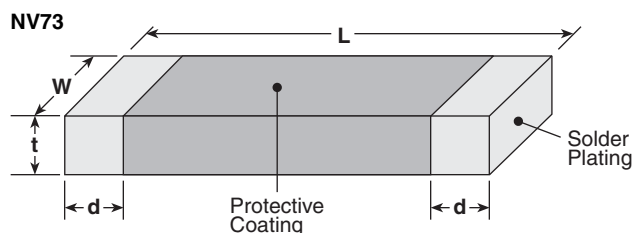
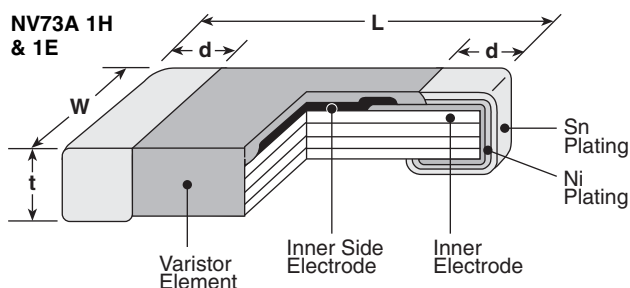




## features

- Multilayer structure
- High surge current
- Protector against static electricity, switching and incoming surges
- Marking: Black body color with no marking
- 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



| Type<br>(Inch Size Code) | Dimensions inches (mm)  |                         |                          |                                                                                    |
|--------------------------|-------------------------|-------------------------|--------------------------|------------------------------------------------------------------------------------|
|                          | L                       | W                       | t                        | d                                                                                  |
| <b>1H</b><br>(0201)      | .024±.001<br>(0.6±0.03) | .012±.001<br>(0.3±0.03) | .012±.001<br>(0.3±0.03)  | .004 min.<br>(0.1 min.)                                                            |
| <b>1E</b><br>(0402)      | .023±.004<br>(1.0±0.1)  | .02±.004<br>(0.5±0.1)   | .023 max.<br>(0.6 max.)  | .01±.006<br>(0.25±0.15)                                                            |
| <b>1J</b><br>(0603)      | .063±.006<br>(1.6±0.15) | .031±.006<br>(0.8±0.15) | .031±.006<br>(0.8±0.15)  | .016 <sup>+0.006</sup> <sub>-.008</sub><br>(0.4 <sup>+0.15</sup> <sub>-.02</sub> ) |
| <b>2A</b><br>(0805)      | .079±.008<br>(2.0±0.2)  | .049±.008<br>(1.25±0.2) | .051 max.<br>(1.3 max.)  | .02±.010<br>(0.5±0.25)                                                             |
| <b>2B</b><br>(1206)      | .126±.008<br>(3.2±0.2)  | .063±.008<br>(1.6±0.2)  | .065 max.<br>(1.65 max.) | .02 <sup>+0.014</sup> <sub>-.010</sub><br>(0.5 <sup>+0.35</sup> <sub>-.025</sub> ) |
| <b>2E</b><br>(1210)      | .126±.008<br>(3.2±0.2)  | .098±.008<br>(2.5±0.2)  | .059 max.<br>(1.5 max.)  | .020±.008<br>(0.5±0.2)                                                             |
| <b>2J</b><br>(1812)      | .177±.008<br>(4.5±0.2)  | .126±.008<br>(3.2±0.2)  | .079 max.<br>(2.0 max.)  | .020 <sup>+0.001</sup> <sub>-.004</sub><br>(0.5 <sup>+0.3</sup> <sub>-.01</sub> )  |
| <b>2L</b><br>(2220)      | .224±.008<br>(5.7±0.2)  | .197±.008<br>(5.0±0.2)  | .098 max.<br>(2.5 max.)  | .020 <sup>+0.001</sup> <sub>-.004</sub><br>(0.5 <sup>+0.3</sup> <sub>-.01</sub> )  |

