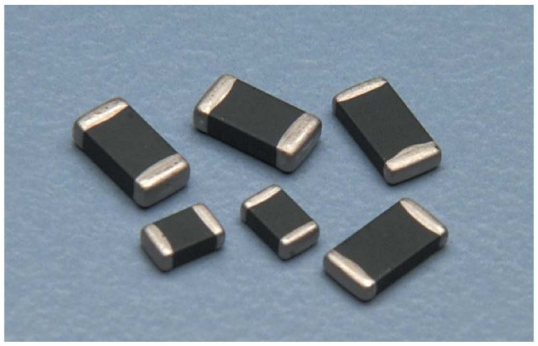
KOA SPEER ELECTRONICS, INC.

Only for 2E/2J/2L/C2L sizes
End of life- last time to buy June 1, 2025
Recommended replacement NV73S

NV73

metal oxide varistor

EU RoHS COMPLIANT

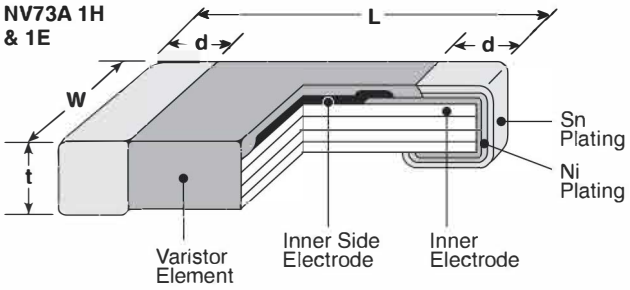


features

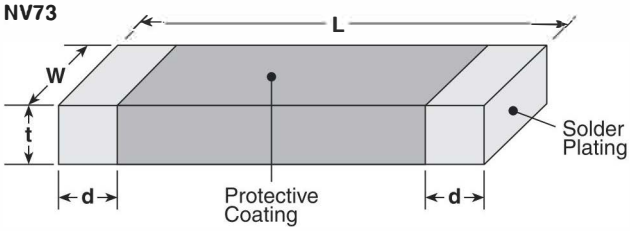
- Multilayer structure
- High surge current
- Protector against static electricity, switching and incoming surges
- Suitable for both flow and reflow soldering
- Products with lead-free terminations meet EU RoHS requirements. Pb located in glass material, electrode and varistor element is exempt per Annex 1, exemption 5 of EU directive 2005/95/EC

dimensions and construction

NV73A 1H & 1E



NV73



Type (Inch Size Code)	Dimensions inches (mm) L	W	t	d
2E (1210)	.126±.008 (3.2±0.2)	.098±.008 (2.5±0.2)	.059 max. (1.5 max.)	.020±.008 (0.5±0.2)
2J (1812)	.177±.008 (4.5±0.2)	.126±.008 (3.2±0.2)	.079 max. (2.0 max.)	.020 $^{+.012}_{-.004}$ (0.5 $^{+0.3}_{-0.1}$)
2L (2220)	.224±.008 (5.7±0.2)	.197±.008 (5.0±0.2)	.098 max. (2.5 max.)	.020 $^{+.001}_{-.004}$ (0.5 $^{+0.3}_{-0.1}$)
C2L (2220)	.232±.008 (5.9±0.2)	.201±.008 (5.1±0.2)	.106 max. (2.7 max.)	.028 $^{+.016}_{-.012}$ (0.7 $^{+0.4}_{-0.3}$)

ordering information

NV73	A		2J	T	TE	12
Type	Energy Code	Capacitance Type	Size	Termination Material	Packaging	Varistor Voltage
	A B C	Blank: Standard	2E: 1210 2J: 1812 2L: 2220	T: Sn	TE: 7" embossed plastic (2J, 2L: 1,000 pieces/reel 2E: 2,000 pieces/reel)	8: 8V 12: 12V 120: 120V

