EDAL INDUSTRIES, INC.

51 COMMERCE STREET * EAST HAVEN, CONNECTICUT 06512 * TELEPHONE (203)-467-2591 * FAX (203)-469-5928
Internet: http://www.eemonline.com/edal Email: edalind@aol.com

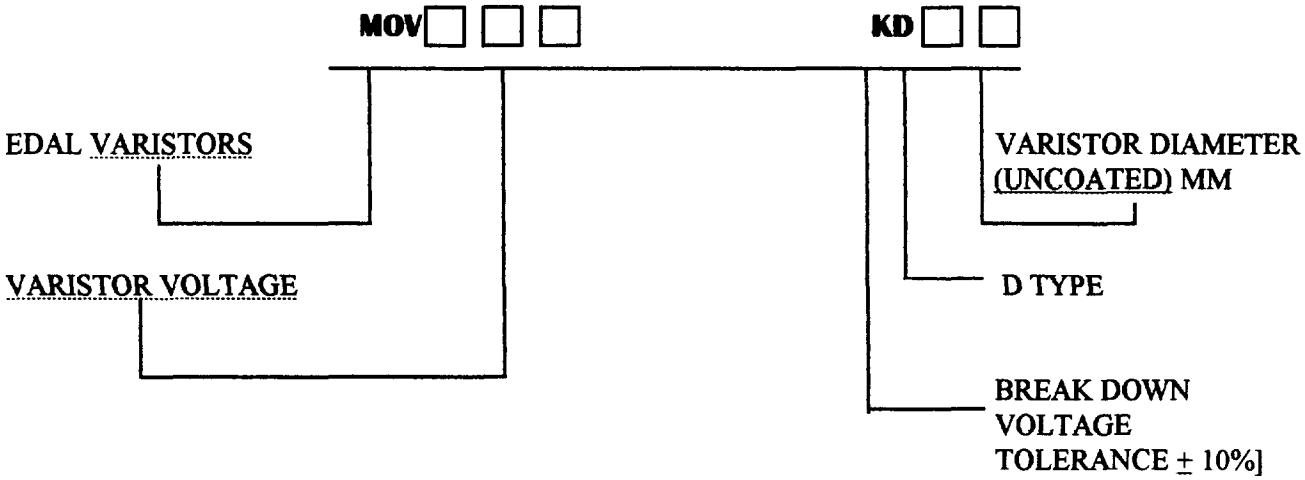
FEATURES

* A wide protecting voltage range.
* Low leakage current in Preparatory State.
* Fast response to transient voltage.
* Low clamping ratio.
* High withstanding surge current.
* High energy capability.
* No following-on-current.

APPLICATIONS

* Transistor, Diode, IC, Thyristor and semiconductor protection.
* Protection in Consumer, Industrial electronics.
* Protection in communication, measuring and controller electronics.
* Protection in electronic home appliances.
* Electrostatic discharge and noise suppression.
* Relay and electromagnetic valve surge absorption.

EDAL INTERNATIONAL PART NUMBER CODE



220-22V	101-100V	561-560V
270-27V	121-120V	621-620V
330-33V	151-150V	681-680V
390-39V	181-180V	781-780V
470-47V	201-200V	821-820V
560-56V	221-220V	
680-68V	241-240V	
820-82V	271-270V	
	301-300V	
	331-330V	
	361-360V	
	391-390V	
	431-430V	
	471-470V	

NOTE: ALTERNATE US PART # SYSTEM MAY ALSO BE USED.

EDALS00048

DIODES * BRIDGES * POWER RECTIFIERS * HIGH VOLTAGE ASSEMBLIES * VARISTORS * MOV'S * TVS * SPECIAL DESIGNS

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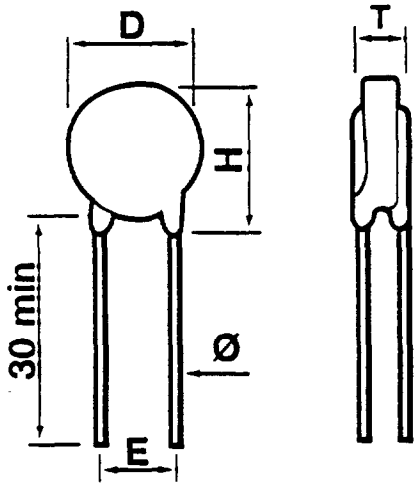
OUTLINE

THICKNESS T

DIMENSIONS MM



SERIES	D MAX	H MAX	Ø	E±0.8
KD05	7.5	10.5	0.6	5.0
KD07	9.0	12.0	0.6	5.0
KD10	14.0	17.0	0.8	7.5
KD14	17.0	20.0	0.8	7.5
KD20	25.0	28.0	1.0	10.0