## ordering information

| NV73 | A           | L                            | 1J                                                                                           | T                    | TE                                                                                                                                                                                                              | 8R2                                                       |
|------|-------------|------------------------------|----------------------------------------------------------------------------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Type | Energy Code | Capacitance Type             | Size                                                                                         | Termination Material | Packaging                                                                                                                                                                                                       | Varistor Voltage                                          |
|      | A<br>B<br>C | L: Low Capacitance (1E only) | 1H: 0201<br>1E: 0402<br>1J: 0603<br>2A: 0805<br>2B: 1206<br>2E: 1210<br>2J: 1812<br>2L: 2220 | T: Sn                | TBM: 2mm press paper (1H: 15,000 pieces/reel)<br>TP: 2mm pitch paper (1E: 10,000 pieces/reel)<br>TE: 7" embossed plastic (1J, 2A, 2B: 2,500 pieces/reel;<br>2J, 2L: 1,000 pieces/reel<br>2E: 2,000 pieces/reel) | 8.2V 8R2<br>18V 18<br>"R" indicates decimal on value <10Ω |

For further information on packaging, please refer to Appendix A.

## applications and ratings

| Part Designation | Reference Varistor Voltage @ 1mA nom. (Range) Vc | Clamping Voltage V <sub>P</sub> | I <sub>P</sub> | Maximum Peak Current I <sub>P</sub> (A) @ 8/20 microsecond (2 pulses) | Maximum Energy E (J) | Maximum Allowable Voltage a.c rms (V) | Maximum Allowable Voltage d.c (V) | Operating Temp. T <sub>opt</sub> (°C) | Storage Temp. T <sub>stg</sub> (°C) |
|------------------|--------------------------------------------------|---------------------------------|----------------|-----------------------------------------------------------------------|----------------------|---------------------------------------|-----------------------------------|---------------------------------------|-------------------------------------|
| NV73A1HTTB12     | 12 (10 - 15.6)                                   | 35                              | —              | 1                                                                     | 0.01                 | —                                     | 6.5                               | -40°C to +85°C                        | -40°C to +125°C                     |
| NV73A1ETTP8      | 8 (6.4 - 9.6)                                    | 20                              |                | 20                                                                    | 0.05                 | 4.2                                   | 5.5                               |                                       |                                     |
| NV73A1ETTP18     | 18 (16.2 - 19.8)                                 | 35                              |                |                                                                       |                      | 6.1                                   | 14.0                              |                                       |                                     |
| NV73AL1ETTP12    | 12 (10 - 14)                                     | 30                              |                | 5                                                                     | 0.03                 | 7.6                                   | 5.5                               |                                       |                                     |
| NV73AL1ETTP21    | 21 (18 - 24)                                     | 50                              |                |                                                                       |                      | 9.1                                   | 14.0                              |                                       |                                     |
| NV73AL1ETTP28    | 28 (24 - 32)                                     | 65                              |                | 2                                                                     | 0.005                | 10.6                                  | 18.0                              |                                       |                                     |
| NV73AL1ETTP120   | 120 (90 - 150)                                   | 350(1C=0.5A)                    |                |                                                                       |                      | 0.5                                   |                                   |                                       |                                     |
| NV73A1JTTE8R2    | 8.2 (6.8 - 9.8)                                  | 21                              | 2A             | 30                                                                    |                      | 0.1                                   | 4.2                               |                                       |                                     |
| NV73A1JTTE12     | 12 (10 - 14.4)                                   | 29                              |                |                                                                       | 6.1                  |                                       | 8.6                               |                                       |                                     |
| NV73A1JTTE15     | 15 (12.5 - 18)                                   | 35                              |                |                                                                       | 7.6                  |                                       | 10.8                              |                                       |                                     |
| NV73A1JTTE18     | 18 (16 - 20)                                     | 37                              |                |                                                                       | 9.1                  |                                       | 12.8                              |                                       |                                     |
