

Varistor Products

High Energy, High Multiple Pulse Capability Radial Lead

RoHS C-III Varistor Series



The C-III Series of metal-oxide varistors are specifically designed for applications requiring high surge energy absorption ratings and superior multiple pulse absorption rating. This is achieved through a special dielectric material formulation which also results in higher repetitive surge ratings than other MOV types.

The C-III series is primarily intended for use in AC line Transient Voltage Surge Suppressor (TVSS) product environment and other similar applications requiring high transient energy and peak current capability in a relatively small package size.

The C-III series is supplied in 10mm, 14mm and 20mm disc versions with various lead options.

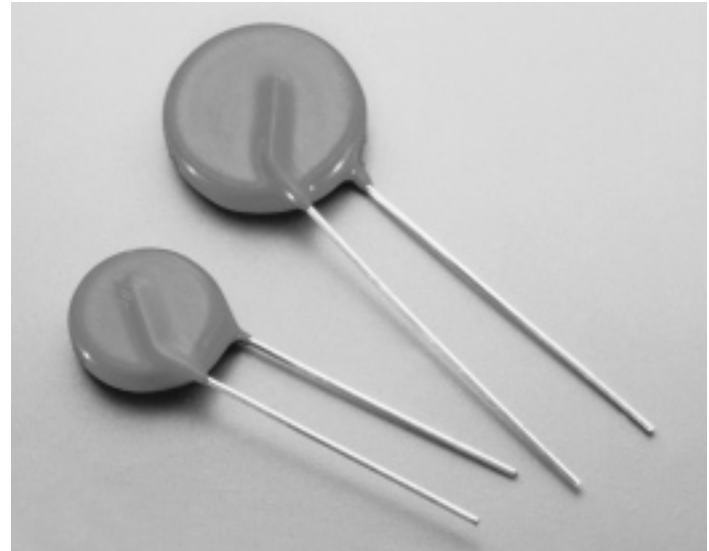
These types are shipped in bulk or Tape and Reel packaging. Part number and brand information is provided in the Ratings table.

Features

- Lead-free and RoHS compliant option available. Please see the device and ratings specifications table for more information.
- High Energy Absorption Capability
 W_{TM} 40J to 530J (2ms)
- High Pulse Life Rating
- High Peak Pulse Current Capability
 I_{TM} 3500A to 9000A (8/20 μ s)
- Wide Operating Voltage Range
 $V_{M(AC)RMS}$ 130V to 660V
- Available in Tape and Reel for Automatic Insertion; Also Available with Crimped and/or Trimmed Lead Styles
- No Derating Up to 85°C Ambient

AGENCY APPROVALS: Recognized under the components program of Underwriters Laboratories. Certified by CSA, VDE and CECC. VDE certification of Lead-free and RoHS compliant parts pending.

AGENCY FILE NUMBERS: UL E75961, CSA LR91788, VDE 116895E, CECC 42201-006.



**NEW LEAD-FREE AND
RoHS COMPLIANT PARTS
AVAILABLE**

**ALSO SEE LITTELFUSE
ULTRAMOV™ VARISTOR SERIES**

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Absolute Maximum Ratings For ratings of individual members of a series, see Device Ratings and Specifications chart

	C-III SERIES	UNITS
Continuous:		
Steady State AC Voltage Range ($V_{M(AC)RMS}$)	130 to 660	V
Transients:		
Single-Pulse Peak Current (I_{TM}) 8/20 μ s Wave (See Figure 2)	3500 to 9000	A
Single-Pulse Energy Range (W_{TM}) 2ms Rectangular Wave	40 to 530	J
Maximum Temporary Overvoltage of $V_{M(AC)}$:		
5 Minutes Duration @ 25°C	130	%
5 Minutes Duration @ 125°C	120	%
Operating Ambient Temperature Range (T_A)	-55 to 85	°C
Storage Temperature Range (T_{STG})	-55 to 125	°C
Temperature Coefficient ($\square V$) of Clamping Voltage (V_C) at Specified Test Current	<0.0	%/°C

CAUTION: Stresses above those listed in "Absolute Maximum Ratings" may cause permanent damage to the device. This is a stress only rating and operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied.

