

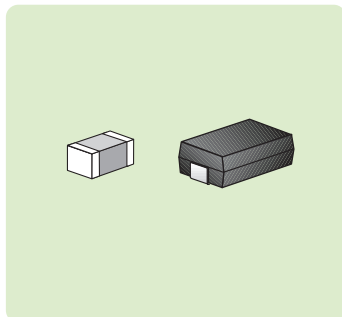
## EPCOS type SIOV-CN/CU (B725\* / B726\*) series



Two series of surface mount, metal oxide varistors offering a wide range of chip sizes, and providing an extensive selection of voltage and energy ratings. Connected directly across the supply rails, the devices are designed to protect equipment against transient voltage spikes by clamping any surges to safe levels. The SIOV-CN (B725\*) series are multilayer varistors which have silver palladium terminations and cover the smaller sizes and lower voltage ratings. The SIOV-CU (B726\*) series are monolithic, being encapsulated to UL94V-0 and employing tinned copper alloy terminals. Available in the larger chip sizes 3225 and 4032, they provide the highest voltage and energy ratings.

Supplied taped and reeled.

N.B. A varistor remains high impedance (non-operative) during normal standby use. When a voltage spike is encountered the impedance rapidly drops to a very low level, clamping the transient voltage to an acceptable level. The varistor absorbs the unwanted energy thereby protecting voltage sensitive components against damage.


**NEW**

- ◆ Two series covering chip sizes from 0402 to 4032
- ◆ Choice of voltage & energy ratings
- ◆ Fast response
- ◆ Protect voltage sensitive components against damage
- ◆ Convenient and simple solution to transient suppression
- ◆ Supplied taped & reeled

### Specification

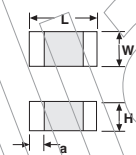
|                                         | SIOV-CN<br>(B725*)                                              | SIOV-CU<br>(B726*) |
|-----------------------------------------|-----------------------------------------------------------------|--------------------|
| Storage temperature range               | -55°C to +125°C (0402 & 0603)<br>-55°C to +150°C (0805 to 2220) | -40°C to +125°C    |
| Operating temperature range (full load) | -55°C to +85°C (0402 & 0603)<br>-55°C to +125°C (0805 to 2220)  | -40°C to +85°C     |
| Varistor voltage tolerance              | ±10% (±15% $V_V = 15V$ & 23.5V,<br>±20% $V_V \leq 11V$ )        | ±10%               |
| Response time                           | <0.5ns                                                          | <10ns              |
| Insulation resistance                   | ≥1000MΩ                                                         | ≥1000MΩ            |
| Insulation voltage                      | 2500V                                                           | 2500V              |

Approvals (SIOV-CU (B726\*) series)

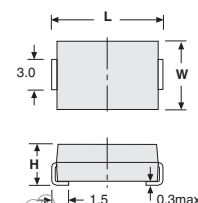
| APPROVAL                                                                            | COMMENTS                                                      | APPLICABLE TYPES              | FILE NO.  | STANDARD  |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------|-------------------------------|-----------|-----------|
|  | Recognised as "transient voltage surge suppressors"           | All varistor voltages         | E97877    | UL1449    |
|  | Recognised as "accessories and parts for electronic products" | 205V to 470V nom. (inclusive) | LR-175282 | C22.21 01 |

### Dimensions (mm)

Type SIOV-CN (B725\*)



Type SIOV-CU (B726\*)



| Chip Size | L   | W    | H max. | a         |
|-----------|-----|------|--------|-----------|
| 0402      | 1.0 | 0.5  | 0.6    | 0.1-0.3   |
| 0603      | 1.6 | 0.8  | 0.9    | 0.1-0.4   |
| 0805      | 2.0 | 1.25 | 1.4    | 0.13-0.75 |
| 1206      | 3.2 | 1.6  | 1.7    | 0.25-0.75 |
| 1210      | 3.2 | 2.5  | 1.7    | 0.25-0.75 |
| 1812      | 4.5 | 3.2  | 2.5    | 0.25-1.0  |
| 2220      | 5.7 | 5.0  | 2.5    | 0.25-1.0  |

| Chip Size | Vrms                    | L    | W   | H          |
|-----------|-------------------------|------|-----|------------|
| 3225      | 20 to 150<br>250 to 300 | 8.0  | 6.3 | 3.2<br>4.5 |
| 4032      | 20 to 150<br>250 to 300 | 10.2 | 8.0 | 3.2<br>4.5 |