| NV73A1JTTE20     | 20 (18 - 22)                                     | 40                              |                |                                                                       | 10.6                 |                                       | 15.0                              |                                       |                                     |
| NV73A1JTTE22     | 22 (19 - 24)                                     | 42                              |                |                                                                       | 12.0                 |                                       | 16.5                              |                                       |                                     |
| NV73A1JTTE24     | 24 (21.8 - 26.5)                                 | 46                              |                |                                                                       | 14.0                 |                                       | 18.0                              |                                       |                                     |
| NV73A1JTTE27     | 27 (25 - 32)                                     | 49                              |                |                                                                       | 17.0                 |                                       | 22.0                              |                                       |                                     |
| NV73A2ATTE8R2    | 8.2 (6.8 - 9.8)                                  | 16                              | 1A             | 10                                                                    | 0.01                 | 4.2                                   | 6.0                               |                                       |                                     |
| NV73A2ATTE12     | 12 (10 - 14.4)                                   | 22                              |                |                                                                       | 0.03                 | 6.1                                   | 8.6                               |                                       |                                     |
| NV73A2ATTE15     | 15 (12.5 - 18)                                   | 27                              |                |                                                                       | 0.04                 | 7.6                                   | 10.8                              |                                       |                                     |
| NV73A2ATTE18     | 18 (16 - 20)                                     | 29                              |                |                                                                       |                      | 9.1                                   | 12.8                              |                                       |                                     |
| NV73A2ATTE20     | 20 (18 - 22)                                     | 33                              |                | 20                                                                    | 0.05                 | 10.6                                  | 15.0                              |                                       |                                     |
| NV73A2ATTE22     | 22 (19 - 24)                                     | 39                              |                |                                                                       |                      | 12.0                                  | 16.5                              |                                       |                                     |
| NV73A2ATTE24     | 24 (21.8 - 26.5)                                 | 42                              |                |                                                                       | 0.06                 | 14.0                                  | 18.0                              |                                       |                                     |
| NV73A2ATTE27     | 27 (25 - 32)                                     | 50                              |                |                                                                       | 0.07                 | 17.0                                  | 22.0                              |                                       |                                     |
| NV73A2ATTE33     | 33 (30 - 39)                                     | 60                              |                | 25                                                                    | 0.12                 | 20.0                                  | 26.0                              |                                       |                                     |
| NV73A2ATTE39     | 39 (37 - 47)                                     | 72                              |                |                                                                       | 0.14                 | 25.0                                  | 31.0                              |                                       |                                     |
| NV73A2ATTE47     | 47 (45 - 54)                                     | 86                              |                |                                                                       | 0.16                 | 30.0                                  | 38.0                              |                                       |                                     |
| NV73B2ATTE8R2    | 8.2 (6.8 - 9.8)                                  | 18                              | 2A             | 20                                                                    | 0.03                 | 4.2                                   | 6.0                               |                                       |                                     |
| NV73B2ATTE12     | 12 (10 - 14.4)                                   | 22                              |                | 35                                                                    | 0.05                 | 6.1                                   | 8.6                               |                                       |                                     |
| NV73B2ATTE15     | 15 (12.5 - 18)                                   | 30                              |                |                                                                       | 0.07                 | 7.6                                   | 10.8                              |                                       |                                     |
