

# High-Voltage Types Application Guide, Transmitting Mica

## Types 271, 272, 273 — Rectangular Case, High-Current and High-Voltage Circuits



Types 271, 272, 273 are designed for frequencies ranging from 100 kHz to 3 MHz and are well suited for high-current and high-voltage radio transmitter circuit applications. Cast in rectangular cases, these capacitors are electrically equivalent to MIL-C-5 Styles CM65 through CM73 in capacitance and current ratings, but are far superior in environmental capability, temperature range, physical size, mounting configuration and reliability.

### Highlights

- Type 273 permits stand-off mounting
- Highly shock resistant
- Optional aluminum mounting plates
- Convenient mounting
- Cast in rectangular cases

### Specifications

|                                         |                      |
|-----------------------------------------|----------------------|
| Capacitance Range                       | 47 pF to 0.1 $\mu$ F |
| Capacitance Tolerance                   | $\pm 5\%$ (J)        |
| Rated Voltage                           | 1 to 60 kVpk         |
| Operating Temperature Range with Ripple | -55 °C to 125 °C     |

### Type 271 Ratings

| Maximum AC Current at 65 °C |                        |              |              |                |                |
|-----------------------------|------------------------|--------------|--------------|----------------|----------------|
| Cap<br>(pF)                 | Catalog<br>Part Number | 3 MHz<br>(A) | 1 MHz<br>(A) | 300 kHz<br>(A) | 100 kHz<br>(A) |
| 250 Peak Volts              |                        |              |              |                |                |
| 47000                       | 27102B473JO0           | 11.0         | 11.0         | 9.1            | 4.7            |
| 50000                       | 27102B503JO0           | 11.0         | 11.0         | 9.1            | 4.7            |
| 51000                       | 27102B513JO0           | 11.0         | 11.0         | 9.1            | 4.7            |
| 56000                       | 27102B563JO0           | 11.0         | 11.0         | 9.1            | 4.7            |
| 62000                       | 27102B623JO0           | 11.0         | 11.0         | 9.1            | 5.1            |
| 68000                       | 27102B683JO0           | 11.0         | 11.0         | 9.1            | 5.1            |
| 75000                       | 27102B753JO0           | 11.0         | 11.0         | 9.1            | 5.1            |
| 82000                       | 27102B823JO0           | 11.0         | 11.0         | 9.1            | 5.1            |
| 91000                       | 27102B913JO0           | 11.0         | 11.0         | 9.1            | 5.6            |
| 100000                      | 27102B104JO0           | 11.0         | 11.0         | 9.1            | 5.6            |
| 500 Peak Volts              |                        |              |              |                |                |
| 27000                       | 27105B273JO0           | 11.0         | 11.0         | 7.5            | 3.9            |
| 30000                       | 27105B303JO0           | 11.0         | 11.0         | 8.2            | 3.9            |
| 33000                       | 27105B333JO0           | 11.0         | 11.0         | 8.2            | 4.3            |
| 36000                       | 27105B363JO0           | 11.0         | 11.0         | 8.2            | 4.3            |
| 39000                       | 27105B393JO0           | 11.0         | 11.0         | 8.2            | 4.3            |
| 43000                       | 27105B433JO0           | 11.0         | 11.0         | 9.1            | 4.7            |
| 1000 Peak Volts             |                        |              |              |                |                |
| 10000                       | 27110B103JO0           | 10.0         | 9.1          | 5.1            | 2.4            |
| 11000                       | 27110B113JO0           | 11.0         | 10.0         | 5.6            | 2.7            |
| 12000                       | 27110B123JO0           | 11.0         | 10.0         | 6.2            | 3.0            |
| 13000                       | 27110B133JO0           | 11.0         | 11.0         | 6.8            | 3.0            |
| 15000                       | 27110B153JO0           | 11.0         | 11.0         | 6.8            | 3.3            |
| 16000                       | 27110B163JO0           | 11.0         | 11.0         | 6.8            | 3.3            |
| 18000                       | 27110B183JO0           | 11.0         | 11.0         | 7.5            | 3.3            |
| 20000                       | 27110B203JO0           | 11.0         | 11.0         | 7.5            | 3.6            |
| 22000                       | 27110B223JO0           | 11.0         | 11.0         | 7.5            | 3.6            |
| 24000                       | 27110B243JO0           | 11.0         | 11.0         | 7.5            | 3.6            |

