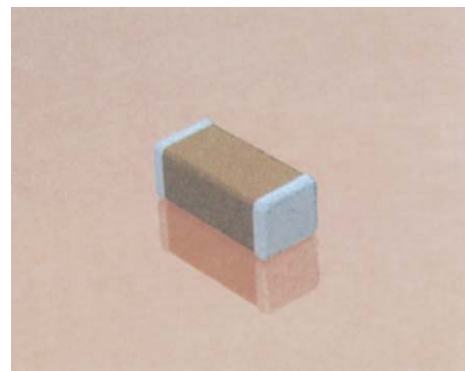




1210, 1825, 2225, 3640 X7R Dielectric, High Voltage MLC Chips, Capacitor

General Description:

High value, low leakage and small size are difficult parameters to obtain in capacitors for high voltage systems. AVX special high voltage MLC chip capacitors meet these performance characteristics and are designed for applications such as snubbers in high frequency power converters, resonators in SMPS, and high voltage coupling/dc blocking. These high voltage chip designs exhibit low ESRs at high frequencies. Larger physical sizes than normally encountered chips are used to make high voltage MLC chip products. Special precautions must be taken in applying these chips in surface mount assemblies.



The temperature gradient during heating or cooling cycles should not exceed 4°C per second. The preheat temperature must be within 50°C of the peak temperature reached by the ceramic bodies through the soldering process. Chip sizes 1210 and larger should be reflow soldered only. Capacitors may require protective surface coating to prevent external arcing. For 1825, 2225 and 3640 sizes, AVX offers leaded version in either thru-hole or SMT configurations (for details see section on high voltage leaded MLC chips).

Key Features:

X7R Dielectric

Capacitance Range: 10 pF to 0.56 μ F (25°C, 1.0 \pm 0.2 Vrms at 1kHz)

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

Dissipation Factor: 2.5% max. (+25°C, 1.0 \pm 0.2 Vrms, 1kHz)

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

Temperature Characteristic: \pm 15% (0 VDC)

Voltage Ratings: 600, 630, 1000, 1500, 2000, 2500, 3000, 4000 & 5000 VDC (+125°C)

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

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

Dielectric Strength: Minimum 120% rated voltage for 5 seconds at 50 mA max. current

Applications:

- Snubbers in high frequency power converters,
- Resonators in SMPS, and
- High voltage coupling/dc blocking

Related Products Information:

| Mfr Part # | Farnell # | Newark # | Description |
|----------------|-----------|----------|-------------------------------|
| 1210GC332KAT1A | 1789451 | 52R2425 | CAPACITOR, 1210, 2000V, 3.3NF |
| 1808CC683KAT1A | 1789452 | 52R2426 | CAPACITOR, 1808, 600V, 68NF |
| 1812GC682KAT1A | 1789453 | 52R2427 | CAPACITOR, 1812, 2000V, 6.8NF |
| 1812GC822KAT1A | 1789455 | 52R2428 | CAPACITOR, 1812, 2000V, 8.2NF |
| 1812HC272KAZ1A | 1789456 | 52R2429 | CAPACITOR, 1812, 3000V, 2.7NF |
| 1812HC332KAT1A | 1789457 | 52R2430 | CAPACITOR, 1812, 3000V, 3.3NF |
| 1825CC274KAT1A | 1789458 | 52R2431 | CAPACITOR, 1825, 600V, 270NF |
| 1825CC274KAZ1A | 1789459 | 52R2432 | CAPACITOR, 1825, 600V, 270NF |
| 1825GC153KAT1A | 1789460 | 52R2433 | CAPACITOR, 1825, 2000V, 15NF |
| 1825GC223KAT1A | 1789461 | 52R2434 | CAPACITOR, 1825, 2000V, 22NF |
| 1825GC223KAZ1A | 1789462 | 52R2435 | CAPACITOR, 1825, 2000V, 22NF |
| 1825WC153KAT1A | 1789463 | 52R2437 | CAPACITOR, 1825, 2500V, 15NF |
| 1825HC103KAT1A | 1789464 | 52R2436 | CAPACITOR, 1825, 3000V, 10NF |
| 2220CC274KAT1A | 1789465 | 52R2442 | CAPACITOR, 2220, 600V, 270NF |
| 2220CC274KAZ1A | 1789467 | 52R2443 | CAPACITOR, 2220, 600V, 270NF |
| 2220AC104KAT1A | 1789468 | 52R2438 | CAPACITOR, 2220, 1000V, 100NF |
| 2220AC104KAZ1A | 1789469 | 52R2439 | CAPACITOR, 2220, 1000V, 100NF |
| 2220AC124KAT1A | 1789470 | 52R2440 | CAPACITOR, 2220, 1000V, 120NF |
| 2220AC124KAZ1A | 1789471 | 52R2441 | CAPACITOR, 2220, 1000V, 120NF |
| 2220SC473KAT1A | 1789472 | 52R2451 | CAPACITOR, 2220, 1500V, 47NF |
| 2220SC473KAZ1A | 1789473 | 52R2452 | CAPACITOR, 2220, 1500V, 47NF |
| 2220GC273KAT1A | 1789474 | 52R2444 | CAPACITOR, 2220, 2000V, 27NF |
| 2220GC273KAZ1A | 1789475 | 52R2445 | CAPACITOR, 2220, 2000V, 27NF |
| 2220HC103KAT1A | 1789476 | 52R2446 | CAPACITOR, 2220, 3000V, 10NF |
| 2220HC103KAZ1A | 1789477 | 52R2447 | CAPACITOR, 2220, 3000V, 10NF |

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|----------------|---------|---------|-------------------------------|
| 2220HC562KAT1A | 1789479 | 52R2448 | CAPACITOR, 2220, 3000V, 5.6NF |
| 2220HC682KAT1A | 1789481 | 52R2449 | CAPACITOR, 2220, 3000V, 6.8NF |
| 2220HC682KAZ1A | 1789482 | 52R2450 | CAPACITOR, 2220, 3000V, 6.8NF |
| 2225SC683KAT1A | 1789483 | 52R2458 | CAPACITOR, 2225, 1500V, 68NF |
| 2225SC683KAZ1A | 1789484 | 52R2459 | CAPACITOR, 2225, 1500V, 68NF |
| 2225GC333KAT1A | 1789485 | 52R2453 | CAPACITOR, 2225, 2000V, 33NF |
| 2225GC333KAZ1A | 1789486 | 52R2454 | CAPACITOR, 2225, 2000V, 33NF |
| 2225WC223KAT1A | 1789487 | 52R2460 | CAPACITOR, 2225, 2500V, 22NF |
| 2225HC103KAT1A | 1789488 | 52R2455 | CAPACITOR, 2225, 3000V, 10NF |
| 2225HC153KAT1A | 1789489 | 52R2456 | CAPACITOR, 2225, 3000V, 15NF |
| 2225HC153KAZ1A | 1789490 | 52R2457 | CAPACITOR, 2225, 3000V, 15NF |