| NV73B2ATTE18     | 18 (16 - 20)                                     | 32                              |                |                                                                       | 0.08                 | 9.1                                   | 12.8                              |                                       |                                     |
| NV73B2ATTE20     | 20 (18 - 22)                                     | 36                              |                |                                                                       | 0.09                 | 10.6                                  | 15.0                              |                                       |                                     |
| NV73B2ATTE22     | 22 (19 - 24)                                     | 40                              |                |                                                                       | 0.11                 | 12.0                                  | 16.5                              |                                       |                                     |
| NV73B2ATTE24     | 24 (21.8 - 26.5)                                 | 42                              |                |                                                                       | 0.12                 | 14.0                                  | 18.0                              |                                       |                                     |
| NV73B2ATTE27     | 27 (25 - 32)                                     | 58                              |                |                                                                       | 0.24                 | 17.0                                  | 22.0                              |                                       |                                     |
| NV73B2ATTE33     | 33 (30 - 39)                                     | 66                              |                | 50                                                                    | 0.25                 | 20.0                                  | 26.0                              |                                       |                                     |
| NV73C2ATTE8R2    | 8.2 (6.8 - 9.8)                                  | 16                              | 2A             | 25                                                                    | 0.04                 | 4.2                                   | 6.0                               |                                       |                                     |
| NV73C2ATTE12     | 12 (10 - 14.4)                                   | 22                              |                | 50                                                                    | 0.09                 | 6.1                                   | 8.6                               |                                       |                                     |
| NV73C2ATTE15     | 15 (12.5 - 18)                                   | 28                              |                |                                                                       | 0.11                 | 7.6                                   | 10.8                              |                                       |                                     |
| NV73C2ATTE18     | 18 (16 - 20)                                     | 32                              |                |                                                                       | 0.13                 | 9.1                                   | 12.8                              |                                       |                                     |
| NV73C2ATTE20     | 20 (18 - 22)                                     | 35                              |                |                                                                       | 0.14                 | 10.6                                  | 15.0                              |                                       |                                     |
| NV73C2ATTE22     | 22 (19 - 24)                                     | 40                              |                |                                                                       | 0.17                 | 12.0                                  | 16.5                              |                                       |                                     |
| NV73C2ATTE24     | 24 (21.8 - 26.5)                                 | 42                              |                |                                                                       | 0.18                 | 14.0                                  | 18.0                              |                                       |                                     |
| NV73A2BTTE27     | 27 (25 - 32)                                     | 55                              | 2A             | 40                                                                    | 0.13                 | 17.0                                  | 22.0                              |                                       |                                     |
| NV73A2BTTE33     | 33 (30 - 39)                                     | 60                              |                |                                                                       | 0.15                 | 20.0                                  | 26.0                              |                                       |                                     |
| NV73A2BTTE39     | 39 (37 - 47)                                     | 72                              |                |                                                                       | 0.18                 | 25.0                                  | 31.0                              |                                       |                                     |
| NV73A2BTTE47     | 47 (45 - 54)                                     | 85                              |                |                                                                       | 0.22                 | 30.0                                  | 38.0                              |                                       |                                     |
| NV73A2BTTE56     | 56 (52 - 62)                                     | 100                             |                |                                                                       | 0.26                 | 35.0                                  | 45.0                              |                                       |                                     |