| Maximum AC Current at 65 °C |                        |              |              |                |                |
|-----------------------------|------------------------|--------------|--------------|----------------|----------------|
| Cap<br>(pF)                 | Catalog<br>Part Number | 3 MHz<br>(A) | 1 MHz<br>(A) | 300 kHz<br>(A) | 100 kHz<br>(A) |
| 1500 Peak Volts             |                        |              |              |                |                |
| 8000                        | 27115B802JO0           | 10.0         | 8.2          | 4.7            | 2.2            |
| 8200                        | 27115B822JO0           | 10.0         | 8.2          | 4.7            | 2.2            |
| 9100                        | 27115B912JO0           | 10.0         | 8.2          | 4.7            | 2.4            |
| 2700                        | 27120B272JO0           | 6.8          | 5.1          | 2.7            | 1.3            |
| 2000 Peak Volts             |                        |              |              |                |                |
| 3000                        | 27120B302JO0           | 7.5          | 5.1          | 3.0            | 1.3            |
| 3300                        | 27120B332JO0           | 7.5          | 5.6          | 3.0            | 1.5            |
| 3600                        | 27120B362JO0           | 7.5          | 5.6          | 3.3            | 1.5            |
| 3900                        | 27120B392JO0           | 8.2          | 6.2          | 3.3            | 1.6            |
| 4000                        | 27120B402JO0           | 8.2          | 6.2          | 3.3            | 1.6            |
| 4300                        | 27120B432JO0           | 8.2          | 6.2          | 3.6            | 1.6            |
| 4700                        | 27120B472JO0           | 8.2          | 6.8          | 3.6            | 1.8            |
| 5000                        | 27120B502JO0           | 8.2          | 6.8          | 3.6            | 1.8            |
| 5100                        | 27120B512JO0           | 8.2          | 6.8          | 3.6            | 1.8            |
| 5600                        | 27120B562JO0           | 9.1          | 7.5          | 3.9            | 2.0            |
| 6000                        | 27120B602JO0           | 9.1          | 7.5          | 4.3            | 2.0            |
| 6200                        | 27120B622JO0           | 9.1          | 7.5          | 4.3            | 2.0            |
| 6800                        | 27120B682JO0           | 10.0         | 7.5          | 4.3            | 2.0            |
| 7500                        | 27120B752JO0           | 10.0         | 8.2          | 4.7            | 2.2            |
| 3000 Peak Volts             |                        |              |              |                |                |
| 47                          | 27130B470JO0           | 1.2          | 0.5          | 0.2            | 0.1            |
| 51                          | 27130B510JO0           | 1.3          | 0.5          | 0.2            | 0.1            |
| 56                          | 27130B560JO0           | 1.3          | 0.6          | 0.2            | 0.1            |
| 62                          | 27130B620JO0           | 1.5          | 0.6          | 0.2            | 0.1            |
| 68                          | 27130B680JO0           | 1.5          | 0.6          | 0.2            | 0.1            |
| 75                          | 27130B750JO0           | 1.5          | 0.6          | 0.3            | 0.1            |
| 82                          | 27130B820JO0           | 1.6          | 0.7          | 0.3            | 0.1            |
| 91                          | 27130B910JO0           | 1.6          | 0.7          | 0.3            | 0.1            |