circuit protection

applications and ratings

Part Designation	Varistor Voltage Vc	Maximum Allowable Voltage		Clamping Voltage			Maximum Energy E (J) (100 times)	Maximum Peak Current Ip (A) (100 times)	Operating Temp. Topt (°C)	Storage Temp. Tstg (°C)
	Ic = 1mA (V)	a.c rms (V)	d.c (V)	$V_{2.5A}$	V_{5A}	V_{10A}				
NV73A2ETTE15	12.8 - 17.3	8.0	11.0	30	—	—	1.0	400	-50°C to +125°C	-50°C to +150°C
NV73A2ETTE18	15.3 - 20.7	11.0	14.0	34	—	—	1.2			
NV73A2ETTE22	19.8 - 24.2	12.0	16.5	39	—	—	1.4			
NV73A2ETTE24	21.6 - 26.4	14.0	18.0	39	—	—	1.4			
NV73A2ETTE27	24.3 - 29.7	17.0	22.0	44	—	—	1.7			
NV73A2ETTE33	29.7 - 36.3	20.0	26.0	54	—	—	1.9			
NV73A2ETTE39	35.1 - 42.9	25.0	30.0	65	—	—	1.7			
NV73A2ETTE47	42.3 - 51.7	30.0	38.0	77	—	—	2.0			
NV73A2ETTE56	50.4 - 61.6	35.0	45.0	90	—	—	2.0			
NV73A2ETTE82	73.8 - 90.2	50.0	65.0	135	—	—	1.2	250		
NV73A2ETTE100	90.0 - 110.0	60.0	85.0	165	—	—	1.4	200		
NV73A2ETTE110	99.0 - 121.0	70.0	90.0	180	—	—	1.4			
NV73A2JTTE12	10.2 - 13.8	6.0	9.0	—	27	—	0.9	500		
NV73A2JTTE15	12.8 - 17.3	8.0	11.0	—	32	—	1.2			
NV73A2JTTE18	16.2 - 19.8	11.0	14.0	—	35	—	1.4			
NV73A2JTTE22	19.8 - 24.2	12.0	16.5	—	41	—	1.6			
NV73A2JTTE24	21.6 - 26.4	14.0	18.0	—	44	—	1.7			
NV73A2JTTE27	24.3 - 29.7	17.0	22.0	—	49	—	2.0			
NV73A2JTTE33	29.7 - 36.3	20.0	26.0	—	54	—	2.5			
NV73A2JTTE39	35.1 - 42.9	25.0	30.0	—	65	—	2.9			
NV73A2JTTE47	42.3 - 51.7	30.0	38.0	—	77	—	3.5			
NV73A2JTTE56	50.4 - 61.6	35.0	45.0	—	90	—	4.2			
NV73A2JTTE68	61.2 - 74.8	40.0	56.0	—	110	—	4.8			
NV73A2JTTE82	73.8 - 90.2	50.0	65.0	—	135	—	4.5	400		
NV73A2JTTE100	90 - 110	60.0	85.0	—	165	—	5.8			
NV73A2JTTE110	99 - 121	70.0	90.0	—	180	—	5.8			
NV73A2JTTE150	135 - 165	95.0	127.0	—	248	—	5.8	300		
NV73B2JTTE15	12.8 - 17.3	8.0	11.0	—	32	—	1.8	800		
NV73B2JTTE18	15.3 - 20.7	11.0	14.0	—	35	—	1.9			
NV73B2JTTE22	19.8 - 24.2	12.0	16.5	—	41	—	2.3			
NV73B2JTTE24	21.6 - 26.4	14.0	18.0	—	44	—	2.3			
NV73B2JTTE27	24.3 - 29.7	17.0	22.0	—	49	—	2.7			
NV73B2JTTE33	29.7 - 36.3	20.0	26.0	—	54	—	3.0			

applications and ratings (continued)