MODEL CODE	KD SERIES				
	05	07	10	14	20
220	3.5	3.6	3.7	3.7	
270	3.5	3.7	3.8	3.8	
330	3.5	3.9	4.0	4.0	
390	3.5	3.9	4.1	4.1	
470	3.5	3.9	4.1	4.1	
560	3.5	4.0	4.1	4.1	
680	3.5	4.2	4.3	4.3	
820	3.5	3.6	4.0	4.0	4.5
101	3.7	3.7	4.1	4.1	4.6
121	3.8	3.8	4.2	4.2	4.7
151	4.0	4.0	4.5	4.5	4.9
181	4.2	4.2	4.6	4.6	5.0
201	4.3	4.2	4.6	4.6	5.0
221	4.4	4.4	4.7	4.7	5.2
241	4.6	4.4	4.8	4.8	5.3
271	4.9	4.6	5.1	5.1	5.5
301	5.1	5.1	5.6	5.6	6.0
331	5.2	5.2	5.7	5.7	6.2
361	5.4	5.4	5.8	5.8	6.4
391	5.4	5.4	5.8	5.8	6.4
431	5.7	5.7	6.2	6.2	6.7
471	6.0	6.0	6.5	6.5	7.0
561			6.5	6.5	7.0
621			6.5	6.5	7.0
681			6.5	6.5	7.0
781			6.7	6.7	7.3
821			7.1	7.1	7.6

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SAFETY STANDARD RECOGNIZED MOV

UL 1449 FILE NO. E167172 UL 1414 FILE NO. E167173	D05		D07		D10		D14		D20	
	UL1449	UL1414	UL1449	UL1414	UL1449	UL1414	UL1449	UL1414	UL1449	UL1414
220K	*		*		*		*			
270K	*		*		*		*			
330K	*		*		*		*			
390K	*		*		*		*			
470K	*		*		*		*			
560K	*		*		*		*			
680K	*		*		*		*			
820K	*		*		*		*		*	
101K	*		*		*		*		*	
121K	*		*		*		*		*	
151K	*		*		*		*		*	
181K	*		*		*		*		*	
201K	*	*	*	*	*	*	*	*	*	*
221K	*	*	*	*	*	*	*	*	*	*
241K	*	*	*	*	*	*	*	*	*	*
271K	*	*	*	*	*	*	*	*	*	*
301K	*	*	*	*	*	*	*	*	*	*
331K	*	*	*	*	*	*	*	*	*	*
361K	*	*	*	*	*	*	*	*	*	*
391K	*	*	*	*	*	*	*	*	*	*
431K	*	*	*	*	*	*	*	*	*	*
471K	*	*	*	*	*	*	*	*	*	*
561K			*	*	*	*	*	*	*	*
621K			*	*	*	*	*	*	*	*
681K			*	*	*	*	*	*	*	*
781K					*	*	*	*	*	*
821K					*	*	*	*	*	*

DIODES * BRIDGES * POWER RECTIFIERS * HIGH VOLTAGE ASSEMBLIES * VARISTORS * MOV'S * TVS * SPECIAL DESIGNS

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MECHANICAL RATINGS

ITEM	TEST CONDITION/DESCRIPTION	REQUIREMENT
Terminal Pull Strength	After gradually applying the load specified below and keeping the unit fixed for ten seconds, the terminal shall be visually examined for any damage. Terminal Diameter — Load 0.6mm (.024") — 0.5kg (1.1 lbs.) 0.8mm (.031") — 1.0kg (2.2 lbs.) 1.0mm (.039") — 2.0kg (4.4 lbs.)	
Terminal Bending Strength	The unit shall be secured with its terminal kept vertical and the weight specified below be applied in the axial direction. The terminal shall gradually be bent by 90° in one direction, then 90° in the opposite direction, and again back to the original position. The damage of the terminal shall be visually examined. Terminal Diameter — Load 0.6mm (.024") — 0.25kg (0.55 lbs.) 0.8mm (.031") — 0.5kg (1.1 lbs.) 1.0mm (.039") — 1.0kg (2.2 lbs.)	No Outstanding Damage.
Vibration	Subjected to simple harmonic motion of 0.75mm (.029") amplitude 1.5mm (.058") maximum total excursion between limits of 10-55 Hz. Frequency scan shall be traversed in one minute. This motion shall then be applied for a period of two hours in each of three mutually perpendicular directions. Thereafter, the unit shall be visually examined.	
Solderability	After dipping the terminal to a depth of approximately 3mm (.188") from the body in a soldering bath of 260°C (500°F) for three seconds, the terminal shall be visually examined.	Almost all the surface should be covered with solder uniformly.
Resistance to Soldering Heat	The terminal shall be dipped into a soldering bath having a temperature of 350°C (660°F) to a point of 3mm (.118") from the body of the unit and then be held there for three seconds. The change of Vc and mechanical damage shall be examined.	Δ V1mA/V1mA$\leq$5% No Outstanding Damage.