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## Type 271 Ratings

| Maximum AC Current at 65 °C |                        |              |              |                |                |
|-----------------------------|------------------------|--------------|--------------|----------------|----------------|
| Cap<br>(pF)                 | Catalog<br>Part Number | 3 MHz<br>(A) | 1 MHz<br>(A) | 300 kHz<br>(A) | 100 kHz<br>(A) |
| <b>3000 Peak Volts</b>      |                        |              |              |                |                |
| 100                         | 27105B273JO0           | 11.0         | 11.0         | 7.5            | 3.9            |
| 110                         | 27130B111JO0           | 1.8          | 0.8          | 0.4            | 0.1            |
| 120                         | 27130B121JO0           | 2.0          | 0.9          | 0.4            | 0.2            |
| 130                         | 27130B131JO0           | 2.0          | 0.9          | 0.4            | 0.2            |
| 150                         | 27130B151JO0           | 2.2          | 1.0          | 0.5            | 0.2            |
| 160                         | 27130B161JO0           | 2.2          | 1.1          | 0.5            | 0.2            |
| 180                         | 27130B181JO0           | 2.4          | 1.1          | 0.6            | 0.2            |
| 200                         | 27130B201JO0           | 2.4          | 1.2          | 0.6            | 0.2            |
| 220                         | 27130B221JO0           | 2.7          | 1.3          | 0.6            | 0.3            |
| 240                         | 27130B241JO0           | 2.7          | 1.3          | 0.7            | 0.3            |
| 250                         | 27130B251JO0           | 2.7          | 1.3          | 0.7            | 0.3            |
| 270                         | 27130B271JO0           | 3.1          | 1.5          | 0.8            | 0.3            |
| 300                         | 27130B301JO0           | 3.0          | 1.5          | 0.8            | 0.4            |
| 330                         | 27130B331JO0           | 3.0          | 1.6          | 0.8            | 0.4            |
| 360                         | 27130B361JO0           | 3.3          | 1.6          | 0.9            | 0.4            |
| 390                         | 27130B391JO0           | 3.3          | 1.8          | 0.9            | 0.4            |
| 430                         | 27130B431JO0           | 3.6          | 1.8          | 1.0            | 0.5            |
| 470                         | 27130B471JO0           | 3.6          | 2.0          | 1.1            | 0.5            |
| 500                         | 27130B501JO0           | 3.6          | 2.0          | 1.1            | 0.5            |
| 510                         | 27130B511JO0           | 3.6          | 2.0          | 1.1            | 0.5            |
| 560                         | 27130B561JO0           | 3.9          | 2.2          | 1.2            | 0.5            |
| 620                         | 27130B621JO0           | 3.9          | 2.4          | 1.2            | 0.6            |
| 680                         | 27130B681JO0           | 4.3          | 2.4          | 1.3            | 0.6            |
| 750                         | 27130B751JO0           | 4.3          | 2.7          | 1.3            | 0.6            |
| 820                         | 27130B821JO0           | 4.3          | 2.7          | 1.5            | 0.7            |
| 910                         | 27130B911JO0           | 4.7          | 3.0          | 1.5            | 0.7            |
| 1000                        | 27130B102JO0           | 4.7          | 3.0          | 1.6            | 0.8            |
| 1100                        | 27130B112JO0           | 5.1          | 3.3          | 1.6            | 0.8            |
| 1200                        | 27130B122JO0           | 5.1          | 3.3          | 1.8            | 0.8            |
| 1300                        | 27130B132JO0           | 5.6          | 3.6          | 1.8            | 0.9            |
| 1500                        | 27130B152JO0           | 5.6          | 3.9          | 2.0            | 0.9            |
| 1600                        | 27130B162JO0           | 5.6          | 3.9          | 2.0            | 1.0            |
| 1800                        | 27130B182JO0           | 6.2          | 4.3          | 2.2            | 1.1            |
| 2000                        | 27130B202JO0           | 6.2          | 4.3          | 2.4            | 1.1            |
| 2200                        | 27130B222JO0           | 6.8          | 4.7          | 2.4            | 1.2            |

### Type 272 Ratings

| Maximum AC Current at 65 °C |                        |              |              |                |                |
|-----------------------------|------------------------|--------------|--------------|----------------|----------------|
| Cap<br>(pF)                 | Catalog<br>Part Number | 3 MHz<br>(A) | 1 MHz<br>(A) | 300 kHz<br>(A) | 100 kHz<br>(A) |
| <b>250 Peak Volts</b>       |                        |              |              |                |                |
| 250000                      | 27202B254JO0           | 15.0         | 18.0         | 15.0           | 8.2            |