**applications and ratings** (continued)

| Part Designation | Reference Varistor Voltage @ 1mA nom. (Range) V <sub>c</sub> | Clamping Voltage V <sub>P</sub> | I <sub>P</sub> | Maximum Peak Current I <sub>P</sub> (A) @ 8/20 microsecond (2 pulses) | Maximum Energy E (J) | Maximum Allowable Voltage a.c rms (V) | Maximum Allowable Voltage d.c (V) | Operating Temp. T <sub>opt</sub> (°C) | Storage Temp. T <sub>stg</sub> (°C) |
|------------------|--------------------------------------------------------------|---------------------------------|----------------|-----------------------------------------------------------------------|----------------------|---------------------------------------|-----------------------------------|---------------------------------------|-------------------------------------|
| NV73B2BTTE8R2    | 8.2 (6.8 - 9.8)                                              | 16                              | 2A             | 30                                                                    | 0.03                 | 4.2                                   | 6.0                               | -40°C to +85°C                        | -40°C to +125°C                     |
| NV73B2BTTE12     | 12 (10 - 14.4)                                               | 22                              |                | 50                                                                    | 0.07                 | 6.1                                   | 8.6                               |                                       |                                     |
| NV73B2BTTE15     | 15 (12.5 - 18)                                               | 28                              |                |                                                                       | 0.09                 | 7.6                                   | 10.8                              |                                       |                                     |
| NV73B2BTTE18     | 18 (16 - 20)                                                 | 32                              |                |                                                                       | 0.1                  | 9.1                                   | 12.8                              |                                       |                                     |
| NV73B2BTTE20     | 20 (18 - 22)                                                 | 35                              |                |                                                                       | 0.11                 | 10.6                                  | 15.0                              |                                       |                                     |
| NV73B2BTTE22     | 22 (19 - 24)                                                 | 40                              |                |                                                                       | 0.12                 | 12.0                                  | 16.5                              |                                       |                                     |
| NV73B2BTTE24     | 24 (21.8 - 26.5)                                             | 42                              |                |                                                                       | 0.14                 | 14.0                                  | 18.0                              |                                       |                                     |
| NV73B2BTTE27     | 27 (25 - 32)                                                 | 52                              |                |                                                                       | 0.16                 | 17.0                                  | 22.0                              |                                       |                                     |
| NV73C2BTTE8R2    | 8.2 (6.8 - 9.8)                                              | 15                              | 2A             | 40                                                                    | 0.06                 | 4.2                                   | 6.0                               | -40°C to +85°C                        | -40°C to +125°C                     |
| NV73C2BTTE12     | 12 (10 - 14.4)                                               | 21                              |                | 70                                                                    | 0.1                  | 6.1                                   | 8.6                               |                                       |                                     |
| NV73C2BTTE15     | 15 (12.5 - 18)                                               | 27                              |                |                                                                       | 0.13                 | 7.6                                   | 10.8                              |                                       |                                     |
| NV73C2BTTE18     | 18 (16 - 20)                                                 | 29                              |                |                                                                       | 0.15                 | 9.1                                   | 12.8                              |                                       |                                     |
| NV73C2BTTE20     | 20 (18 - 22)                                                 | 31                              |                |                                                                       | 0.17                 | 10.6                                  | 15.0                              |                                       |                                     |
| NV73C2BTTE22     | 22 (19 - 24)                                                 | 35                              |                |                                                                       | 0.19                 | 12.0                                  | 16.5                              |                                       |                                     |
| NV73C2BTTE24     | 24 (21.8 - 26.5)                                             | 38                              |                |                                                                       | 0.2                  | 14.0                                  | 18.0                              |                                       |                                     |
| NV73C2BTTE27     | 27 (25 - 32)                                                 | 48                              |                |                                                                       | 0.24                 | 17.0                                  | 22.0                              |                                       |                                     |
| NV73A2ETTE15     | 15 (12.8 - 17.3)                                             | 30                              | —              | 400                                                                   | 1.0                  | 8.0                                   | 11.0                              | -50°C to +125°C                       | -50°C to +150°C                     |
| NV73A2ETTE18     | 18 (15.3 - 20.7)                                             | 34                              |                |                                                                       | 1.2                  | 11.0                                  | 14.0                              |                                       |                                     |
| NV73A2ETTE22     | 22 (19.8 - 24.2)                                             | 39                              |                |                                                                       | 1.4                  | 12.0                                  | 16.5                              |                                       |                                     |
| NV73A2ETTE24     | 24 (21.6 - 26.4)                                             | 39                              |                |                                                                       | 1.4                  | 14.0                                  | 18.0                              |                                       |                                     |
| NV73A2ETTE27     | 27 (24.3 - 29.7)                                             | 44                              |                |                                                                       | 1.7                  | 17.0                                  | 22.0                              |                                       |                                     |
| NV73A2ETTE33     | 33 (29.7 - 36.3)                                             | 54                              |                |                                                                       | 1.9                  | 20.0                                  | 26.0                              |                                       |                                     |
| NV73A2ETTE39     | 39 (35.1 - 42.9)                                             | 65                              |                |                                                                       | 1.7                  | 25.0                                  | 30.0                              |                                       |                                     |