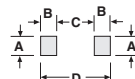
### Marking

SIOV-CN (B725\*) series: None

SIOV-CU (B726\*) series: Chip size e.g. CU4032

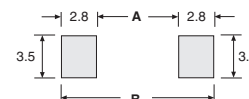
Varistor voltage tolerance code + max. operating voltage (rms) e.g. K250

### Pad Pattern



| Chip Size | A   | B   | C   | D   |
|-----------|-----|-----|-----|-----|
| 0402      | 0.6 | 0.6 | 0.5 | 1.7 |
| 0603      | 1.0 | 1.0 | 1.0 | 3.0 |
| 0805      | 1.4 | 1.2 | 1.0 | 3.4 |
| 1206      | 1.8 | 1.2 | 2.1 | 4.5 |
| 1210      | 2.8 | 1.2 | 2.1 | 4.5 |
| 1812      | 3.6 | 1.5 | 3.0 | 6.0 |
| 2220      | 5.5 | 1.5 | 4.2 | 7.2 |

### Pad Pattern



| Chip Size | A   | B    |
|-----------|-----|------|
| 3225      | 4.5 | 10.1 |
| 4032      | 6.5 | 12.1 |

### Packaging

SIOV-CN (B725\*) series:

TAPE : 8mm wide, 4mm pitch (0402 to 1210)

12mm wide, 8mm pitch (1812 & 2220)

REEL : 178mm dia.

SIOV-CU (B726\*) series:

TAPE : 16mm wide, 12mm pitch

REEL : 330mm dia.