Part Designation	Varistor Voltage Vc	Maximum Allowable Voltage		Clamping Voltage			Maximum Energy E (J) (100 times)	Maximum Peak Current Ip (A) (100 times)	Operating Temp. Topt (°C)	Storage Temp. Tstg (°C)
	Ic = 1mA (V)	a.c rms (V)	d.c (V)	$V_{2.5A}$	V_{5A}	V_{10A}				
NV73B2JTTE39	35.1 - 42.9	25.0	30.0	—	65	—	3.7	800	-50°C to +125°C	-50°C to +150°C
NV73B2JTTE47	42.3 - 51.7	30.0	38.0	—	77	—	4.2			
NV73B2JTTE56	50.4 - 61.6	35.0	45.0	—	90	—	4.2			
NV73A2LTTE12	10.2 - 13.8	6.0	9.0	—	—	28	1.9	1000		
NV73A2LTTE15	12.8 - 17.3	8.0	11.0	—	—	33	2.3			
NV73A2LTTE18	16.2 - 19.8	11.0	14.0	—	—	36	2.7			
NV73A2LTTE22	19.8 - 24.2	12.0	16.5	—	—	41	2.9			
NV73A2LTTE24	21.6 - 26.4	14.0	18.0	—	—	45	3.1			
NV73A2LTTE27	24.3 - 29.7	17.0	22.0	—	—	48	3.8			
NV73A2LTTE33	29.7 - 36.3	20.0	26.0	—	—	57	4.3			
NV73A2LTTE39	35.1 - 42.9	25.0	30.0	—	—	65	5.5			
NV73A2LTTE47	42.3 - 51.7	30.0	38.0	—	—	77	6.3			
NV73A2LTTE56	50.4 - 61.6	35.0	45.0	—	—	90	7.7			
NV73A2LTTE68	61.2 - 74.8	40.0	56.0	—	—	110	8.8			
NV73A2LTTE100	90 - 110	60.0	85.0	—	—	165	6.8			
NV73A2LTTE110	99 - 121	70.0	90.0	—	—	180	6.8			
NV73B2LTTE15	12.8 - 17.3	8.0	11.0	—	—	33	4.2	1200		
NV73B2LTTE18	15.3 - 20.7	11.0	14.0	—	—	36	5.4			
NV73B2LTTE22	19.8 - 24.2	12.0	16.5	—	—	41	5.8			
NV73B2LTTE24	21.6 - 26.4	14.0	18.0	—	—	45	5.8			
NV73B2LTTE27	24.3 - 29.7	17.0	22.0	—	—	48	7.2			
NV73B2LTTE33	29.7 - 36.3	20.0	26.0	—	—	57	7.8			
NV73B2LTTE39	35.1 - 42.9	25.0	30.0	—	—	65	9.6			
NV73B2LTTE47	42.3 - 51.7	30.0	38.0	—	—	77	12.0			
NV73B2LTTE56	50.4 - 61.6	35.0	45.0	—	—	90	7.7			
NV73B2LTTE82	73.8 - 90.2	50.0	65.0	—	—	135	5.6	1000		
NV73C2LTTE39	35.1 - 42.9	25.0	30.0	—	—	65	5.6 (1 time)	2500 (1 time)		
NV73C2LTTE82	73.8 - 90.2	50.0	65.0	—	—	135	14 (1 time)	4500 (1 time)		

Maximum allowable voltage - the maximum sinusoidal RMS voltage or maximum DC voltage which can be applied continuously
E: Maximum energy - the maximum energy within the varistor voltage change of ±10% when a single impulse of 2m sec. is applied
Ip: Maximum peak current - the maximum peak current within the varistor voltage change of ±10% when a single standard impulseof 8/20μ sec. is applied two times with an interval of 5 min.
Topt: Operating temperature - Ambient temperature range when the device is operating
Tstg: Storage temperature - Temperature range without causing the device any failure