| Maximum AC Current at 65 °C |                        |              |              |                |                |
|-----------------------------|------------------------|--------------|--------------|----------------|----------------|
| Cap<br>(pF)                 | Catalog<br>Part Number | 3 MHz<br>(A) | 1 MHz<br>(A) | 300 kHz<br>(A) | 100 kHz<br>(A) |
| <b>500 Peak Volts</b>       |                        |              |              |                |                |
| 82000                       | 27205B823JO0           | 15.0         | 18.0         | 15.0           | 8.2            |
| 91000                       | 27205B913JO0           | 15.0         | 18.0         | 15.0           | 8.2            |
| 100000                      | 27205B104JO0           | 15.0         | 18.0         | 15.0           | 8.2            |
| 200000                      | 27205B204JO0           | 15.0         | 18.0         | 15.0           | 8.2            |
| <b>1000 Peak Volts</b>      |                        |              |              |                |                |
| 56000                       | 27210B563JO0           | 15.0         | 16.0         | 15.0           | 8.2            |
| 62000                       | 27210B623JO0           | 15.0         | 18.0         | 15.0           | 8.2            |
| 68000                       | 27210B683JO0           | 15.0         | 18.0         | 15.0           | 8.2            |
| 75000                       | 27215B333JO0           | 15.0         | 18.0         | 15.0           | 8.2            |
| <b>1500 Peak Volts</b>      |                        |              |              |                |                |
| 24000                       | 27215B243JO0           | 13.0         | 15.0         | 12.0           | 6.8            |
| 27000                       | 27215B273JO0           | 13.0         | 15.0         | 12.0           | 6.8            |
| 30000                       | 27215B303JO0           | 13.0         | 15.0         | 12.0           | 6.8            |
| 33000                       | 27215B333JO0           | 13.0         | 15.0         | 13.0           | 7.5            |
| 36000                       | 27215B363JO0           | 13.0         | 16.0         | 13.0           | 7.5            |
| 39000                       | 27215B393JO0           | 15.0         | 16.0         | 13.0           | 7.5            |
| 43000                       | 27215B433JO0           | 15.0         | 16.0         | 13.0           | 7.5            |
| 47000                       | 27215B473JO0           | 15.0         | 16.0         | 13.0           | 7.5            |
| 50000                       | 27215B503JO0           | 15.0         | 16.0         | 15.0           | 7.5            |
| 51000                       | 27215B513JO0           | 15.0         | 16.0         | 15.0           | 7.5            |
| <b>2000 Peak Volts</b>      |                        |              |              |                |                |
| 8200                        | 27220B822JO0           | 10.0         | 10.0         | 7.5            | 3.9            |
| 9100                        | 27220B912JO0           | 11.0         | 10.0         | 8.2            | 4.3            |
| 10000                       | 27220B103JO0           | 11.0         | 11.0         | 8.2            | 4.3            |
| 11000                       | 27220B113JO0           | 11.0         | 11.0         | 8.2            | 4.7            |
| 12000                       | 27220B123JO0           | 11.0         | 11.0         | 9.1            | 4.7            |
| 13000                       | 27220B133JO0           | 12.0         | 12.0         | 9.1            | 5.1            |
| 15000                       | 27220B153JO0           | 12.0         | 12.0         | 10.0           | 5.1            |
| 16000                       | 27220B163JO0           | 12.0         | 12.0         | 10.0           | 5.6            |
| 18000                       | 27220B183JO0           | 12.0         | 13.0         | 10.0           | 5.6            |
| 20000                       | 27220B203JO0           | 13.0         | 13.0         | 11.0           | 6.2            |
| 22000                       | 27220B223JO0           | 13.0         | 13.0         | 11.0           | 6.2            |
| <b>3000 Peak Volts</b>      |                        |              |              |                |                |
| 2700                        | 27230B272JO0           | 8.2          | 6.8          | 4.3            | 2.2            |
| 3000                        | 27230B302JO0           | 8.2          | 6.8          | 4.7            | 2.2            |
| 3300                        | 27230B332JO0           | 8.2          | 6.8          | 4.7            | 2.4            |
| 3600                        | 27230B362JO0           | 8.2          | 7.5          | 5.1            | 2.4            |
| 3900                        | 27230B392JO0           | 9.1          | 7.5          | 5.6            | 2.7            |
| 4300                        | 27230B432JO0           | 9.1          | 7.5          | 5.6            | 2.7            |
| 4700                        | 27230B472JO0           | 9.1          | 8.2          | 6.2            | 3.0            |
| 5000                        | 27230B502JO0           | 9.1          | 8.2          | 6.2            | 3.0            |