EPCOS type SIOV-CN/CU Chip Varistors  
continued overleaf > > >

## SIOV-CN (B725\*) series

| Chip Size | Max. Operating Voltage (V) |     | Varistor Voltage (V) |       |       | Max. Clamping Voltage (V) at (A) |     | Withstanding Surge Current (8/20µs) (A) | Rated Power (W) | Energy Absorption 2ms (J) | Typ. Cap. (1kHz) (pF) | Manf. Part No. & anglia Order Code |
|-----------|----------------------------|-----|----------------------|-------|-------|----------------------------------|-----|-----------------------------------------|-----------------|---------------------------|-----------------------|------------------------------------|
|           | rms                        | dc  | Nom.                 | Min.  | Max.  |                                  |     |                                         |                 |                           |                       |                                    |
| 0402      | 14                         | 16  | 23.5                 | 20    | 27    | 46                               | 1   | 10                                      | 0.003           | 0.01                      | 60                    | B72592V140L60                      |
| 0603      | 4                          | 5.5 | 8                    | 6.4   | 9.6   | 19                               | 1   | 30                                      | 0.003           | 0.1                       | 200                   | B72500V40M60                       |
|           | 6                          | 8   | 11                   | 8.8   | 13.2  | 27                               | 1   | 30                                      | 0.003           | 0.1                       | 200                   | B72500V60M60                       |
|           | 7                          | 9   | 12.5                 | 10    | 15    | 30                               | 1   | 30                                      | 0.003           | 0.1                       | 200                   | B72500V70M60                       |
|           | 8                          | 11  | 15                   | 12.8  | 17.3  | 33                               | 1   | 30                                      | 0.003           | 0.1                       | 150                   | B72500V80L60                       |
|           | 11                         | 14  | 18                   | 16.2  | 19.8  | 35                               | 1   | 30                                      | 0.003           | 0.2                       | 100                   | B72500V110K60                      |
|           | 14                         | 18  | 22                   | 19.8  | 24.2  | 40                               | 1   | 30                                      | 0.003           | 0.2                       | 100                   | B72500V140K60                      |
| 0805      | 4                          | 5.5 | 8                    | 6.4   | 9.6   | 19                               | 1   | 100                                     | 0.005           | 0.1                       | 700                   | B72510V40M62                       |
|           | 6                          | 8   | 11                   | 8.8   | 13.2  | 27                               | 1   | 120                                     | 0.005           | 0.2                       | 600                   | B72510V60M62                       |
|           | 8                          | 11  | 15                   | 12.8  | 17.3  | 33                               | 1   | 120                                     | 0.005           | 0.2                       | 500                   | B72510V80L62                       |
|           | 11                         | 14  | 18                   | 16.2  | 19.8  | 35                               | 1   | 120                                     | 0.005           | 0.2                       | 400                   | B72510V110K62                      |
|           | 14                         | 18  | 22                   | 19.8  | 24.2  | 40                               | 1   | 120                                     | 0.005           | 0.3                       | 350                   | B72510V140K62                      |
|           | 17                         | 22  | 27                   | 24.3  | 29.7  | 46                               | 1   | 120                                     | 0.005           | 0.3                       | 400                   | B72510V170K62                      |
|           | 20                         | 26  | 33                   | 29.7  | 36.3  | 56                               | 1   | 80                                      | 0.005           | 0.3                       | 300                   | B72510V200K62                      |
|           | 25                         | 31  | 39                   | 35.1  | 42.9  | 67                               | 1   | 80                                      | 0.005           | 0.3                       | 250                   | B72510V250K62                      |
| 1206      | 4                          | 5.5 | 8                    | 6.4   | 9.6   | 17                               | 1   | 150                                     | 0.008           | 0.3                       | 1500                  | B72520V40M62                       |
|           | 6                          | 8   | 11                   | 8.8   | 13.2  | 25                               | 1   | 200                                     | 0.008           | 0.4                       | 1200                  | B72520V60M62                       |
|           | 8                          | 11  | 15                   | 12.8  | 17.3  | 30                               | 1   | 200                                     | 0.008           | 0.5                       | 1000                  | B72520V80L62                       |
|           | 11                         | 14  | 18                   | 16.2  | 19.8  | 33                               | 1   | 200                                     | 0.008           | 0.5                       | 800                   | B72520V110K62                      |
|           | 14                         | 18  | 22                   | 19.8  | 24.2  | 38                               | 1   | 200                                     | 0.008           | 0.5                       | 700                   | B72520V140K62                      |
|           | 17                         | 22  | 27                   | 24.3  | 29.7  | 44                               | 1   | 200                                     | 0.008           | 0.6                       | 650                   | B72520V170K62                      |
|           | 20                         | 26  | 33                   | 29.7  | 36.3  | 54                               | 1   | 200                                     | 0.008           | 0.7                       | 600                   | B72520V200K62                      |
|           | 25                         | 31  | 39                   | 35.1  | 42.9  | 65                               | 1   | 200                                     | 0.008           | 1.0                       | 550                   | B72520V250K62                      |
|           | 30                         | 38  | 47                   | 42.3  | 51.7  | 77                               | 1   | 200                                     | 0.008           | 1.1                       | 500                   | B72520V300K62                      |
|           | 35                         | 45  | 56                   | 50.4  | 61.6  | 90                               | 1   | 100                                     | 0.008           | 0.4                       | 200                   | B72520V350K62                      |
