitance Tolerances
 \pm 5%, \pm 10%, \pm 20%

Operating Temperature Range
-55°C to +125°C

Temperature Characteristic
0 \pm 30 ppm/°C

Voltage Ratings
1000 VDC thru 5000 VDC (+125°C)

Dissipation Factor
0.15% max.
(25°C, 1.0 \pm 0.2 Vrms (open circuit voltage)
at 1 KHz, for \leq 100 pF use 1 MHz)

Insulation Resistance (+25°C, at 500V)
100K M Ω min., or 1000 M Ω - μ F min.,
whichever is less

Insulation Resistance (+125°C, at 500V)
10K M Ω min., or 100 M Ω - μ F min.,
whichever is less

Dielectric Strength
120% rated voltage, 5 seconds

Life Test
100% rated and +125°C

N1500 General Specifications

Capacitance Range
100 pF to 1.9 μ F
(25°C, 1.0 \pm 0.2 Vrms (open circuit voltage)
at 1 KHz)

Capacitance Tolerances
 \pm 5%, \pm 10%, \pm 20%

Operating Temperature Range
-55°C to +125°C

Temperature Characteristic
-1500 \pm 250 ppm/°C

Voltage Ratings
1000 VDC thru 5000 VDC (+125°C)

Dissipation Factor
0.15% max.
(25°C, 1.0 \pm 0.2 Vrms (open circuit voltage)
at 1 KHz)

Insulation Resistance (+25°C, at 500V)
100K M Ω min., or 1000 M Ω - μ F min.,
whichever is less

Insulation Resistance (+125°C, at 500V)
10K M Ω min., or 100 M Ω - μ F min.,
whichever is less

Dielectric Strength
120% rated voltage, 5 seconds

Life Test
100% rated and +125°C

X7R Dielectric General Specifications

Capacitance Range
100 pF to 15 μ F
(25°C, 1.0 \pm 0.2 Vrms (open circuit voltage)
at 1 KHz)

Capacitance Tolerances
 \pm 10%, \pm 20%, +80%, -20%

Operating Temperature Range
-55°C to +125°C

Temperature Characteristic
 \pm 15% (0 VDC)

Voltage Ratings
1000 VDC thru 5000 VDC (+125°C)

Dissipation Factor
2.5% max.
(25°C, 1.0 \pm 0.2 Vrms (open circuit voltage) at
1 KHz)

Insulation Resistance (+25°C, at 500V)
100K M Ω min., or 1000 M Ω - μ F min.,
whichever is less

Insulation Resistance (+125°C, at 500V)
10K M Ω min., or 100 M Ω - μ F min.,
whichever is less

Dielectric Strength
120% rated voltage, 5 seconds

Life Test
100% rated and +125°C

HOW TO ORDER

HV	01	A	C	105	M	A	N	650
Style	Size See Dimensions chart	Voltage 1K = A 2K = G 3K = H 4K = J 5K = K	Temperature Coefficient COG = A X7R = C N1500 = 4	Capacitance Code (2 significant digits + number of zeros) 10 pF = 100 100 pF = 101 1,000 pF = 102 22,000 pF = 223 220,000 pF = 224 1 μ F = 105 10 μ F = 106 100 μ F = 107	Capacitance Tolerance COG: J = \pm 5% K = \pm 10% M = \pm 20% X7R: K = \pm 10% M = \pm 20% Z = +80%, -20%	Test Level A = Does not apply	Termination N = Straight Lead J = Leads formed in L = Leads formed out P = P Style Leads Z = Z Style Leads	Height Max Dimension "A" 120 = 0.120" 240 = 0.240" 360 = 0.360" 480 = 0.480" 650 = 0.650"