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## Type 272 Ratings

|                 |              | Maximum AC Current at 65 °C |       |         |         |
|-----------------|--------------|-----------------------------|-------|---------|---------|
| Cap             | Catalog      | 3 MHz                       | 1 MHz | 300 kHz | 100 kHz |
| (pF)            | Part Number  | (A)                         | (A)   | (A)     | (A)     |
| 3000 Peak Volts |              |                             |       |         |         |
| 5100            | 27230B512JO0 | 9.1                         | 8.2   | 6.2     | 3.0     |
| 5600            | 27230B562JO0 | 9.1                         | 9.1   | 6.2     | 3.3     |
| 6000            | 27230B602JO0 | 10.0                        | 9.1   | 6.8     | 3.6     |
| 6200            | 27230B622JO0 | 10.0                        | 9.1   | 6.8     | 3.6     |
| 6800            | 27230B682JO0 | 10.0                        | 9.1   | 6.8     | 3.6     |
| 7500            | 27230B752JO0 | 10.0                        | 9.1   | 6.8     | 3.9     |
| 5000 Peak Volts |              |                             |       |         |         |
| 47              | 27250B470JO0 | 1.5                         | 0.6   | 0.2     | 0.1     |
| 51              | 27250B510JO0 | 1.6                         | 0.7   | 0.2     | 0.1     |
| 56              | 27250B560JO0 | 1.8                         | 0.8   | 0.3     | 0.1     |
| 62              | 27250B620JO0 | 1.8                         | 0.8   | 0.3     | 0.1     |
| 68              | 27250B680JO0 | 2.0                         | 0.9   | 0.3     | 0.1     |
| 75              | 27250B750JO0 | 2.0                         | 1.0   | 0.4     | 0.1     |
| 82              | 27250B820JO0 | 2.2                         | 1.1   | 0.4     | 0.1     |
| 91              | 27250B910JO0 | 2.4                         | 1.2   | 0.4     | 0.1     |
| 100             | 27250B101JO0 | 2.4                         | 1.2   | 0.4     | 0.1     |
| 110             | 27250B111JO0 | 2.7                         | 1.3   | 0.5     | 0.2     |
| 120             | 27250B121JO0 | 2.7                         | 1.5   | 0.6     | 0.2     |
| 130             | 27250B131JO0 | 3.0                         | 1.6   | 0.6     | 0.2     |
| 150             | 27250B151JO0 | 3.3                         | 1.8   | 0.7     | 0.2     |
| 160             | 27250B161JO0 | 3.3                         | 1.8   | 0.8     | 0.3     |
| 180             | 27250B181JO0 | 3.3                         | 2.0   | 0.8     | 0.3     |
| 200             | 27250B201JO0 | 3.6                         | 2.0   | 0.8     | 0.3     |
| 220             | 27250B221JO0 | 3.6                         | 2.2   | 0.9     | 0.4     |
| 240             | 27250B241JO0 | 3.6                         | 2.4   | 1.0     | 0.4     |
| 250             | 27250B251JO0 | 3.6                         | 2.4   | 1.0     | 0.4     |
| 270             | 27250B271JO0 | 3.9                         | 2.4   | 1.1     | 0.5     |
| 300             | 27250B301JO0 | 3.9                         | 2.7   | 1.1     | 0.5     |
| 330             | 27250B331JO0 | 4.3                         | 2.7   | 1.2     | 0.5     |
| 360             | 27250B361JO0 | 4.3                         | 2.7   | 1.3     | 0.6     |
| 390             | 27250B391JO0 | 4.3                         | 2.7   | 1.3     | 0.6     |
| 430             | 27250B431JO0 | 4.7                         | 3.0   | 1.5     | 0.7     |
| 470             | 27250B471JO0 | 4.7                         | 3.3   | 1.5     | 0.7     |
| 500             | 27250B501JO0 | 4.7                         | 3.3   | 1.6     | 0.8     |
| 510             | 27250B511JO0 | 4.7                         | 3.3   | 1.6     | 0.8     |
| 560             | 27250B561JO0 | 5.1                         | 3.6   | 1.8     | 0.8     |
| 600             | 27250B601JO0 | 5.1                         | 3.6   | 1.8     | 0.8     |
| 620             | 27250B621JO0 | 5.1                         | 3.6   | 1.8     | 0.8     |
| 680             | 27250B681JO0 | 2.1                         | 3.6   | 1.8     | 0.8     |
| 750             | 27250B751JO0 | 5.6                         | 3.9   | 2.2     | 0.9     |

|                  |               | Maximum AC Current at 65 °C |       |         |         |
|------------------|---------------|-----------------------------|-------|---------|---------|
| Cap              | Catalog       | 3 MHz                       | 1 MHz | 300 kHz | 100 kHz |
| (pF)             | Part Number   | (A)                         | (A)   | (A)     | (A)     |
| 5000 Peak Volts  |               |                             |       |         |         |
| 820              | 27250B821JO0  | 5.6                         | 3.9   | 2.4     | 1.0     |
| 910              | 27250B911JO0  | 5.6                         | 4.3   | 2.4     | 1.1     |
| 1000             | 27250B102JO0  | 6.2                         | 4.3   | 2.4     | 1.2     |
| 1100             | 27250B112JO0  | 6.2                         | 4.7   | 2.7     | 1.2     |
| 1200             | 27250B122JO0  | 6.2                         | 4.7   | 2.7     | 1.3     |
| 1300             | 27250B132JO0  | 6.8                         | 5.1   | 3.0     | 1.3     |
| 1500             | 27250B152JO0  | 6.8                         | 5.1   | 3.3     | 1.5     |
| 1600             | 27250B162JO0  | 6.8                         | 5.6   | 3.6     | 1.5     |
| 1800             | 27250B182JO0  | 7.5                         | 5.6   | 3.6     | 1.6     |
| 2000             | 27250B202JO0  | 7.5                         | 6.2   | 3.6     | 1.8     |
| 2200             | 27250B222JO0  | 7.5                         | 6.2   | 3.9     | 2.0     |
| 2400             | 27250B242JO0  | 8.2                         | 6.2   | 4.3     | 2.0     |
| 40000 Peak Volts |               |                             |       |         |         |
| 1100             | 272400B112JO0 | 15.5                        | 12.7  | 8.0     | 4.7     |
| 1300             | 272400B132JO0 | 18.7                        | 15.5  | 9.8     | 5.9     |
| 1500             | 272400B152JO0 | 19.4                        | 16.4  | 10.5    | 6.3     |
| 50000 Peak Volts |               |                             |       |         |         |
| 900              | 272500B901JO0 | 16.4                        | 13.1  | 8.2     | 4.9     |
| 1000             | 272500B102JO0 | 16.6                        | 13.5  | 8.6     | 5.1     |
| 1200             | 272500B122JO0 | 18.1                        | 14.9  | 9.4     | 5.6     |
| 60000 Peak Volts |               |                             |       |         |         |
| 800              | 272600B801JO0 | 16.0                        | 12.5  | 7.7     | 4.6     |
| 900              | 272600B901JO0 | 16.4                        | 13.1  | 8.2     | 4.9     |
| 1000             | 272600B102JO0 | 16.3                        | 13.3  | 8.5     | 5.1     |