C-III Series Ratings

 LEAD-FREE AND RoHS COMPLIANT MODELS		STANDARD MODELS		MAXIMUM RATINGS (85 °C)			
				CONTINUOUS		TRANSIENT	
				MAXIMUM V_{RMS} $V_{M(AC)}$ (V)	WITHSTANDING ENERGY (2ms) W_{TM} (J)	PEAK CURRENT (8/20 μ s)	
I_{TM1} 1 PULSE (A)	I_{TM2} 2 PULSES (A)						
PART NUMBER	BRANDING	PART NUMBER	BRANDING				
V130LA5CP	P130L5C	V130LA5C	130L5C	130	40	3500	3000
V130LA10CP	P130L10C	V130LA10C	130L10C	130	80	6000	5000
V130LA20CP	P130L20C	V130LA20C	130L20C	130	200	9000	7000
V130LA20CX325P	P130CX325	V130LA20CX325	130CX325	130	200	9000	7000
V140LA5CP	P140L5C	V140LA5C	140L5C	140	45	3500	3000
V140LA10CP	P140L10C	V140LA10C	140L10C	140	90	6000	5000
V140LA20CP	P140L20C	V140LA20C	140L20C	140	210	9000	7000
V140LA20CX340P	P140CX340	V140LA20CX340	140CX340	140	210	9000	7000
V150LA5CP	P150L5C	V150LA5C	150L5C	150	50	3500	3000
V150LA10CP	P150L10C	V150LA10C	150L10C	150	100	6000	5000
V150LA20CP	P150L20C	V150LA20C	150L20C	150	215	9000	7000
V150LA20CX360P	P150CX360	V150LA20CX360	150CX360	150	215	9000	7000
V175LA5CP	P175L5C	V175LA5C	175L5C	175	55	3500	3000
V175LA10CP	P175L10C	V175LA10C	175L10C	175	110	6000	5000
V175LA20CP	P175L20C	V175LA20C	175L20C	175	220	9000	7000
V175LA20CX425P	P175CX425	V175LA20CX425	175CX425	175	220	9000	7000
V230LA10CP	P230L10C	V230LA10C	230L10C	230	60	3500	3000
V230LA20CP	P230L20C	V230LA20C	230L20C	230	125	6000	5000
V230LA40CP	P230L40C	V230LA40C	230L40C	230	280	9000	7000
V230LA40CX570P	P230X570	V230LA40CX570	230X570	230	280	9000	7000
V250LA10CP	P250L10C	V250LA10C	250L10C	250	65	3500	3000
V250LA20CP	P250L20C	V250LA20C	250L20C	250	135	6000	5000
V250LA40CP	P250L40C	V250LA40C	250L40C	250	300	9000	7000
V250LA40CX620P	P250CX620	V250LA40CX620	250CX620	250	300	9000	7000
V275LA10CP	P275L10C	V275LA10C	275L10C	275	70	3500	3000
V275LA20CP	P275L20C	V275LA20C	275L20C	275	145	6000	5000
V275LA40CP	P275L40C	V275LA40C	275L40C	275	320	9000	7000
V275LA40CX680P	P275CX680	V275LA40CX680	275CX680	275	320	9000	7000
V300LA10CP	P300L10C	V300LA10C	300L10C	300	75	3500	3000
V300LA20CP	P300L20C	V300LA20C	300L20C	300	155	6000	5000
V300LA40CP	P300L40C	V300LA40C	300L40C	300	335	9000	7000
V300LA40CX745P	P300CX745	V300LA40CX745	300CX745	300	335	9000	7000
V320LA10CP	P320L10C	V320LA10C	320L10C	320	80	3500	3000
V320LA20CP	P320L20C	V320LA20C	320L20C	320	165	6000	5000
V320LA40CP	P320L40C	V320LA40C	320L40C	320	345	9000	7000
V320LA40CX810P	P320CX810	V320LA40CX810	320CX810	320	345	9000	7000
V385LA20CP	P385L20C	V385LA20C	385L20C	385	175	6000	5000
V385LA40CP	P385L40C	V385LA40C	385L40C	385	370	9000	7000
V420LA20CP	P420L20C	V420LA20C	420L20C	420	185	6000	5000
V420LA40CP	P420L40C	V420LA40C	420L40C	420	390	9000	7000
V460LA40CP	P460L40C	V460LA40C	460L40C	460	430	9000	7000
V480LA80CP	P480L80C	V480LA80C	480L80C	480	420	9000	7000
V510LA80CP	P510L80C	V510LA80C	510L80C	510	440	9000	7000
V550LA80CP	P550L80C	V550LA80C	550L80C	550	450	9000	7000
V575LA80CP	P575L80C	V575LA80C	575L80C	575	460	9000	7000
V625LA80CP	P625L80C	V625LA80C	625L80C	625	490	9000	7000
V660LA80CP	P660L80C	V660LA80C	660L80C	660	510	9000	7000



