Absolute Max. Ratings

Continuous – Steady State Applied Voltage
- DC Voltage Range (Vdc): 16 V to 56 V
- AC Voltage Range (Vrms): 14 V to 40 V

Transient
- Load Dump Energy (WLD): 6 J
- Jump Start Capability – 5 minutes (Vjump): 24.5 V to 65 V
- Non-Repetitive Surge Current 8/20 μs Waveform (Imax): 800 A
- Non-Repetitive Surge Energy 10/1000 μs Waveform (Wmax): 2.4 J to 4.8 J
- Capacitance C1 Range: 100 nF to 1.5 μF
- Capacitance C2, C3 Range: 1 nF to 100 nF
- Capacitor Temperature Characteristics: X7R
- Operating Ambient Temperature: -40 °C to 125 °C
- Storage Temperature Range: -40 °C to 150 °C
- Climatic Category: 40/125/56

Ordering Code

e.g. C3V 14 K 474/103 K X 801 B
C3V - Series Name
14 - Max. Continuous Working Voltage - Vrms
K - Vn Tolerance: K = ± 10%, L = ± 15%, M = ± 20%
474 - Capacitance C1 in nF: 474 = 470 nF, 105 = 1000 nF
103 - Capacitance C2, C3 in nF: 103 = 10 nF
K - Capacitance Tolerance:
  K = ± 10%,
  L = ± 15%, M = ± 20%
X - Dielectric Type X7R
801 - Surge Current Code in A: 801 = 800 A
B - Packaging: B = Bulk, R = Reel, A = Ammo
yy - Special requirements

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Committed to excellence
Description
C3V series is an innovative electronic component intended for broadband filtering of electromagnetic interferences (EMI) and suppression of voltage spikes generated in electronic circuits. This high-level dual protection is required or recommended for integration in electrical motors or within corresponding subassemblies, where on/off switching during operation generates inductive loads, further triggering voltage spikes. As a result, broadband electromagnetic interferences (EMI) are generated in the frequency domain, rising noise and disturbance levels, which affect the performance or possibly damage sensitive electronic elements that are integrated near-by in the electrical circuit.

Features
- Operating voltage range Vdc: 16, 20, 26, 38 and 56 V
- Capacitance C1 range 100 nF to 1.5 μF
- Capacitance C2, C3 range: 1 nF to 100 nF
- Capacitor C1 and C2, C3 temp. characteristics: X7R
- Protection against electromagnetic interferences (EMI) and voltage disturbances
- Dimensional and weight savings on board
- RoHS 2 2011/65/EC, REACH, GADSL compliant
- AEC-Q200 Grade 1 qualified

Advantages
- Better results suppressing radiated and conductive emissions in comparison to discrete components
- Very good overcurrent and overvoltage protection
- Four passive elements in one component assembled
- Terminal reduction from 8 to 3
- Error minimization during installing elements
- Time reduction to install elements

Application Circuit
Elimination of electromagnetic interferences (EMI) and voltage disturbances generated by DC brush motor:

Packages

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<th>Type</th>
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PCB Diagramm

Selection Guide

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