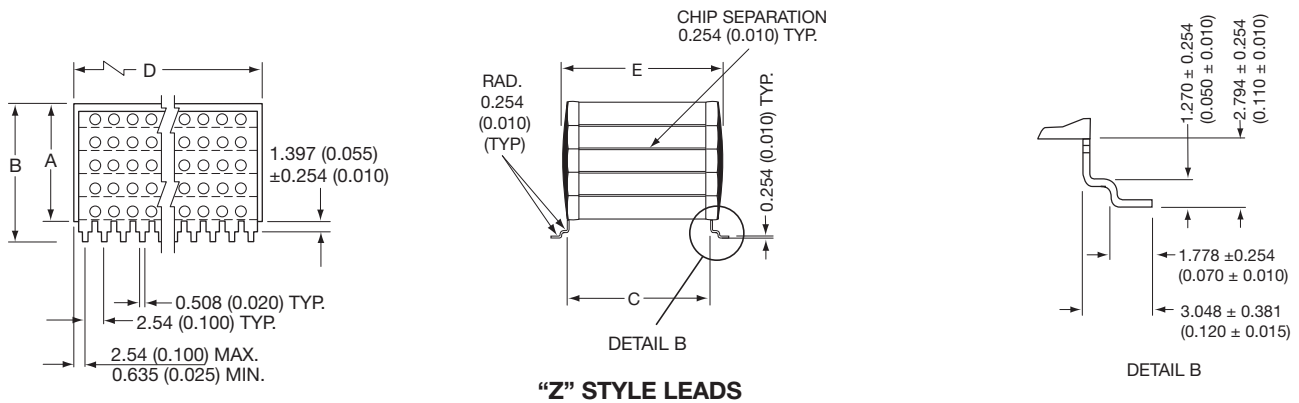
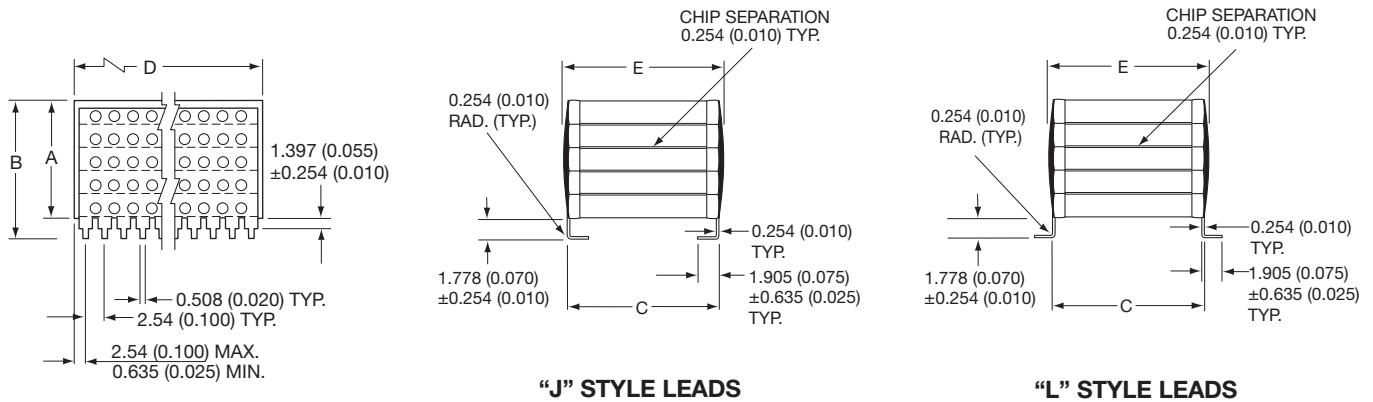
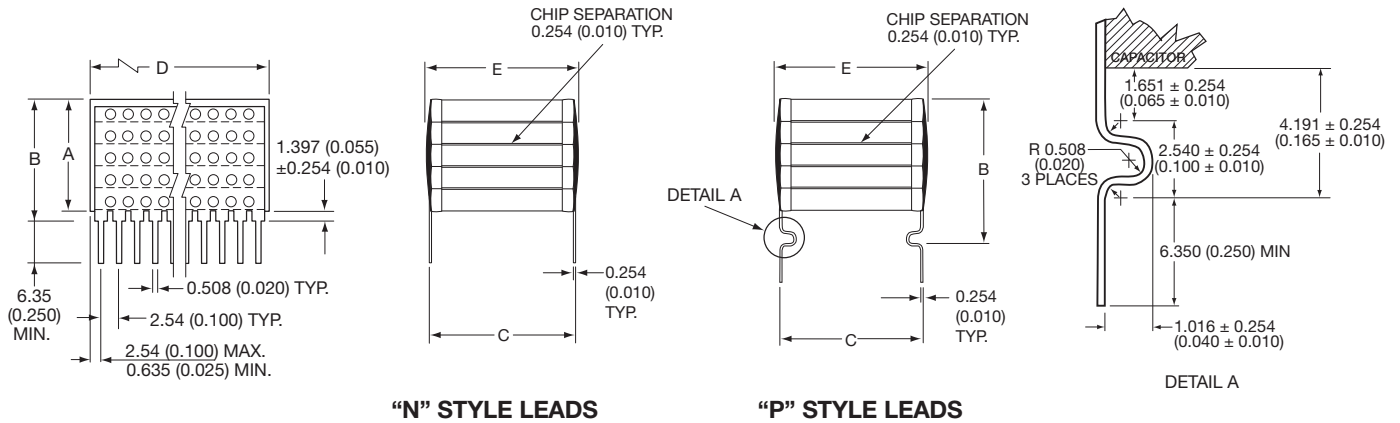
Note: Capacitors with X7R dielectrics are not intended for applications across AC supply mains or AC line filtering with polarity reversal. Contact plant for recommendations.