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ENVIRONMENTAL RATINGS

<table>
<tr><th>ITEM</th><th>TEST CONDITION/DESCRIPTION</th><th>REQUIREMENT</th></tr>
<tr><td>High Temperature Storage</td><td>The specimen shall be subjected to 125°C (257°F) for 1,000 hours in a thermostatic bath without load and then stored at room temperature and humidity for one to two hours. Thereafter, the change of Vc shall be measured.</td><td rowspan="3">$\frac{\Delta Vc}{Vc} < +10\%$</td></tr>
<tr><td>Humidity</td><td>The specimen shall be subjected to 40°C (104°F). 90 to 95% R.H. for 1,000 hours without load and then stored at room temperature and humidity for one to two hours. Thereafter, the change of Vc shall be measured.</td></tr>
<tr><td>Thermal Shock</td><td>The temperature cycle shown below shall be repeated five times and then stored at room temperature and humidity for one to two hours. The change of Vc as well as mechanical damage shall be examined.
<table>
<tr><th>Step</th><th>Temperature</th><th>Period</th></tr>
<tr><td>1</td><td>-25°C (-13°F)</td><td>30 minutes</td></tr>
<tr><td>2</td><td>85°C (185°F)</td><td>30 minutes</td></tr>
</table></td></tr>
<tr><td>High Temperature Operation</td><td>After being continuously applied to the maximum allowable voltage at 85°C (185°F) for 1,000 hours, the specimen shall be stored at room temperature and humidity for one to two hours. Thereafter, the change of Vc shall be measured.</td><td>$\frac{\Delta Vc}{Vc} < +10\%$</td></tr>
</table>

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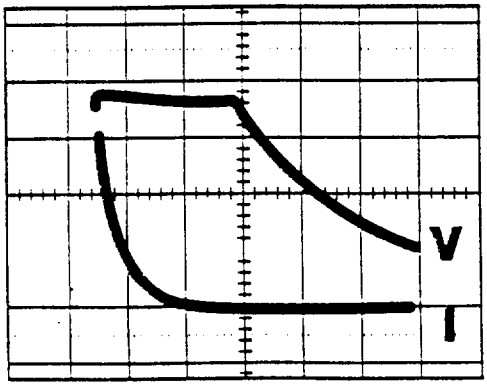
MOV TESTING

TECHNICAL TERM	DESCRIPTION	SPECIFICATION
Varistor Voltage	Voltage across the varistor measured at 1 mA DC.	See rating table.
Maximum Allowable Voltage-AC	Maximum continuous sinusoidal RMS voltage which may be applied.	See rating table.
Maximum Allowable Voltage DC	Maximum continuous DC voltage which may be applied.	See rating table.
Capacitance	Typical value measured at test frequency of 1KHZ.	See rating table.
Response Time	The time lag between application of surge and MOV "turn-on" conduction action.	< 50 nano-seconds.
DC Leakage Current	Maximum current with maximum allowable voltage. Voltage (DC) is applied.	> 20 uA max.
Withstanding Surge Current	The maximum peak current with a varistor voltage change of less than ± 10% when one or two impulse (8*20 us) is applied.	See interval table. Interval of two impulses: 5 mins.
Maximum Clamping Voltage	Peak voltage across the varistor with a specified peak impulse current (waveform: 8*20 us).	See rating table.
Transient Pulse Energy	The maximum energy absorbed with a varistor voltage change of less than ± 10% when one impulse 10*1000 us is applied.	See rating table.

APPLIED WAVEFORM



CALCULATION

E=K*Ip*Vc*t

K: is a factor of applied waveform.
Ip: is the peakcurrent value.
Vc: is the clamping voltage at Ip.
t: is the time duration.

for 10*1000 us waveform:

E= 1.392*Ip*Vc*10
(unit:joules)