circuit protection

environmental applications

Performance Characteristics

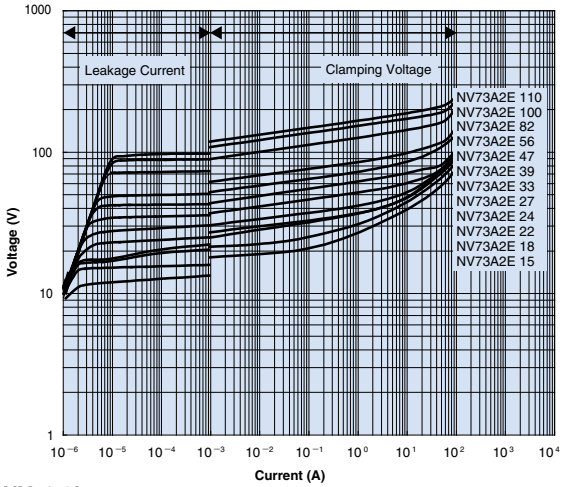
Parameter	Requirement Δ V±%	Test Method
Varistor Voltage	Within specified tolerance	Voltage between terminals when 1mA is flowed
Solderability	95% coverage minimum	235°C ± 5°C, 4 seconds ± 1 second
Resistance to Solder Heat	±10%	260°C ± 5°C, 4 seconds ± 1 second
Rapid Change of Temperature	±10%	-40°C (30 minutes), +125°C (30 minutes), 30 cycles; 5 cycles
Maximum Peak Current	±10%	A single standard impulse of 8/20μ seconds, 100 pulse, 30 second interval
Maximum Energy	±10%	A single standard impulse of 10/1000μs, 100pluse, 90 second interval
High Temperature Life with d.c. Bias	±10%	125°C ± 5°C, 1000h, Load: Maximum allowable circuit voltage (d.c.)
Low Temperature Life with d.c. Bias	±10%	-50°C ± 5°C, 1000h, Load: Maximum allowable circuit voltage (d.c.)
High Temperature Life with a.c. Bias**	±10%	85°C ± 5°C, 1000h, Load: Maximum allowable circuit voltage ($Va.c._{r.m.s.}$)
High Temperature & High Humidity Life with d.c. Bias	±10%	40°C ± 5°C, 95% RH, 500h, Load: Maximum allowable voltage (d.c.)
High Temperature Storage Life	±10%	150°C ± 5°C, 1000h
Low Temperature Storage Life	±10%	-50°C ± 5°C, 1000h

For Voltage Current Curves Graphs see Environmental Applications. Additional environmental applications can also be found at www.koaspeer.com

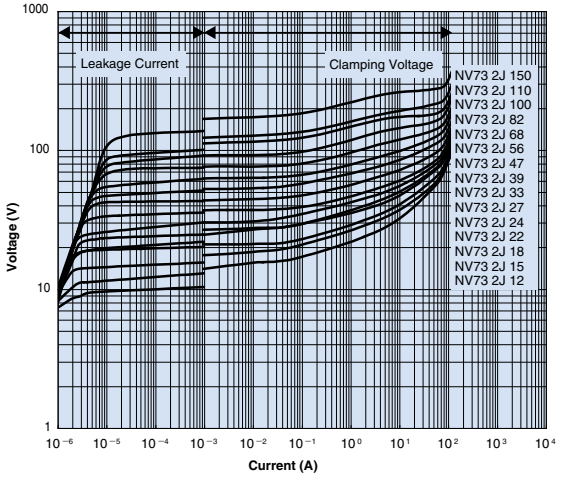
environmental applications (continued)

Voltage-Current Curves (Ta = 25°C)

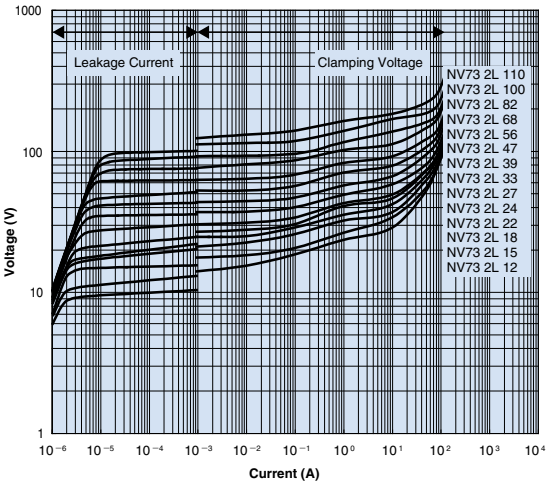
NV73 2E



NV73 2J



NV73 2L



circuit protection