| NV73A2ETTE47     | 47 (42.3 - 51.7)                                             | 77                              |                |                                                                       | 2.0                  | 30.0                                  | 38.0                              |                                       |                                     |
| NV73A2ETTE56     | 56 (50.4 - 61.6)                                             | 90                              |                |                                                                       | 2.0                  | 35.0                                  | 45.0                              |                                       |                                     |
| NV73A2ETTE82     | 82 (73.8 - 90.2)                                             | 135                             |                | 250                                                                   | 1.2                  | 50.0                                  | 65.0                              |                                       |                                     |
| NV73A2ETTE100    | 100 (90.0 - 110.0)                                           | 165                             |                | 200                                                                   | 1.4                  | 60.0                                  | 85.0                              |                                       |                                     |
| NV73A2ETTE110    | 110 (99.0 - 121.0)                                           | 180                             |                |                                                                       | 1.4                  | 70.0                                  | 90.0                              |                                       |                                     |
| NV73A2JTTE12     | 12 (10.2 - 13.8)                                             | 27                              |                | 500                                                                   | 0.9                  | 6.0                                   | 9.0                               |                                       |                                     |
| NV73A2JTTE15     | 15 (12.8 - 17.3)                                             | 32                              |                |                                                                       | 1.2                  | 8.0                                   | 11.0                              |                                       |                                     |
| NV73A2JTTE18     | 18 (16.2 - 19.8)                                             | 35                              |                |                                                                       | 1.4                  | 11.0                                  | 14.0                              |                                       |                                     |
| NV73A2JTTE22     | 22 (19.8 - 24.2)                                             | 41                              |                |                                                                       | 1.6                  | 12.0                                  | 16.5                              |                                       |                                     |
| NV73A2JTTE24     | 24 (21.6 - 26.4)                                             | 44                              |                |                                                                       | 1.7                  | 14.0                                  | 18.0                              |                                       |                                     |
| NV73A2JTTE27     | 27 (24.3 - 29.7)                                             | 49                              |                |                                                                       | 2.0                  | 17.0                                  | 22.0                              |                                       |                                     |
| NV73A2JTTE33     | 33 (29.7 - 36.3)                                             | 54                              |                |                                                                       | 2.5                  | 20.0                                  | 26.0                              |                                       |                                     |
| NV73A2JTTE39     | 39 (35.1 - 42.9)                                             | 65                              |                |                                                                       | 2.9                  | 25.0                                  | 30.0                              |                                       |                                     |
| NV73A2JTTE47     | 47 (42.3 - 51.7)                                             | 77                              |                |                                                                       | 3.5                  | 30.0                                  | 38.0                              |                                       |                                     |
| NV73A2JTTE56     | 56 (50.4 - 61.6)                                             | 90                              |                |                                                                       | 4.2                  | 35.0                                  | 45.0                              |                                       |                                     |
| NV73A2JTTE68     | 68 (61.2 - 74.8)                                             | 110                             |                |                                                                       | 4.8                  | 40.0                                  | 56.0                              |                                       |                                     |
| NV73A2JTTE82     | 82 (73.8 - 90.2)                                             | 135                             |                |                                                                       | 4.5                  | 50.0                                  | 65.0                              |                                       |                                     |
| NV73A2JTTE100    | 100 (90 - 110)                                               | 165                             |                | 400                                                                   | 5.8                  | 60.0                                  | 85.0                              |                                       |                                     |
| NV73A2JTTE110    | 110 (99 - 121)                                               | 180                             |                |                                                                       | 5.8                  | 70.0                                  | 90.0                              |                                       |                                     |
| NV73A2JTTE150    | 150 (135 - 165)                                              | 248                             |                | 300                                                                   | 5.8                  | 95.0                                  | 127.0                             |                                       |                                     |
| NV73B2JTTE15     | 15 (12.8 - 17.3)                                             | 32                              |                | 800                                                                   | 1.8                  | 8.0                                   | 11.0                              |                                       |                                     |
| NV73B2JTTE18     | 18 (15.3 - 20.7)                                             | 35                              |                |                                                                       | 1.9                  | 11.0                                  | 14.0                              |                                       |                                     |
| NV73B2JTTE22     | 22 (19.8 - 24.2)                                             | 41                              |                |                                                                       | 2.3                  | 12.0                                  | 16.5                              |                                       |                                     |
| NV73B2JTTE24     | 24 (21.6 - 26.4)                                             | 44                              |                |                                                                       | 2.3                  | 14.0                                  | 18.0                              |                                       |                                     |
| NV73B2JTTE27     | 27 (24.3 - 29.7)                                             | 49                              |                |                                                                       | 2.7                  | 17.0                                  | 22.0                              |                                       |                                     |
| NV73B2JTTE33     | 33 (29.7 - 36.3)                                             | 54                              |                |                                                                       | 3.0                  | 20.0                                  | 26.0                              |                                       |                                     |