B106-5

EDAL MODEL NO.	INTERNATIONAL MODEL NO.	MAXIMUM RATINGS AT (+85°C)				CLAMPING CHARACTERISTICS (+25°C)					TYPICAL CAPACITANCE	UNCOATED DISK (DIAM.)
		CONTINUOUS APPLIED VOLTAGE		TRANSIENT 10X1000 (uS) 8X20 (uS)		VARISTOR VOLTAGE @ 1mA DC TEST CURRENT			MAX CLAMPING VOLTAGE (Vc) AT TEST CURRENT			
PREFIX	PREFIX	AC (RMS)	DC	ENERGY	SURGE AMPS	MIN	NOM	MAX	8x20 uS WAVE			
MOV	MOV	VOLTS	VOLTS	JOULES	PEAK 1	VDC	VDC	VDC	Vc	Ip	PF	
18ZA05	180KD05	11	14	0.4	100	16	18	20	40	1.0	2000	5
18ZA1	180KD07	11	14	0.9	250	16	18	20	36	2.5	5000	7
18ZA2	180KD10	11	14	2.1	500	16	18	20	36	5.0	8400	10
18ZA3	180KD14	11	14	4.0	1000	16	18	20	36	10.0	11500	14
18ZA40	180KD20	11	14	11.0	2000	16	18	20	36	20.0	22000	20
22ZA05	220KD05	14	18	0.5	100	20	22	24	48	1.0	1200	5
22ZA1	220KD07	14	18	1.1	250	20	22	24	43	2.5	4900	7
22ZA2	220KD10	14	18	2.5	500	20	22	24	43	5.0	8200	10
22ZA3	220KD14	14	18	5.0	1000	20	22	24	43	10.0	11000	14
22ZA50	220KD20	14	18	14.0	2000	20	22	24	43	20.0	18000	20
27ZA05	270KD05	17	22	0.6	100	24	27	30	60	1.0	1500	5
27ZA1	270KD07	17	22	1.4	250	24	27	30	53	2.5	4200	7
27ZA2	270KD10	17	22	3.0	500	24	27	30	53	5.0	6900	10
27ZA4	270KD14	17	22	6.0	1000	24	27	30	53	10.0	10000	14
27ZA60	270KD20	17	22	18.0	2000	24	27	30	53	20.0	17000	20
33ZA05	330KD05	20	26	0.8	100	30	33	36	73	1.0	1300	5
33ZA1	330KD07	20	26	1.7	250	30	33	36	65	2.5	3500	7
33ZA2	330KD10	20	26	4.0	500	30	33	36	65	5.0	5900	10
33ZA5	330KD14	20	26	7.5	1000	30	33	36	65	10.0	8500	14
33ZA70	330KD20	20	26	23.0	2000	30	33	36	65	20.0	16000	20
39ZA05	390KD05	25	31	0.9	100	35	39	43	86	1.0	1150	5
39ZA1	390KD07	25	31	2.0	250	35	39	43	77	2.5	3100	7
39ZA3	390KD10	25	31	4.6	500	35	39	43	77	5.0	5100	10
39ZA6	390KD14	25	31	8.6	1000	35	39	43	77	10.0	7500	14
39ZA80	390KD20	25	31	26.0	2000	35	39	43	77	20.0	15000	20
47ZA05	470KD05	30	38	1.1	100	42	47	52	104	1.0	980	5
47ZA1	470KD07	30	38	2.5	250	42	47	52	93	2.5	2680	7
47ZA3	470KD10	30	38	5.5	500	42	47	52	93	5.0	4400	10
47ZA7	470KD14	30	38	10.0	1000	42	47	52	93	10.	6500	14
47ZA20	470KD20	30	38	33.0	2000	42	47	52	93	20.0	14000	20
56ZA05	560KD05	35	45	1.3	100	50	56	62	123	1.0	840	5
56ZA2	560KD07	35	45	3.1	250	50	56	62	110	2.5	2300	7
56ZA3	560KD10	35	45	7.0	500	50	56	62	110	5.0	3800	10
56ZA8	560KD14	35	45	11.0	1000	50	56	62	110	10.0	5600	14
56ZA20	560KD20	35	45	41.0	2000	50	56	62	110	20.0	12000	20

EDAL MODEL NO.	INTERNATIONAL MODEL NO.	MAXIMUM RATINGS AT (+85°C)				CLAMPING CHARACTERISTICS (+25°C)					TYPICAL CAPACITANCE	UNCOATED DISK (DIAM.)
		CONTINUOUS APPLIED VOLTAGE		TRANSIENT 10X1000 (uS)	8X20 (uS)	VARISTOR VOLTAGE @ 1mA DC TEST CURRENT			MAX CLAMPING VOLTAGE (Vc) AT TEST CURRENT			
PREFIX	PREFIX	AC (RMS)	DC	ENERGY	SURGE AMPS	MIN	NOM	MAX	8x20 uS WAVE			
MOV	MOV	VOLTS	VOLTS	JOULES	PEAK 1	VDC	VDC	VDC	Vc	Ip	PF	
68ZA05	680KD05	40	56	1.6	100	61	68	75	150	1.0	420	5
68ZA2	680KD07	40	56	3.6	250	61	68	75	135	2.5	1900	7
68ZA3	680KD10	40	56	8.2	500	61	68	75	135	5.0	2300	10
68ZA10	680KD14	40	56	14.0	1000	61	68	75	135	10.0	4800	14
68ZA20	680KD20	40	56	46.0	2000	61	68	75	135	20.0	11000	20
82ZA05	820KD05	50	65	2.5	400	74	82	90	145	5.0	410	5
82ZA2	820KD07	50	65	5.5	1200	74	82	90	135	5.0	830	7
82ZA4	820KD10	50	65	12.0	2500	74	82	90	135	25.0	2100	10
82ZA12	820KD14	50	65	22.0	4500	74	82	90	135	50.0	4800	14
82ZA20	820KD20	50	65	38.0	6500	74	82	90	135	100.0	8100	20
100ZA05	101KD05	60	85	3.0	400	90	100	110	175	5.0	340	5
100ZA3	101KD07	60	85	6.5	1200	90	100	110	165	5.0	680	7
100ZA4	101KD10	60	85	15.0	2500	90	100	110	165	25.0	1700	10
100ZA15	101KD14	60	85	28.0	4500	90	100	110	165	50.0	3300	14
100ZA20	101KD20	60	85	45.0	6500	90	100	110	165	100.0	6640	20
120ZA05	121KD05	75	100	4.0	400	108	120	132	210	5.0	280	5
120ZA1	121KD07	75	100	7.8	1200	108	120	132	200	5.0	570	7
120ZA4	121KD10	75	100	18.0	2500	108	120	132	200	25.0	1450	10
120ZA6	121KD14	75	100	32.0	4500	108	120	132	200	50.0	2750	14
120ZA20	121KD20	75	100	55.0	6500	108	120	132	200	100.0	5540	20
150ZA05	151KD05	95	125	4.8	400	135	150	165	260	5.0	230	5
150ZA1	151KD07	95	125	9.7	1200	135	150	165	250	5.0	450	7
150ZA5	151KD10	95	125	22.0	2500	135	150	165	250	25.0	1160	10
150ZA10	151KD14	95	125	40.0	4500	135	150	165	250	50.0	2200	14
150ZA20	151KD20	95	125	70.0	6500	135	150	165	250	100.0	4430	20
180ZA05	181KD05	115	150	5.9	400	162	180	198	325	5.0	190	5
180ZA1	181KD07	115	150	11.7	1200	162	180	198	300	5.0	380	7
180ZA5	181KD10	115	150	27.0	2500	162	180	198	300	25.0	690	10
180ZA10	181KD14	115	150	50.0	4500	162	180	198	300	50.0	1850	14
180ZA20	181KD20	115	150	85.0	6500	162	180	198	300	100.0	3700	20
200ZA05	201KD05	130	175	5.0	400	180	200	220	355	5.0	110	5
130LA2	201KD07	130	175	15.0	1200	180	200	220	340	10.0	318	7
130LA5	201KD10	130	175	32.0	2500	180	200	220	340	25.0	620	10
130LA10A	201KD14	130	175	55.0	4500	180	200	220	340	50.0	1200	14
130LA20A	201KD20	130	175	80.0	6500	180	200	220	325	100.0	2300	20