## Type 273 Ratings

| <b>400 Peak Volts</b>  |              |      |      |      |      |
|------------------------|--------------|------|------|------|------|
| 1000000                | 27304B204JO0 | 18.0 | 25.0 | 22.0 | 12.0 |
| <b>600 Peak Volts</b>  |              |      |      |      |      |
| 200000                 | 27306B204JO0 | 18.0 | 25.0 | 22.0 | 12.0 |
| 250000                 | 27306B254JO0 | 18.0 | 25.0 | 22.0 | 12.0 |
| 300000                 | 27306B304JO0 | 18.0 | 25.0 | 22.0 | 12.0 |
| 400000                 | 27306B404JO0 | 18.0 | 25.0 | 22.0 | 12.0 |
| 500000                 | 27306B504JO0 | 18.0 | 25.0 | 22.0 | 12.0 |
| 600000                 | 27306B604JO0 | 18.0 | 25.0 | 22.0 | 12.0 |
| 750000                 | 27306B754JO0 | 18.0 | 25.0 | 22.0 | 12.0 |
| <b>2000 Peak Volts</b> |              |      |      |      |      |
| 100000                 | 27320B104JO0 | 18.0 | 23.0 | 18.0 | 10.5 |
| <b>4000 Peak Volts</b> |              |      |      |      |      |
| 25000                  | 27340B253JO0 | 18.0 | 24.0 | 19.0 | 11.5 |
| 30000                  | 27340B303JO0 | 18.0 | 24.0 | 19.0 | 11.5 |