|           | 40                         | 56  | 68                   | 61.2  | 74.8  | 110                              | 1   | 100                                     | 0.008           | 0.5                       | 250                   | B72520V400K62                      |
|           | 50                         | 65  | 82                   | 73.8  | 90.2  | 135                              | 1   | 100                                     | 0.008           | 0.6                       | 120                   | B72520V500K62                      |
| 1210      | 4                          | 5.5 | 8                    | 6.4   | 9.6   | 17                               | 2.5 | 250                                     | 0.01            | 0.4                       | 5000                  | B72530V40M62                       |
|           | 6                          | 8   | 11                   | 8.8   | 13.2  | 25                               | 2.5 | 300                                     | 0.01            | 0.7                       | 4000                  | B72530V60M62                       |
|           | 8                          | 11  | 15                   | 12.8  | 17.3  | 30                               | 2.5 | 400                                     | 0.01            | 1.0                       | 3000                  | B72530V80L62                       |
|           | 11                         | 14  | 18                   | 16.2  | 19.8  | 33                               | 2.5 | 400                                     | 0.01            | 1.2                       | 2400                  | B72530V110K62                      |
|           | 14                         | 18  | 22                   | 19.8  | 24.2  | 38                               | 2.5 | 400                                     | 0.01            | 1.5                       | 2000                  | B72530V140K62                      |
|           | 17                         | 22  | 27                   | 24.3  | 29.7  | 44                               | 2.5 | 400                                     | 0.01            | 1.7                       | 1800                  | B72530V170K62                      |
|           | 20                         | 26  | 33                   | 29.7  | 36.3  | 54                               | 2.5 | 400                                     | 0.01            | 1.9                       | 1500                  | B72530V200K62                      |
|           | 25                         | 31  | 39                   | 35.1  | 42.9  | 65                               | 2.5 | 300                                     | 0.01            | 1.7                       | 1200                  | B72530V250K62                      |
|           | 30                         | 38  | 47                   | 42.3  | 51.7  | 77                               | 2.5 | 300                                     | 0.01            | 2.0                       | 1000                  | B72530V300K62                      |
|           | 35                         | 45  | 56                   | 50.4  | 61.6  | 90                               | 2.5 | 250                                     | 0.01            | 2.0                       | 600                   | B72530V350K62                      |
|           | 40                         | 56  | 68                   | 61.2  | 74.8  | 110                              | 2.5 | 250                                     | 0.01            | 2.3                       | 500                   | B72530V400K62                      |
|           | 50                         | 65  | 82                   | 73.8  | 90.2  | 135                              | 2.5 | 200                                     | 0.01            | 1.6                       | 250                   | B72530V500K62                      |
| 1812      | 4                          | 5.5 | 8                    | 6.4   | 9.6   | 17                               | 5   | 500                                     | 0.015           | 0.8                       | 10000                 | B72580V40M62                       |
|           | 6                          | 8   | 11                   | 8.8   | 13.2  | 25                               | 5   | 500                                     | 0.015           | 1.0                       | 8000                  | B72580V60M62                       |
|           | 8                          | 11  | 15                   | 12.8  | 17.3  | 30                               | 5   | 800                                     | 0.015           | 1.8                       | 6000                  | B72580V80L62                       |
|           | 11                         | 14  | 18                   | 16.2  | 19.8  | 33                               | 5   | 800                                     | 0.015           | 1.9                       | 5000                  | B72580V110K62                      |
|           | 14                         | 18  | 22                   | 19.8  | 24.2  | 38                               | 5   | 800                                     | 0.015           | 2.3                       | 4500                  | B72580V140K62                      |
|           | 17                         | 22  | 27                   | 24.3  | 29.7  | 44                               | 5   | 800                                     | 0.015           | 2.7                       | 4000                  | B72580V170K62                      |
|           | 20                         | 26  | 33                   | 29.7  | 36.3  | 54                               | 5   | 800                                     | 0.015           | 3.0                       | 3000                  | B72580V200K62                      |
|           | 25                         | 31  | 39                   | 35.1  | 42.9  | 65                               | 5   | 800                                     | 0.015           | 3.7                       | 2500                  | B72580V250K62                      |
|           | 30                         | 38  | 47                   | 42.3  | 51.7  | 77                               | 5   | 800                                     | 0.015           | 4.2                       | 2000                  | B72580V300K62                      |
|           | 35                         | 45  | 56                   | 50.4  | 61.6  | 90                               | 5   | 500                                     | 0.015           | 4.0                       | 1200                  | B72580V350K62                      |
|           | 40                         | 56  | 68                   | 61.2  | 74.8  | 110                              | 5   | 500                                     | 0.015           | 4.8                       | 1000                  | B72580V400K62                      |
|           | 50                         | 65  | 82                   | 73.8  | 90.2  | 135                              | 5   | 400                                     | 0.015           | 4.5                       | 500                   | B72580V500K62                      |
| 2220      | 4                          | 5.5 | 8                    | 6.4   | 9.6   | 17                               | 10  | 1000                                    | 0.02            | 1.4                       | 24000                 | B72540V40M62                       |
|           | 6                          | 8   | 11                   | 8.8   | 13.2  | 25                               | 10  | 1200                                    | 0.02            | 3.6                       | 20000                 | B72540V60M62                       |