EDAL MODEL NO.	INTERNATIONAL MODEL NO.	MAXIMUM RATINGS AT (+85°C)				CLAMPING CHARACTERISTICS (+25°C)					TYPICAL CAPACITANCE	UNCOATED DISK (DIAM.)
		CONTINUOUS APPLIED VOLTAGE		TRANSIENT 10X1000 (uS)	8X20 (uS)	VARISTOR VOLTAGE @ 1mA DC TEST CURRENT			MAX CLAMPING VOLTAGE (Vc) AT TEST CURRENT			
PREFIX	PREFIX	AC (RMS)	DC	ENERGY	SURGE AMPS	MIN	NOM	MAX	8x20 uS WAVE			
MOV	MOV	VOLTS	VOLTS	JOULES	PEAK 1	VDC	VDC	VDC	Vc	Ip	PF	
220ZA05	221KD05	140	180	6.0	400	198	220	242	380	5.0	105	5
140LA2	221KD07	140	180	15.0	1200	198	220	242	360	10.0	280	7
140LA5	221KD10	140	180	36.0	2500	198	220	242	360	25.0	570	10
140LA10A	221KD14	140	180	60.0	4500	198	220	242	360	50.0	1100	14
140LA20A	221KD20	140	180	90.0	6500	198	220	242	360	100.0	2150	20
240ZA05	241KD05	150	200	7.0	400	216	240	264	415	5.0	98	5
150LA2	241KD07	150	200	17.0	1200	216	240	264	395	10.0	270	7
150LA5	241KD10	150	200	40.0	2500	216	240	264	395	25.0	530	10
150LA10A	241KD14	150	200	65.0	4500	216	240	264	395	50.0	1000	14
150LA20A	241KD20	150	200	95.0	6500	216	240	264	395	100.0	2000	20
270ZA05	271KD05	175	225	8.5	400	243	270	297	475	5.0	88	5
175LA2	271KD07	175	225	18.0	1200	243	270	297	455	10.0	245	7
175LA5	271KD10	175	225	40.0	2500	243	270	297	455	25.0	490	10
175LA10A	271KD14	175	225	70.0	4500	243	270	297	455	50.0	800	14
175LA20A	271KD20	175	225	127.0	6500	243	270	297	455	100.0	1850	20
300ZA05	301KD05	190	250	9.0	400	270	300	330	520	5.0	85	5
200LA4	301KD07	190	250	20.0	1200	270	300	330	500	10.0	230	7
200LA10	301KD10	190	250	42.0	2500	270	300	330	500	25.0	480	10
200LA20A	301KD14	190	250	77.0	4500	270	300	330	500	50.0	800	14
200LA40A	301KD20	190	250	136.0	6500	270	300	330	500	100.0	1810	20
330ZA05	331KD05	210	275	9.5	400	297	330	363	570	5.0	77	5
210LA4	331KD07	210	275	23.0	1200	297	330	363	550	10.0	210	7
210LA10	331KD10	210	275	43.0	2500	297	330	363	550	25.0	440	10
210LA20A	331KD14	210	275	85.0	4500	297	330	363	550	50.0	730	14
210LA40A	331KD20	210	275	150.0	6500	297	330	363	550	100.0	1650	20
360ZA05	361KD05	230	300	10.0	400	324	360	396	620	5.0	71	5
230LA4	361KD07	230	300	25.0	1200	324	360	396	595	10.0	200	7
230LA10	361KD10	230	300	47.0	2500	324	360	396	595	25.0	400	10
230LA20A	361KD14	230	300	93.0	4500	324	360	396	595	50.0	670	14
230LA40A	361KD20	230	300	163.0	6500	324	360	396	595	100.0	1500	20
390ZA05	391KD05	250	320	12.0	400	351	390	429	675	5.0	67	5
250LA4	391KD07	250	320	25.0	1200	351	390	429	650	10.0	185	7
250LA10	391KD10	250	320	60.0	2500	351	390	429	650	25.0	370	10
250LA20A	391KD14	250	320	100.0	4500	351	390	429	650	50.0	620	14
250LA40A	391KD20	250	320	180.0	6500	351	390	429	650	100.0	1400	20