# High-Voltage Types Application Guide, Transmitting Mica

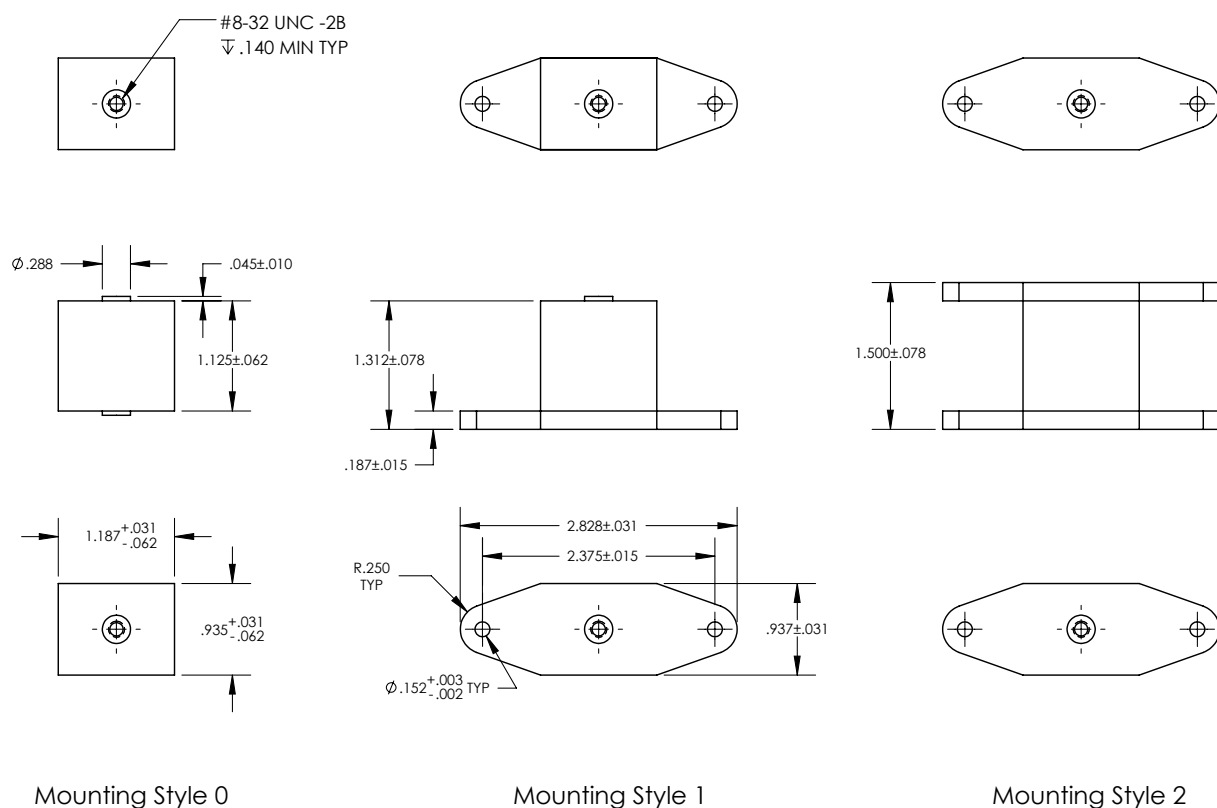
## Type 273 Ratings

| Maximum AC Current at 65 °C |              |       |       |         |         |
|-----------------------------|--------------|-------|-------|---------|---------|
| Cap                         | Catalog      | 3 MHz | 1 MHz | 300 kHz | 100 kHz |
| (pF)                        | Part Number  | (A)   | (A)   | (A)     | (A)     |
| 4000 Peak Volts             |              |       |       |         |         |
| 40000                       | 27340B403JO0 | 18.0  | 24.0  | 20.0    | 12.0    |
| 50000                       | 27340B503JO0 | 18.0  | 25.0  | 21.0    | 12.0    |
| 5000 Peak Volts             |              |       |       |         |         |
| 20000                       | 27350B203JO0 | 18.0  | 23.0  | 18.0    | 10.5    |
| 8000 Peak Volts             |              |       |       |         |         |
| 200                         | 27380B201JO0 | 7.5   | 5.0   | 1.5     | 0.5     |
| 250                         | 27380B251JO0 | 7.5   | 5.0   | 1.5     | 0.5     |
| 500                         | 27380B501JO0 | 8.5   | 6.0   | 3.0     | 1.0     |

| Cap             | Catalog      | Maximum AC Current at 65 °C |             |         |         |
|-----------------|--------------|-----------------------------|-------------|---------|---------|
|                 |              | 3 MHz                       | 1 MHz       | 300 kHz | 100 kHz |
|                 |              | (pF)                        | Part Number | (A)     | (A)     |
| 8000 Peak Volts |              |                             |             |         |         |
| 1000            | 27380B102JO0 | 10.0                        | 8.5         | 4.5     | 1.5     |
| 2000            | 27380B202JO0 | 11.5                        | 11.5        | 7.5     | 3.0     |
| 3000            | 27380B302JO0 | 12.5                        | 13.5        | 9.5     | 4.0     |
| 4000            | 27380B402JO0 | 13.5                        | 15.5        | 10.5    | 5.0     |
| 4500            | 27380B452JO0 | 14.0                        | 16.0        | 11.5    | 6.0     |
| 5000            | 27380B502JO0 | 14.0                        | 16.0        | 11.5    | 6.0     |
| 6000            | 27380B602JO0 | 15.0                        | 17.0        | 12.5    | 6.5     |
| 8000            | 27380B802JO0 | 16.0                        | 19.0        | 14.0    | 7.5     |
| 60000           | 27380B103JO0 | 17.0                        | 20.0        | 15.0    | 8.5     |

