



### 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<br/>(0201)</b>     | .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<br/>(0402)</b>     | .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<br/>(0603)</b>     | .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>-0.008</sub><br>(0.4 <sup>+0.15</sup> <sub>-0.2</sub> ) |
| <b>2A<br/>(0805)</b>     | .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<br/>(1206)</b>     | .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>-0.010</sub><br>(0.5 <sup>+0.35</sup> <sub>-0.25</sub> ) |
| <b>2E<br/>(1210)</b>     | .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<br/>(1812)</b>     | .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>-0.004</sub><br>(0.5 <sup>+0.3</sup> <sub>-0.1</sub> )  |
| <b>2L<br/>(2220)</b>     | .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>-0.004</sub><br>(0.5 <sup>+0.3</sup> <sub>-0.1</sub> )  |

### ordering information

|             |                    |                              |  |                             |   |   |
|-------------|--------------------|------------------------------|--|-----------------------------|---|---|
| <b>NV73</b> | <b>A</b>           | <b>L</b>                     | <b>1J</b>  | <b>T</b>                    | <b>TE</b>   | <b>8R2</b>  |
| <b>Type</b> | <b>Energy Code</b> | <b>Capacitance Type</b>      | <b>Size</b>  | <b>Termination Material</b> | <b>Packaging</b>  | <b>Varistor Voltage</b>                                   |
|             | 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.

vertical circuit protection

### applications and ratings

| 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) |      |
|------------------|--|---------------------------------|----------------|---|----------------------|---------------------------------------|-----------------------------------|---------------------------------------|-------------------------------------|------|
| 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                              |                | 5   | 0.03                 | 6.1                                   | 14.0                              |                                       |                                     |      |
| NV73AL1ETTP12    | 12 (10 - 14)   | 30                              |                | 2   | 0.005                | 7.6                                   | 5.5                               |                                       |                                     |      |
| NV73AL1ETTP21    | 21 (18 - 24)   | 50                              |                | 9.1   |                      | 14.0                                  |                                   |                                       |                                     |      |
| NV73AL1ETTP28    | 28 (24 - 32)   | 65                              |                | 0.5   | 10.6                 | 18.0                                  | 12.0                              |                                       |                                     |      |
| NV73AL1ETTP120   | 120 (90 - 150)   | 350(1C-05A)                     |                | 12.0  | 18.0                 |                                       |                                   |                                       |                                     |      |
| NV73A1JTTE8R2    | 8.2 (6.8 - 9.8)  | 21                              | 2A             | 30  | 0.1                  | 4.2                                   | 6.0                               |                                       |                                     |      |
| 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                              |                |   | 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                              |                | 0.12  | 20.0                 | 26.0                                  |                                   |                                       |                                     |      |
| NV73A2ATTE39     | 39 (37 - 47)   | 72                              |                |   | 25                   | 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                              |                |   |                      | 0.05                                  | 6.1                               |                                       |                                     | 8.6  |
| NV73B2ATTE15     | 15 (12.5 - 18)   | 30                              | 35             |   | 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                              |                | 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                              |                                       |                                     |      |

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.

1/06/09

applications and ratings (continued)

| Part Designation | Reference Varistor Voltage @ 1mA nom. (Range) Vc | Clamping Voltage Vp | 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                  |                |   | 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                  |                |   | 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                 |                |   | 2.0                  | 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                  | 500                                   | 0.9                               |                                       |                                     | 6.0             | 9.0             | -50°C to +125°C | -50°C to +150°C |
| 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                 |                | 5.8   |                      |                                       | 95.0                              | 127.0                                 |                                     |                 |                 |                 |                 |
| NV73B2JTTE15     | 15 (12.8 - 17.3)                                 | 32                  | 800            | 800   |                      |                                       | 1.8                               | 8.0                                   | 11.0                                | -50°C to +125°C | -50°C to +150°C |                 |                 |
| 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                              |                | 1000  | 1.9                  | 6.0                                   | 9.0                               |                                       |                                     |      |
| NV73A2LTTE15     | 15 (12.8 - 17.3)   | 33                              |                |   | 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                              |                | 7.7   |                      | 35.0                                  | 45.0                              |                                       |                                     |      |
| NV73B2LTTE82     | 82 (73.8 - 90.2)   | 135                             |                | 1000  |                      | 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 ±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 ±10% when a single standard impulse of 8/20μ 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 Δ V±%          | Test Method   |
|--|----------------------------|---|
| Varistor Voltage                                     | Within specified tolerance | Voltage between terminals when 1mA is flowed  |
| Solderability  | 95% coverage minimum       | 230°C ± 5°C, 4 seconds ± 1 second; 235°C ± 5°C, 4 seconds ± 1 second***   |
| Resistance to Solder Heat                            | ±10%                       | 260°C ± 5°C, 10 seconds ± 0.5 second*; 270°C ± 5°C, 3 seconds ± 0.5 second**;<br>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, positive/negative applied once each;<br>A single standard impulse of 8/20μ seconds, 100 pulse, 30 second interval***    |
| Maximum Energy                                       | ±10%                       | A single standard impulse of 10/1000μs, once*; A single standard impulse of 2ms, once**;<br>A single standard impulse of 10/1000μs, 100pulse, 90 second interval*** |
| High Temperature Life with d.c. Bias                 | ±10%                       | 85°C ± 5°C, 1000h, Load: Maximum allowable circuit voltage (d.c.);<br>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 (V <sub>a.c.r.m.s.</sub> )   |
| High Temperature & High Humidity Life with d.c. Bias | ±10%                       | 40°C ± 5°C, 95% RH, 500h, Load: Maximum allowable voltage (d.c.)  |
| Capacitance*   | Typical                    | 1kHz: Others, 1MHz: Varistor voltage 120V   |
| High Temperature Storage Life                        | ±10%                       | 125°C ± 5°C, 1000h; 150°C ± 5°C, 1000h***   |
| Low Temperature Storage Life                         | ±10%                       | -40°C ± 5°C, 1000h; -50°C ± 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

circuit protection

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



## JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели,  
кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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