EDAL MODEL NO.	INTERNATIONAL MODEL NO.	MAXIMUM RATINGS AT (+85°C)				CLAMPING CHARACTERISTICS (+25°C)					TYPICAL CAPACITANCE	UNCOATED DISK (DIAM.)
		CONTINUOUS APPLIED VOLTAGE		TRANSIENT 10X1000 (uS)	8X20 (uS)	VARISTOR VOLTAGE @ 1mA DC TEST CURRENT			MAX CLAMPING VOLTAGE (Vc) AT TEST CURRENT			
PREFIX	PREFIX	AC (RMS)	DC	ENERGY	SURGE AMPS	MIN	NOM	MAX	8x20 uS WAVE			
MOV	MOV	VOLTS	VOLTS	JOULES	PEAK 1	VDC	VDC	VDC	Vc	Ip	PF	
430ZA05	431KD05	275	350	13.0	400	387	430	473	745	5.0	60	5
275LA4	431KD07	275	350	28.0	1200	387	430	473	710	10.0	170	7
275LA10	431KD10	275	350	65.0	2500	387	430	473	710	25.0	340	10
275LA20A	431KD14	275	350	115.0	4500	387	430	473	710	50.0	560	14
275LA40A	431KD20	275	350	190.0	6500	387	430	473	710	100.0	1300	20
470ZA05	471KD05	300	385	15.0	400	423	470	517	810	5.0	57	5
300LA4	471KD07	300	385	30.0	1200	423	470	517	775	10.0	160	7
300LA10	471KD10	300	385	70.0	2500	423	470	517	775	25.0	320	10
300LA20A	471KD14	300	385	125.0	4500	423	470	517	775	50.0	510	14
300LA40A	471KD20	300	385	220.0	6500	423	470	517	775	100.0	1200	20
350LA4	561KD07	350	460	44.0	1200	504	560	618	925	10.0	160	7
350LA10	561KD10	350	460	70.0	2500	504	560	618	925	25.0	310	10
350LA20A	561KD14	350	460	125.0	4500	504	560	618	925	50.0	425	14
350LA40A	561KD20	350	460	220.0	6500	504	560	618	925	100.0	1165	20
385LA4	621KD07	385	505	50.0	1200	558	620	682	1025	10.0	160	7
385LA10	621KD10	385	505	70.0	2500	558	620	682	1025	25.0	280	10
385LA20A	621KD25	385	505	125.0	4500	558	620	682	1025	50.0	385	14
385LA40A	621KD20	385	505	220.0	6500	558	620	682	1025	100.0	1050	20
420LA4	681KD07	420	560	56.0	1200	612	680	748	1120	10.0	140	7
420LA10	681KD10	420	560	70.0	2500	612	680	748	1120	25.0	240	10
420LA20A	681KD14	420	560	130.0	4500	612	680	748	1120	50.0	350	14
420LA40A	681KD20	420	560	230.0	6500	612	680	748	1120	100.0	960	20
460LA10	751KD10	460	615	75.0	2500	675	750	825	1240	25.0	230	10
460LA20A	751KD14	460	615	143.0	4500	675	750	825	1240	50.0	320	14
460LA40A	751KD20	460	615	255.0	6500	675	750	825	1240	100.0	875	20
480LA10	781KD10	485	640	80.0	2500	702	780	858	1290	25.0	220	10
480LA40A	781KD14	485	640	148.0	4500	702	780	858	1290	50.0	305	14
480LA80A	781KD20	485	640	265.0	6500	702	780	858	1290	100.0	840	20
510LA10	821KD10	510	670	85.0	2500	738	821	902	1355	25.0	210	10
510LA40A	821KD14	510	670	157.0	4500	738	821	902	1355	50.0	290	14
510LA80A	821KD20	510	670	282.0	6500	738	821	902	1355	100.0	800	20