2
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C-III Series Specifications

  LEAD-FREE AND RoHS COMPLIANT MODELS PART NUMBER	STANDARD MODELS PART NUMBER	MODEL SIZE DISC DIAMETER (mm)	SPECIFICATIONS (25 °C)					
			VARISTOR VOLTAGE AT 1mA DC TEST CURRENT		MAXIMUM CLAMPING VOLTAGE (8/20µs)		DUTY CYCLE SURGE RATING	
			V_N MIN (V)	V_N MAX (V)	V_C (V)	I_p (A)	3kA (8/20µs) # PULSES	750A (8/20µs) # PULSES
V130LA5CP	V130LA5C	10	184	228	340	25	2	100
V130LA10CP	V130LA10C	14	184	228	340	50	40	600
V130LA20CP	V130LA20C	20	184	228	340	100	80	1600
V130LA20CX325P	V130LA20CX325	20	184	220	325	100	80	1600
V140LA5CP	V140LA5C	10	198	242	360	25	2	100
V140LA10CP	V140LA10C	14	198	242	360	50	40	600
V140LA20CP	V140LA20C	20	198	242	360	100	80	1600
V140LA20CX340P	V140LA20CX340	20	198	230	340	100	80	1600
V150LA5CP	V150LA5C	10	212	268	395	25	2	100
V150LA10CP	V150LA10C	14	212	268	395	50	40	600
V150LA20CP	V150LA20C	20	212	268	395	100	80	1600
V150LA20CX360P	V150LA20CX360	20	212	243	360	100	80	1600
V175LA5CP	V175LA5C	10	247	303	455	25	2	100
V175LA10CP	V175LA10C	14	247	303	455	50	40	600
V175LA20CP	V175LA20C	20	247	303	455	100	80	1600
V175LA20CX425P	V175LA20CX425	20	247	285	425	100	80	1600
V230LA10CP	V230LA10C	10	324	396	595	25	2	100
V230LA20CP	V230LA20C	14	324	396	595	50	40	600
V230LA40CP	V230LA40C	20	324	396	595	100	80	1600
V230LA40CX570P	V230LA40CX570	20	324	384	570	100	80	1600
V250LA10CP	V250LA10C	10	354	429	650	25	2	100
V250LA20CP	V250LA20C	14	354	429	650	50	40	600
V250LA40CP	V250LA40C	20	354	429	650	100	80	600
V250LA40CX620P	V250LA40CX620	20	354	413	620	100	80	1600
V275LA10CP	V275LA10C	10	389	473	710	25	2	100
V275LA20CP	V275LA20C	14	389	473	710	50	40	600
V275LA40CP	V275LA40C	20	389	473	710	100	80	1600
V275LA40CX680P	V275LA40CX680	20	389	453	680	100	80	1600
V300LA10CP	V300LA10C	10	420	517	775	25	2	100
V300LA20CP	V300LA20C	14	420	517	775	50	40	600
V300LA40CP	V300LA40C	20	420	517	775	100	80	1600
V300LA40CX745P	V300LA40CX745	20	420	490	745	100	80	1600
V320LA10CP	V320LA10C	10	462	565	850	25	2	100
V320LA20CP	V320LA20C	14	462	565	850	50	40	600
V320LA40CP	V320LA40C	20	462	565	850	100	80	1600
V320LA40CX810P	V320LA40CX810	20	462	540	810	100	80	1600
V385LA20CP	V385LA20C	14	558	682	1025	50	40	600
V385LA40CP	V385LA40C	20	558	682	1025	100	80	1600
V420LA20CP	V420LA20C	14	610	748	1120	50	40	600
V420LA40CP	V420LA40C	20	610	748	1120	100	80	1600
V460LA40CP	V460LA40C	20	640	790	1190	100	80	1600
V480LA80CP	V480LA80C	20	670	825	1240	100	80	1600
V510LA80CP	V510LA80C	20	735	910	1350	100	80	1600
V550LA80CP	V550LA80C	20	780	970	1435	100	80	1600
V575LA80CP	V575LA80C	20	805	1000	1500	100	80	1600
V625LA80CP	V625LA80C	20	900	1100	1725	100	80	1600
V660LA80CP	V660LA80C	20	940	1210	1820	100	80	1600

NOTE: • Average power dissipation of transients not to exceed 0.6W and 1W for model sizes 14mm and 20mm, respectively.
 • 7mm and 12mm parts also available-contact factory for further information
 • For additional or intermediary voltage ratings contact factory