circuit protection

## applications and ratings (continued)

| Part Designation | Reference Varistor Voltage @ 1mA nom. (Range) V <sub>c</sub> | Clamping Voltage V <sub>P</sub> | I <sub>P</sub> | Maximum Peak Current I <sub>P</sub> (A) @ 8/20 microsecond (2 pulses) | Maximum Energy E (J) | Maximum Allowable Voltage a.c rms (V) | Maximum Allowable Voltage d.c (V) | Operating Temp. T <sub>opt</sub> (°C) | Storage Temp. T <sub>stg</sub> (°C) |
|------------------|--------------------------------------------------------------|---------------------------------|----------------|-----------------------------------------------------------------------|----------------------|---------------------------------------|-----------------------------------|---------------------------------------|-------------------------------------|
| NV73B2JTTE39     | 39 (35.1 - 42.9)                                             | 65                              | —              | 800                                                                   | 3.7                  | 25.0                                  | 30.0                              | -50°C to +125°C                       | -50°C to +150°C                     |
| NV73B2JTTE47     | 47 (42.3 - 51.7)                                             | 77                              |                |                                                                       | 4.2                  | 30.0                                  | 38.0                              |                                       |                                     |
| NV73B2JTTE56     | 56 (50.4 - 61.6)                                             | 90                              |                |                                                                       | 4.2                  | 35.0                                  | 45.0                              |                                       |                                     |
| NV73A2LTTE12     | 12 (10.2 - 13.8)                                             | 28                              |                |                                                                       | 1.9                  | 6.0                                   | 9.0                               |                                       |                                     |
| NV73A2LTTE15     | 15 (12.8 - 17.3)                                             | 33                              |                | 1000                                                                  | 2.3                  | 8.0                                   | 11.0                              |                                       |                                     |
| NV73A2LTTE18     | 18 (16.2 - 19.8)                                             | 36                              |                |                                                                       | 2.7                  | 11.0                                  | 14.0                              |                                       |                                     |
| NV73A2LTTE22     | 22 (19.8 - 24.2)                                             | 41                              |                |                                                                       | 2.9                  | 12.0                                  | 16.5                              |                                       |                                     |
| NV73A2LTTE24     | 24 (21.6 - 26.4)                                             | 45                              |                |                                                                       | 3.1                  | 14.0                                  | 18.0                              |                                       |                                     |
| NV73A2LTTE27     | 27 (24.3 - 29.7)                                             | 48                              |                |                                                                       | 3.8                  | 17.0                                  | 22.0                              |                                       |                                     |
| NV73A2LTTE33     | 33 (29.7 - 36.3)                                             | 57                              |                |                                                                       | 4.3                  | 20.0                                  | 26.0                              |                                       |                                     |
| NV73A2LTTE39     | 39 (35.1 - 42.9)                                             | 65                              |                |                                                                       | 5.5                  | 25.0                                  | 30.0                              |                                       |                                     |
| NV73A2LTTE47     | 47 (42.3 - 51.7)                                             | 77                              |                |                                                                       | 6.3                  | 30.0                                  | 38.0                              |                                       |                                     |
| NV73A2LTTE56     | 56 (50.4 - 61.6)                                             | 90                              |                |                                                                       | 7.7                  | 35.0                                  | 45.0                              |                                       |                                     |
| NV73A2LTTE68     | 68 (61.2 - 74.8)                                             | 110                             |                |                                                                       | 8.8                  | 40.0                                  | 56.0                              |                                       |                                     |
| NV73A2LTTE100    | 100 (90 - 110)                                               | 165                             |                |                                                                       | 6.8                  | 60.0                                  | 85.0                              |                                       |                                     |
| NV73A2LTTE110    | 110 (99 - 121)                                               | 180                             |                |                                                                       | 6.8                  | 70.0                                  | 90.0                              |                                       |                                     |
| NV73B2LTTE15     | 15 (12.8 - 17.3)                                             | 33                              |                | 1200                                                                  | 4.2                  | 8.0                                   | 11.0                              |                                       |                                     |
| NV73B2LTTE18     | 18 (15.3 - 20.7)                                             | 36                              |                |                                                                       | 5.4                  | 11.0                                  | 14.0                              |                                       |                                     |
| NV73B2LTTE22     | 22 (19.8 - 24.2)                                             | 41                              |                |                                                                       | 5.8                  | 12.0                                  | 16.5                              |                                       |                                     |
| NV73B2LTTE24     | 24 (21.6 - 26.4)                                             | 45                              |                |                                                                       | 5.8                  | 14.0                                  | 18.0                              |                                       |                                     |
| NV73B2LTTE27     | 27 (24.3 - 29.7)                                             | 48                              |                |                                                                       | 7.2                  | 17.0                                  | 22.0                              |                                       |                                     |
| NV73B2LTTE33     | 33 (29.7 - 36.3)                                             | 57                              |                |                                                                       | 7.8                  | 20.0                                  | 26.0                              |                                       |                                     |
| NV73B2LTTE39     | 39 (35.1 - 42.9)                                             | 65                              |                |                                                                       | 9.6                  | 25.0                                  | 30.0                              |                                       |                                     |
| NV73B2LTTE47     | 47 (42.3 - 51.7)                                             | 77                              |                |                                                                       | 12.0                 | 30.0                                  | 38.0                              |                                       |                                     |
| NV73B2LTTE56     | 56 (50.4 - 61.6)                                             | 90                              |                | 1000                                                                  | 7.7                  | 35.0                                  | 45.0                              |                                       |                                     |
| NV73B2LTTE82     | 82 (73.8 - 90.2)                                             | 135                             |                |                                                                       | 5.6                  | 50.0                                  | 65.0                              |                                       |                                     |