Not RoHS Compliant

Performance of SMPS capacitors can be simulated by downloading SpiCalci software program -
<http://www.kyocera-avx.com/download/software/SpiCalci-AVX.zip>
 Custom values, ratings and configurations are also available.

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DIMENSIONS

millimeters (inches)

Style	A (max.)	B (max.)	C ± 0.635 (±0.025)	D ± 0.635 (±0.025)	E (max.)	No. of Leads per side
HV01	See page 83 for maximum "A" Dimension	For "N" Style Leads: "A" Dimension Plus 1.651 (0.065) For "J" & "L" Style Leads: "A" Dimension Plus 2.032 (0.080) For "P" Style Leads: "A" Dimension Plus 4.445 (0.175) For "Z" Style Leads: "A" Dimension Plus 3.048 (0.120)	53.3 (2.100)	10.5 (0.415)	54.9 (2.160)	4
HV02			39.1 (1.540)	20.3 (0.800)	40.7 (1.600)	8
HV03			27.2 (1.070)	10.5 (0.415)	28.2 (1.130)	4
HV04			10.2 (0.400)	10.2 (0.400)	11.2 (0.440)	4
HV05			6.35 (0.250)	6.35 (0.250)	7.62 (0.300)	3
HV06			53.3 (2.100)	29.0 (1.140)	54.9 (2.160)	11

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HV Styles (US Preferred Sizes) DIP Lead

Max Capacitance (µF) Available Versus Style with Height (A) of 0.120" - 3.05mm

STYLE	HV01 _____ AN120					HV02 _____ AN120					HV03 _____ AN120					HV04 _____ AN120					HV05 _____ AN120		HV06 _____ AN120					
	1KV	2KV	3KV	4KV	5KV	1KV	2KV	3KV	4KV	5KV	1KV	2KV	3KV	4KV	5KV	1KV	2KV	3KV	4KV	5KV	1KV	2KV	1KV	2KV	1KV	2KV	3KV	4KV
C0G	.086	.024	.011	.0062	.0052	.120	.034	.015	.0088	.0074	.042	.013	.0058	.0030	.0024	.012	.0040	.0018	.0009	.0007	.0048	.0013	.240	.066	.028	.018	.015	.015
N1500	.140	.042	.018	.010	.0084	.200	.058	.024	.014	.012	.068	.020	.0090	.0050	.0040	.020	.0066	.0028	.0014	.0012	.0078	.0022	.380	.100	.046	.030	.026	.026
X7R	1.10	.260	.150	.066	.052	1.50	.360	.200	.094	.078	.520	.130	.072	.032	.024	.160	.042	---	---	---	.060	---	3.00	.700	.440	.200	.170	.170

Max Capacitance (µF) Available Versus Style with Height (A) of 0.240" - 6.10mm

STYLE	HV01 _____ AN240					HV02 _____ AN240					HV03 _____ AN240					HV04 _____ AN240					HV05 _____ AN240		HV06 _____ AN240					
	1KV	2KV	3KV	4KV	5KV	1KV	2KV	3KV	4KV	5KV	1KV	2KV	3KV	4KV	5KV	1KV	2KV	3KV	4KV	5KV	1KV	2KV	1KV	2KV	3KV	4KV	5KV	
C0G	.170	.048	.022	.012	.010	.240	.068	.031	.017	.015	.084	.026	.011	.0060	.0048	.025	.0082	.0036	.0018	.0014	.0096	.0027	.480	.130	.056	.036	.031	.031
N1500	.280	.084	.036	.020	.016	.400	.110	.048	.028	.024	.130	.040	.018	.010	.0080	.040	.013	.0056	.0028	.0025	.015	.0044	.760	.210	.092	.060	.052	.052
X7R	2.20	.520	.300	.130	.100	3.10	.720	.400	.180	.150	1.00	.270	.140	.064	.048	.330	.084	---	---	---	.120	---	6.00	1.40	.880	.400	.340	.340