|           | 8                          | 11  | 15                   | 12.8  | 17.3  | 30                               | 10  | 1200                                    | 0.02            | 4.2                       | 16000                 | B72540V80L62                       |
|           | 11                         | 14  | 18                   | 16.2  | 19.8  | 33                               | 10  | 1200                                    | 0.02            | 5.4                       | 12000                 | B72540V110K62                      |
|           | 14                         | 18  | 22                   | 19.8  | 24.2  | 38                               | 10  | 1200                                    | 0.02            | 5.8                       | 10000                 | B72540V140K62                      |
|           | 17                         | 22  | 27                   | 24.3  | 29.7  | 44                               | 10  | 1200                                    | 0.02            | 7.2                       | 9000                  | B72540V170K62                      |
|           | 20                         | 26  | 33                   | 29.7  | 36.3  | 54                               | 10  | 1200                                    | 0.02            | 7.8                       | 7000                  | B72540V200K62                      |
|           | 25                         | 31  | 39                   | 35.1  | 42.9  | 65                               | 10  | 1200                                    | 0.02            | 9.6                       | 5000                  | B72540V250K62                      |
|           | 30                         | 38  | 47                   | 42.3  | 51.7  | 77                               | 10  | 1200                                    | 0.02            | 12                        | 4000                  | B72540V300K62                      |
|           | 35                         | 45  | 56                   | 50.4  | 61.6  | 90                               | 10  | 1000                                    | 0.02            | 7.7                       | 2500                  | B72540V350K62                      |
|           | 40                         | 56  | 68                   | 61.2  | 74.8  | 110                              | 10  | 1000                                    | 0.02            | 9.0                       | 2000                  | B72540V400K62                      |
|           | 50                         | 65  | 82                   | 73.8  | 90.2  | 135                              | 10  | 800                                     | 0.02            | 5.6                       | 1000                  | B72540V500K62                      |
| 3225      | 20                         | 26  | 33                   | 29.7  | 36.3  | 65                               | 1   | 100                                     | 0.01            | 0.6                       | 980                   | B72650M200K72                      |
|           | 75                         | 100 | 120                  | 108   | 132   | 200                              | 5   | 400                                     | 0.1             | 2.5                       | 210                   | B72650M750K72                      |
|           | 95                         | 125 | 150                  | 135   | 165   | 250                              | 5   | 400                                     | 0.1             | 3.4                       | 135                   | B72650M950K72                      |
|           | 115                        | 150 | 180                  | 162   | 198   | 300                              | 5   | 400                                     | 0.1             | 3.6                       | 110                   | B72650M111K72                      |
|           | 130                        | 170 | 205                  | 184.5 | 225.5 | 340                              | 5   | 400                                     | 0.1             | 4.2                       | 100                   | B72650M131K72                      |
|           | 150                        | 200 | 240                  | 216   | 264   | 395                              | 5   | 400                                     | 0.1             | 4.9                       | 90                    | B72650M151K72                      |
|           | 250                        | 320 | 390                  | 351   | 429   | 650                              | 5   | 400                                     | 0.1             | 8.2                       | 55                    | B72650M251K72                      |
|           | 275                        | 350 | 430                  | 387   | 473   | 710                              | 5   | 400                                     | 0.1             | 8.6                       | 50                    | B72650M271K72                      |
|           | 300                        | 385 | 470                  | 423   | 517   | 775                              | 5   | 400                                     | 0.1             | 9.6                       | 45                    | B72650M301K72                      |
| 4032      | 20                         | 26  | 33                   | 29.7  | 36.3  | 65                               | 2.5 | 250                                     | 0.02            | 1.3                       | 1600                  | B72660M200K72                      |
|           | 75                         | 100 | 120                  | 108   | 132   | 200                              | 10  | 1200                                    | 0.25            | 5.9                       | 430                   | B72660M750K72                      |
|           | 95                         | 125 | 150                  | 135   | 165   | 250                              | 10  | 1200                                    | 0.25            | 7.6                       | 260                   | B72660M950K72                      |
|           | 115                        | 150 | 180                  | 162   | 198   | 300                              | 10  | 1200                                    | 0.25            | 8.4                       | 220                   | B72660M111K72                      |
|           | 130                        | 170 | 205                  | 184.5 | 225.5 | 340                              | 10  | 1200                                    | 0.25            | 9.5                       | 200                   | B72660M131K72                      |
|           | 150                        | 200 | 240                  | 216   | 264   | 395                              | 10  | 1200                                    | 0.25            | 11                        | 170                   | B72660M151K72                      |
|           | 250                        | 320 | 390                  | 351   | 429   | 650                              | 10  | 1200                                    | 0.25            | 19                        | 105                   | B72660M251K72                      |
|           | 275                        | 350 | 430                  | 387   | 473   | 710                              | 10  | 1200                                    | 0.25            | 21                        | 95                    | B72660M271K72                      |
|           | 300                        | 385 | 470                  | 423   | 517   | 775                              | 10  | 1200                                    | 0.25            | 23                        | 90                    | B72660M301K72                      |