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  $\pm 10\%$  when a single impulse of 2m sec. is applied  
I<sub>P</sub>: Maximum peak current - the maximum peak current within the varistor voltage change of  $\pm 10\%$  when a single standard impulse of 8/20 $\mu$  sec. is applied two times with an interval of 5 min.  
T<sub>opt</sub>: Operating temperature - Ambient temperature range when the device is operating  
T<sub>stg</sub>: Storage temperature - Temperature range without causing the device any failure

## environmental applications

### Performance Characteristics

| Parameter                                            | Requirement $\Delta V \pm \%$ | Test Method                                                                                                                                                                     |
|------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Varistor Voltage                                     | Within specified tolerance    | Voltage between terminals when 1mA is flowed                                                                                                                                    |
| Solderability                                        | 95% coverage minimum          | 230°C $\pm$ 5°C, 4 seconds $\pm$ 1 second; 235°C $\pm$ 5°C, 4 seconds $\pm$ 1 second***                                                                                         |
| Resistance to Solder Heat                            | $\pm 10\%$                    | 260°C $\pm$ 5°C, 10 seconds $\pm$ 0.5 second*; 270°C $\pm$ 5°C, 3 seconds $\pm$ 0.5 second**;<br>260°C $\pm$ 5°C, 4 seconds $\pm$ 1 second***                                   |
| Rapid Change of Temperature                          | $\pm 10\%$                    | -40°C (30 minutes), +125°C (30 minutes), 30 cycles; 5 cycles***                                                                                                                 |
| Maximum Peak Current                                 | $\pm 10\%$                    | A single standard impulse of 8/20 $\mu$ seconds, positive/negative applied once each;<br>A single standard impulse of 8/20 $\mu$ seconds, 100 pulse, 30 second interval***      |
| Maximum Energy                                       | $\pm 10\%$                    | A single standard impulse of 10/1000 $\mu$ s, once*; A single standard impulse of 2ms, once**;<br>A single standard impulse of 10/1000 $\mu$ s, 100pulse, 90 second interval*** |
| High Temperature Life with d.c. Bias                 | $\pm 10\%$                    | 85°C $\pm$ 5°C, 1000h, Load: Maximum allowable circuit voltage (d.c.);<br>125°C $\pm$ 5°C, 1000h, Load: Maximum allowable circuit voltage (d.c.)***                             |
| Low Temperature Life with d.c. Bias***               | $\pm 10\%$                    | -50°C $\pm$ 5°C, 1000h, Load: Maximum allowable circuit voltage (d.c.)                                                                                                          |
| High Temperature Life with a.c. Bias**               | $\pm 10\%$                    | 85°C $\pm$ 5°C, 1000h, Load: Maximum allowable circuit voltage (V <sub>a.c.r.m.s.</sub> )                                                                                       |
| High Temperature & High Humidity Life with d.c. Bias | $\pm 10\%$                    | 40°C $\pm$ 5°C, 95% RH, 500h, Load: Maximum allowable voltage (d.c.)                                                                                                            |
| Capacitance*                                         | Typical                       | 1kHz: Others, 1MHz: Varistor voltage 120V                                                                                                                                       |
| High Temperature Storage Life                        | $\pm 10\%$                    | 125°C $\pm$ 5°C, 1000h; 150°C $\pm$ 5°C, 1000h***                                                                                                                               |
| Low Temperature Storage Life                         | $\pm 10\%$                    | -40°C $\pm$ 5°C, 1000h; -50°C $\pm$ 5°C, 1000h***                                                                                                                               |

\* 1H, 1E \*\* 1J, 2A, 2B \*\*\* 2E, 2J, 2L

For Voltage Current Curves Graphs see Environmental Applications. Additional environmental applications can also be found at [www.koaspeer.com](http://www.koaspeer.com)  
Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use. 1/05/11

## Данный компонент на территории Российской Федерации

**Вы можете приобрести в компании MosChip.**

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

moschip.ru\_6

moschip.ru\_9