Max Capacitance (µF) Available Versus Style with Height (A) of 0.360" - 9.15mm

STYLE	HV01 _____ AN360					HV02 _____ AN360					HV03 _____ AN360					HV04 _____ AN360					HV05 _____ AN360		HV06 _____ AN360					
	1KV	2KV	3KV	4KV	5KV	1KV	2KV	3KV	4KV	5KV	1KV	2KV	3KV	4KV	5KV	1KV	2KV	3KV	4KV	5KV	1KV	2KV	1KV	2KV	3KV	4KV	5KV	
C0G	.250	.072	.033	.018	.015	.360	.100	.047	.026	.022	.120	.039	.017	.0090	.0072	.038	.012	.0054	.0027	.0022	.014	.0040	.720	.200	.084	.055	.047	.047
N1500	.420	.120	.055	.030	.025	.600	.170	.072	.043	.036	.200	.060	.027	.015	.012	.060	.020	.0084	.0043	.0037	.023	.0066	1.10	.310	.130	.090	.078	.078
X7R	3.30	.780	.450	.200	.150	4.70	1.00	.600	.280	.230	1.50	.410	.210	.096	.072	.490	.120	---	---	---	.180	---	9.00	2.10	1.30	.600	.510	.510

Max Capacitance (µF) Available Versus Style with Height (A) of 0.480" - 12.2mm

STYLE	HV01 _____ AN480					HV02 _____ AN480					HV03 _____ AN480					HV04 _____ AN480					HV05 _____ AN480		HV06 _____ AN480					
	1KV	2KV	3KV	4KV	5KV	1KV	2KV	3KV	4KV	5KV	1KV	2KV	3KV	4KV	5KV	1KV	2KV	3KV	4KV	5KV	1KV	2KV	1KV	2KV	3KV	4KV	5KV	
C0G	.340	.096	.044	.024	.020	.480	.130	.063	.035	.030	.160	.052	.023	.012	.0096	.051	.016	.0072	.0036	.0029	.019	.0054	.960	.260	.110	.073	.062	.062
N1500	.560	.160	.073	.040	.033	.800	.230	.096	.057	.048	.270	.080	.036	.020	.016	.080	.026	.011	.0057	.0050	.031	.0088	1.50	.420	.180	.120	.100	.100
X7R	4.40	1.00	.600	.260	.200	6.30	1.40	.800	.370	.310	2.00	.550	.280	.120	.096	.650	.160	---	---	---	.240	---	12.0	2.80	1.70	.800	.68	.68

Max Capacitance (µF) Available Versus Style with Height (A) of 0.650" - 16.5mm

STYLE	HV01 _____ AN650					HV02 _____ AN650					HV03 _____ AN650					HV04 _____ AN650					HV05 _____ AN650		HV06 _____ AN650					
	1KV	2KV	3KV	4KV	5KV	1KV	2KV	3KV	4KV	5KV	1KV	2KV	3KV	4KV	5KV	1KV	2KV	3KV	4KV	5KV	1KV	2KV	1KV	2KV	3KV	4KV	5KV	
C0G	.430	.120	.056	.031	.026	.610	.170	.079	.044	.037	.210	.065	.029	.015	.012	.064	.020	.009	.0045	.0037	.024	.0068	1.20	.330	.140	.092	.078	.078
N1500	.700	.210	.092	.050	.042	1.00	.290	.120	.072	.060	.340	.100	.045	.025	.020	.100	.033	.014	.0072	.0063	.039	.011	1.90	.530	.230	.150	.130	.130
X7R	5.50	1.30	.750	.330	.260	7.90	1.80	1.00	.470	.390	2.60	.690	.360	.160	.120	.820	.210	---	---	---	.300	---	15.0	3.50	2.20	1.00	.850	.850