

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 μ s Waveform (Imax): 800 A
- Non-Repetitive Surge Energy 10/1000 μ s Waveform (Wmax): 2.4 J to 4.8 J
- Capacitance C1 Range: 100 nF to 1.5 μ F
- 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 = \pm 10%, L = \pm 15%, M = \pm 20%

474 - Capacitance C1 in nF: 474 = 470 nF, 105 = 1000nF

103 - Capacitance C2, C3 in nF: 103 = 10nF

K - Capacitance Tolerance:
K = \pm 10%,
L = \pm 15%, M = \pm 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

C3V Series

Electronic Components with
stacked Elements

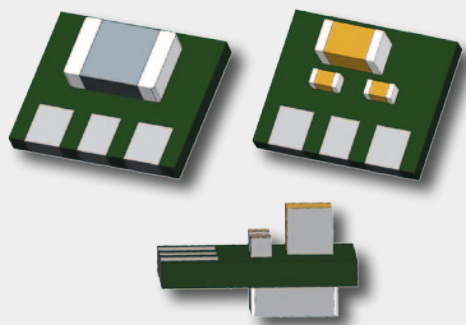
KEKOVARICON

Consult | Components | Logistics | Support

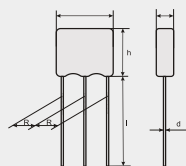
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Description

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.



C3V is also available as square shaped through hole components (THD) with three output line leads with raster 2.5 mm.



Size Parameters

- D max=12mm
- h max=12mm
- t max=7mm
- R=2.5±0.5mm

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

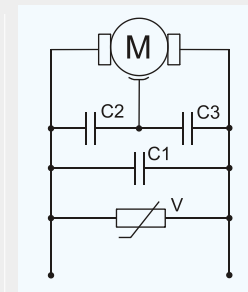
- Better results suppressing radiated and conductive emissions in comparison to discrete components
- Very good overcurrent and overvoltage protection
- Four passive elements in one component assembled
- Terminal reduction from 8 to 3
- Error minimization during installing elements
- Time reduction to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

Selection Guide

Type	Vrms	Vdc	Vn	Vjump	Vc	Ic	Wmax	WLD	Pmax	Imax	C1	C2.3
	[V]	[V]	1 mA [V]	5 min [V]	[V]	8/20 µs [A]	10/100 µs [J]	10 X [J]	[W]	8/20 µs [A]	1 kHz [nF]	1 [nF]
C3V 14 K474/103	14	16	24	24.5	40	5	2.4	6	0.015	800	470	10
C3V 14 K 105/103	14	16	24	24.5	40	5	2.4	6	0.015	800	1000	10
C3V 20 K 474/103	20	26	33	36	54	5	3.2	6	0.015	800	470	10
C3V 20 K 105/103	20	26	33	36	54	5	3.2	6	0.015	800	1000	10
C3V 30 K 474/103	30	38	47	50	77	5	4.5	6	0.015	800	470	10
C3V 30 K 105/103	30	38	47	50	77	5	4.5	6	0.015	800	1000	10
Customized	14 – 40	16 – 56	–	24 – 65	40 – 110	5	2.4 – 4.8	6	0.015	800	470 – 1500	1 – 100

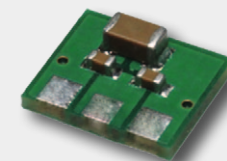
Application Circuit

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



Packages

Type	Size
V...Varistor	1812
C1...capacitor	1206
C2...capacitor	0605
C3...capacitor	0605
C3V 30 K 105/103	30



PCB Diagramm