HIGH ENERGY VARISTORS

EDAL MODEL NO.	INTERNATIONAL MODEL NO.	MAXIMUM RATINGS AT (+85°C)				CLAMPING CHARACTERISTICS (+25°C)					TYPICAL CAPACITANCE
		CONTINUOUS APPLIED VOLTAGE		TRANSIENT 10X1000 (uS)	8X20 (uS)	VARISTOR VOLTAGE @ 1mA DC TEST CURRENT			MAX CLAMPING VOLTAGE (Vc) AT TEST CURRENT		
PREFIX	PREFIX	AC (RMS)	DC	ENERGY	SURGE AMPS	MIN	NOM	MAX	8x20 uS WAVE		
MOV	MOV	VOLTS	VOLTS	JOULES	PEAK 1	VDC	VDC	VDC	Vc	Ip	PF
130HE4	130HE4	130	175	200	25000	124	200	228	330	200	6800
130HE6	130HE6	130	175	370	40000	124	200	228	320	200	10200
150HE4	150HE4	150	200	220	25000	212	240	268	385	200	6800
150HE6	150HE6	150	200	400	40000	212	240	268	375	200	10200
250HE4	250HE4	250	330	330	25000	354	390	429	635	200	4000
250HE6	250HE6	250	330	650	40000	354	390	429	620	200	6000
275HE4	275HE4	275	369	360	25000	389	430	473	690	200	3800
275HE6	275HE6	275	369	700	40000	389	430	473	685	200	5700
320HE4	320HE4	320	420	390	25000	462	510	539	830	200	3600
320HE6	320HE6	320	420	750	40000	462	510	539	810	200	5400
420HE4	420HE4	420	560	400	25000	610	680	748	1050	200	2040
420HE6	420HE6	420	560	850	40000	610	680	748	1000	200	3780
480HE4	480HE4	480	640	450	25000	670	750	824	1160	200	2320
480HE6	480HE6	480	640	900	40000	670	750	824	1120	200	3480
510HE4	510HE4	510	675	500	25000	735	820	910	1280	200	2320
510HE6	510HE6	510	675	950	40000	735	820	910	1250	200	3480
575HE4	575HE4	575	730	550	25000	805	910	1005	1500	200	2300
575HE6	575HE6	575	730	1050	40000	805	910	1005	1480	200	1850
600HE4	600HE4	600	810	575	25000	900	1000	1100	1650	200	1320
600HE6	600HE6	600	810	1100	40000	900	1000	1100	1620	200	1950
660HE4	660HE4	660	850	600	25000	940	1050	1160	1780	200	1300
660HE6	660HE6	660	850	12500	40000	940	1050	1160	1740	200	1950

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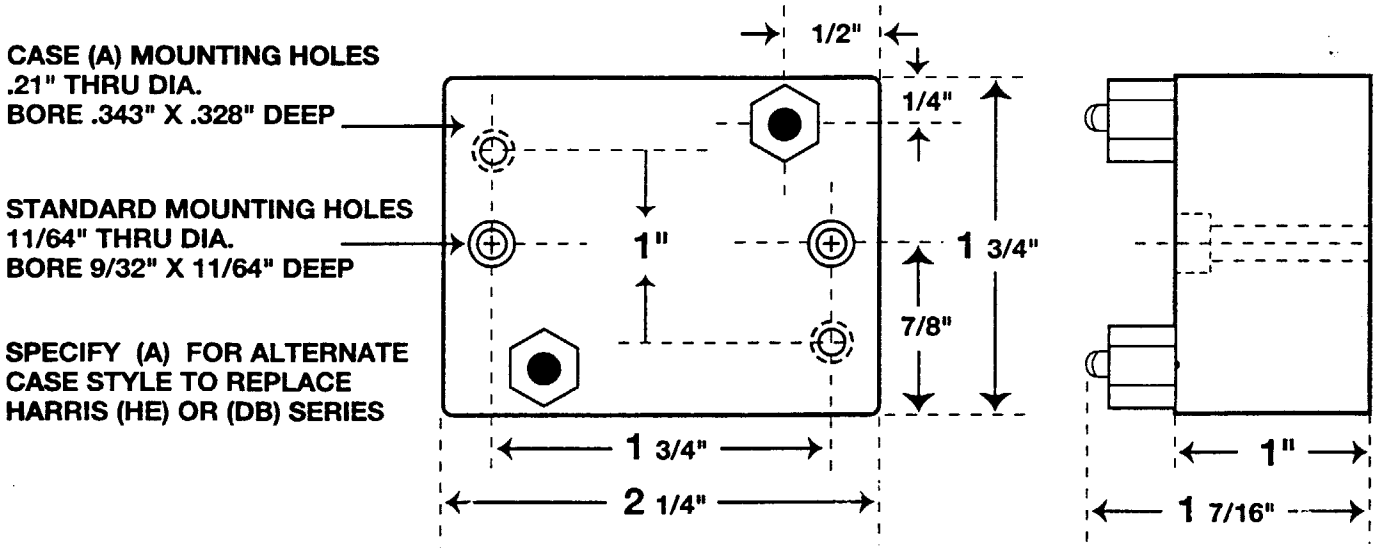

VARISTOR SAFETY RECOMMENDATIONS

Due to the inherently unpredictable nature of transients, it is possible that a varistor may be subjected to surges significantly in excess of its rated transient current and energy. This may result in failure by package rupture and expulsion of hot material. To prevent damage to other components or possible ignition of flammable materials, the varistor should be physically shielded from them.