## SIOV-CU (B726\*) series



|      |     |     |     |       |   |       |     |     |      |      |     |      |               |
|------|-----|-----|-----|-------|---|-------|-----|-----|------|------|-----|------|---------------|
| 3225 | 20  | 26  | 33  | 29.7  | - | 36.3  | 65  | 1   | 100  | 0.01 | 0.6 | 980  | B72650M200K72 |
|      | 75  | 100 | 120 | 108   | - | 132   | 200 | 5   | 400  | 0.1  | 2.5 | 210  | B72650M750K72 |
|      | 95  | 125 | 150 | 135   | - | 165   | 250 | 5   | 400  | 0.1  | 3.4 | 135  | B72650M950K72 |
|      | 115 | 150 | 180 | 162   | - | 198   | 300 | 5   | 400  | 0.1  | 3.6 | 110  | B72650M111K72 |
|      | 130 | 170 | 205 | 184.5 | - | 225.5 | 340 | 5   | 400  | 0.1  | 4.2 | 100  | B72650M131K72 |
|      | 150 | 200 | 240 | 216   | - | 264   | 395 | 5   | 400  | 0.1  | 4.9 | 90   | B72650M151K72 |
|      | 250 | 320 | 390 | 351   | - | 429   | 650 | 5   | 400  | 0.1  | 8.2 | 55   | B72650M251K72 |
|      | 275 | 350 | 430 | 387   | - | 473   | 710 | 5   | 400  | 0.1  | 8.6 | 50   | B72650M271K72 |
|      | 300 | 385 | 470 | 423   | - | 517   | 775 | 5   | 400  | 0.1  | 9.6 | 45   | B72650M301K72 |
| 4032 | 20  | 26  | 33  | 29.7  | - | 36.3  | 65  | 2.5 | 250  | 0.02 | 1.3 | 1600 | B72660M200K72 |
|      | 75  | 100 | 120 | 108   | - | 132   | 200 | 10  | 1200 | 0.25 | 5.9 | 430  | B72660M750K72 |
|      | 95  | 125 | 150 | 135   | - | 165   | 250 | 10  | 1200 | 0.25 | 7.6 | 260  | B72660M950K72 |
|      | 115 | 150 | 180 | 162   | - | 198   | 300 | 10  | 1200 | 0.25 | 8.4 | 220  | B72660M111K72 |
|      | 130 | 170 | 205 | 184.5 | - | 225.5 | 340 | 10  | 1200 | 0.25 | 9.5 | 200  | B72660M131K72 |
|      | 150 | 200 | 240 | 216   | - | 264   | 395 | 10  | 1200 | 0.25 | 11  | 170  | B72660M151K72 |
|      | 250 | 320 | 390 | 351   | - | 429   | 650 | 10  | 1200 | 0.25 | 19  | 105  | B72660M251K72 |
|      | 275 | 350 | 430 | 387   | - | 473   | 710 | 10  | 1200 | 0.25 | 21  | 95   | B72660M271K72 |
|      | 300 | 385 | 470 | 423   | - | 517   | 775 | 10  | 1200 | 0.25 | 23  | 90   | B72660M301K72 |