

“C” III Series

Radial Lead Metal-Oxide Varistors for the TVSS Environment

- ▶ Recognized as “Transient Voltage Surge Suppressors” to UL 1449; File #E75961
- ▶ Recognized as “Transient Voltage Surge Suppressors” to CSA C22.2, No. 1; File #LR91788
- ▶ High Energy Absorption Capability W_{TM} : 45 J to 240 J (2 ms)

- ▶ High Peak Pulse Current Capability I_{TM} : 6000 A to 9000 A (8/20 μ s)
- ▶ Wide Operating Voltage Range $V_{M(AC)RMS}$: 130 V to 300 V
- ▶ Available in Tape and Reel for Automatic Insertion; Also Available Crimped and/or Trimmed

The expanded version of the LA series of metal-oxide varistors, designation “C” III series, consists of AC line voltage rated MOVs with extremely high current and energy handling capabilities. This new “C” III series of MOVs were primarily designed for the transient voltage surge suppressor (TVSS) environment. They provide the increased level of protection now deemed to be necessary for the transients expected in this environment. The occurrence of high voltage transients in

the AC power network can be detrimental to the associated line equipment. Such transient occurrences may cause product failure and the subsequent faulty operation of the electrical systems. This new expanded version of the Harris 20 mm LA series of metal oxide varistors is also available with 10 mm lead spacing, in tape and reel and in a variety of distinctive crimped and trimmed offerings.

Mfr.'s Type	Model Size Disc Dia. (mm)	Device Marking	Maximum Rating (85°C)				Characteristics (25°C)					
			Continuous		Transient*		Varistor Voltage @ 1 mA DC Test Current		Maximum Clamping Voltage 8 × 20 μ s		Duty Cycle Surge Rating	
			RMS Volts	Withstanding Energy (2 ms)	Peak Current 8 × 20 μ s							
			$V_{M(AC)}$	W_{TM} (J)	I_{TM1} 1 Pulse	I_{TM2} 2 Pulses	V_{COM} Min.	V_{COM} Max.	V_C	I_{PK}	3 KA (8 × 20 μ s)	750 A (8 × 20 μ s)
Volts	Joules	Amps	Amps	Volts	Volts	Volts	Amps	# Pulses	# Pulses			
V130LA10C	14	130L10C	130	45	6000	5000	184	228	340	50	10	80
V130LA20C	20	130L20C	130	90	9000	7000	184	228	340	100	20	120
V150LA10C	14	150L10C	150	55	6000	5000	212	268	395	50	10	80
V150LA20C	20	150L20C	150	110	9000	7000	212	268	395	100	20	120
V150LA20CX360	20	150L20CX360	150	110	9000	7000	212	243	360	100	20	120
V230LA20C	14	230L20C	230	80	6000	5000	324	396	595	50	10	80
V250LA40CX620	20	250L40CX620	250	200	9000	7000	354	413	620	100	20	120
V300LA40C	20	300L40C	300	240	9000	7000	400	540	775	100	20	120

*Note: Average power dissipation of transients not to exceed 0.6 W and 1 W for model sizes 14 mm and 20 mm, respectively.

BA/BB Series

- ▶ Recognized as “Transient Voltage Surge Suppressors”, UL File #E75961 to Standard 1449

- ▶ Wide Operating Voltage Range $V_{M(AC)RMS}$: BA Series — 130 V to 880 V; BB Series — 1100 V to 2800 V

Mfr.'s Type	Maximum Rating (85°C)				Characteristics (25°C)					
	Continuous		Transient		Varistor Voltage @ 1 mA DC Test Current			Maximum Clamping Voltage* 8 × 20 μ s		Typical Capacitance
	RMS Volts	DC Volts	Energy 2 mS	Peak Current 8 × 20 μ s						
	$V_{M(AC)}$	$V_{M(DC)}$	W_{TM}	I_{TM}	Min.	$V_{M(DC)}$	Max.	V_C	f=1 MHz	
Volts	Volts	Joules	Amps	Volts	Volts	Volts	Volts	Picofarads		
V131BA60	130	175	450	50000	184	200	228	340	20000	
V251BA60	250	330	830	50000	354	390	429	620	10000	
V321BA60	320	420	1100	50000	462	510	539	760	7500	
V661BA60	660	850	2300	70000	940	1050	1160	1640	4000	
V242BB60	2400	3000	8600	70000	3510	3900	4290	6200	1000	

*At 200 A current.

DA/DB Series

- ▶ Recognized as “Transient Voltage Surge Suppressors”, UL File #E75961 to Standard 1449

- ▶ Wide Operating Voltage Range $V_{M(AC)RMS}$: 130 V to 750 V

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Mfr.'s Type	Maximum Rating (85°C)				Characteristics (25°C)					
	Continuous		Transient		Varistor Voltage @ 1 mA DC Test Current			Maximum Clamping Voltage* 8 × 20 μ s		Typical Capacitance
	RMS Volts	DC Volts	Energy 2 mS	Peak Current 8 × 20 μ s						
	$V_{M(AC)}$	$V_{M(DC)}$	W_{TM}	I_{TM}	Min.	$V_{M(DC)}$	Max.	V_C	f=1 MHz	
DA	DB	Volts	Volts	Joules	Amps	Volts	Volts	Volts	Picofarads	
V151DA40	V151DB40	150	200	300	30000	212	240	268	405	8000
V251DA40	V251DB40	250	330	370	30000	354	390	429	650	5000
V321DA40	V321DB40	320	420	460	30000	462	510	539	830	3800
V571DA40	V571DB40	575	730	770	40000	805	910	1000	1480	2200

*At 200 A current.

PA Series

- ▶ Recognized as “Transient Voltage Surge Suppressors”, UL File #E75961 to Standard 1449
- ▶ Wide Operating Voltage Range $V_{M(AC)RMS}$: 130 V to 660 V

- ▶ Recognized as “Transient Voltage Surge Suppressors”, CSA File #LR91788 to Standard C22.2 No. 1-M1981
- ▶ Creep and Strike Distance Capability Meets Rigid NEMA Standards

Mfr.'s Type	Maximum Rating (85°C)				Characteristics (25°C)						
	Continuous		Transient		Varistor Voltage @ 1 mA DC Test Current			Maximum Clamping Voltage* 8 × 20 μ s		Typical Capacitance	
	RMS Volts	DC Volts	Energy 2 mS	Peak Current 8 × 20 μ s							
	$V_{M(AC)}$	$V_{M(DC)}$	W_{TM}	I_{TM}	Min.	$V_{M(DC)}$	Max.	V_C	I_P	f=1 MHz	
Volts	Volts	Joules	Amps	Volts	Volts	Volts	Volts	Amps	Picofarads		
V130PA20A		130	175	70	6500	184	200	243	360	100	1900
V150PA20C		150	200	80	6500	212	240	243	360	100	1600
V320PA40A		320	420	160	6500	462	510	565	850	100	750
V510PA80C		510	675	190	6500	735	820	860	1280	100	500
V420PA40A		420	560	170	6500	610	680	790	1160	100	600

* V_C at test current.