DIODES * BRIDGES * POWER RECTIFIERS * HIGH VOLTAGE ASSEMBLIES * VARISTORS * MOV'S * TVS * SPECIAL DESIGNS

HIGH ENERGY VARISTORS

EDAL MODEL NO. TYPE E	OPERATING VOLTAGE		MAXIMUM RATINGS AT (+85°C)			CLAMPING CHARACTERISTICS (+25°C)				
	RMS VOLTAGE	DC VOLTAGE	AVERAGE POWER DISSIPATION	PEAK CURRENT 8x20 uS	ENERGY ABSORPTION (2MS)	VARISTOR VOLTAGE	TOLERANCE	MAX CLAMPING VOLTAGE V AT TEST CURRENT 8x20 uS		CAPACITANCE F=1KHZ
PREFIX MOV	VRMS (V)	VDC (V)	PMAX (W)	IMAX (A)	EMAX (J)	VN (V)	%	VC (V)	I (A)	C (pF)
32K130	130	170	1.2	25000	210	205	±10	340	200	4400
40K130	130	170	2.0	40000	310	205	±10	340	300	5600
32K150	150	200	1.2	25000	240	240	±10	395	200	3700
40K150	150	200	2.0	40000	360	240	±10	395	300	4800
32K230	230	300	1.2	25000	300	360	±10	595	200	2500
40K230	230	300	2.0	40000	460	360	±10	595	300	2500
32K250	250	320	1.2	25000	330	390	±10	650	200	2200
40K250	250	320	2.0	40000	490	390	±10	650	300	3200
32K275	275	350	1.2	25000	360	430	±10	710	200	2000
40K275	275	350	2.0	40000	550	430	±10	710	300	2900
32K320	320	420	1.2	25000	430	510	±10	840	200	1700
40K320	320	420	2.0	40000	640	510	±10	840	300	2400
32K385	385	505	1.2	25000	550	620	±10	1025	200	1400
40K385	385	505	2.0	40000	800	620	±10	1025	300	1900
32K420	420	560	1.2	25000	600	680	±10	1120	200	1300
40K420	420	560	2.0	40000	910	680	±10	1120	300	1800
32K480	480	615	1.2	25000	520	750	±10	1240	200	1200
40K480	480	615	2.0	40000	780	750	±10	1240	300	1600
32K510	510	670	1.2	25000	570	820	±10	1360	200	1100
40K510	510	670	2.0	40000	860	820	±10	1360	300	1400
32K550	550	745	1.2	25000	620	910	±10	1500	200	1000
40K550	550	745	2.0	40000	960	910	±10	1500	300	1200
32K680	680	895	1.2	25000	760	1100	±10	1815	200	830
40K680	680	895	2.0	40000	1100	1100	±10	1815	300	1100
32K750	750	1060	1.2	25000	800	1200	±10	2000	200	800
40K750	750	1060	2.0	40000	1200	1200	±10	2000	300	1000

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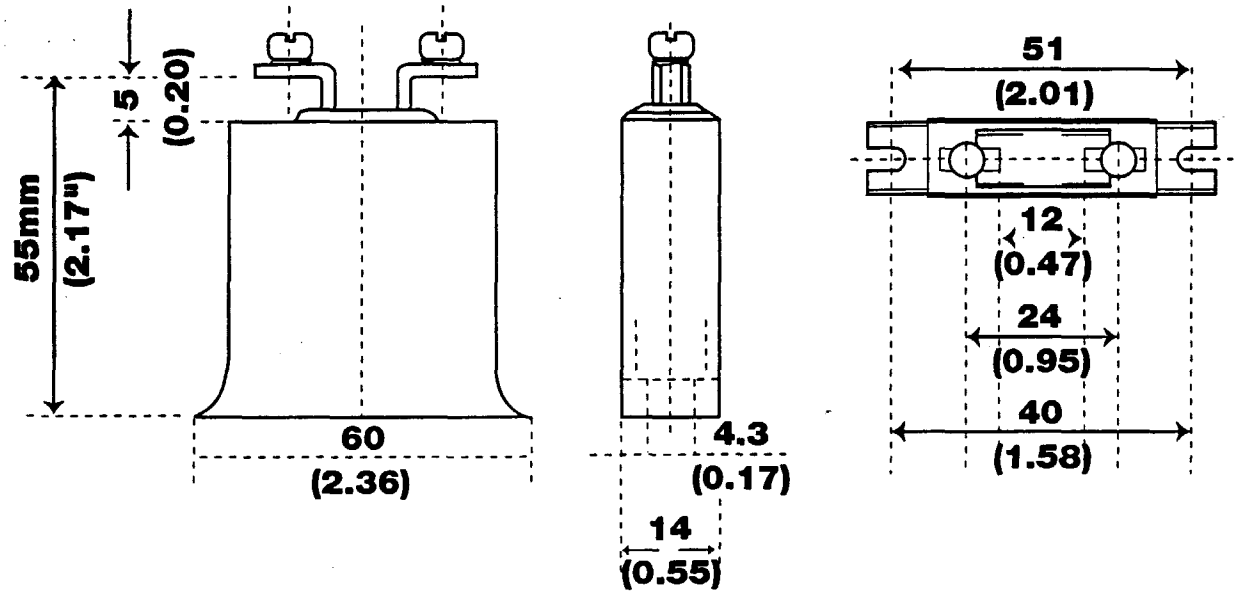
DIMENSIONS *(HIGH ENERGY VARISTORS)*



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