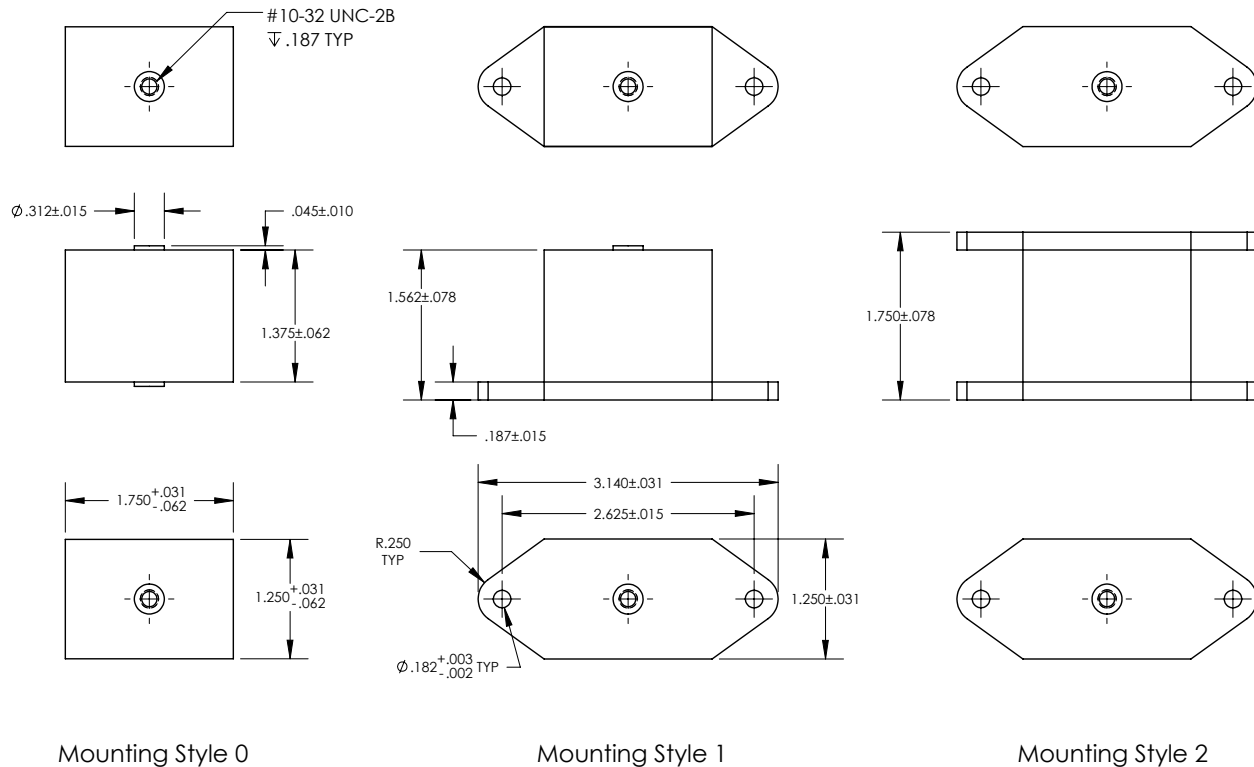
## Dimensions

### Type 271

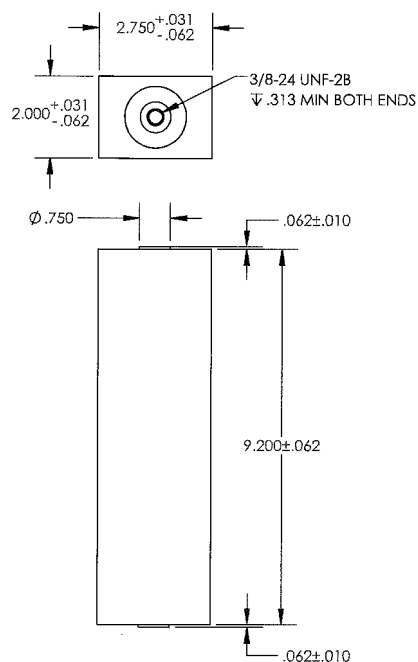


# High-Voltage Types Application Guide, Transmitting Mica

## Type 272

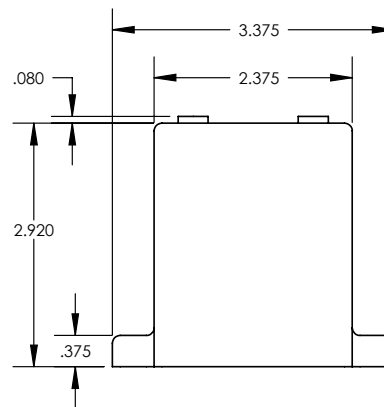
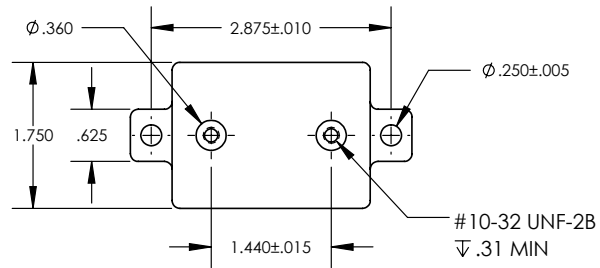


## Type 272 (30 kVpk to 60 kVpk)



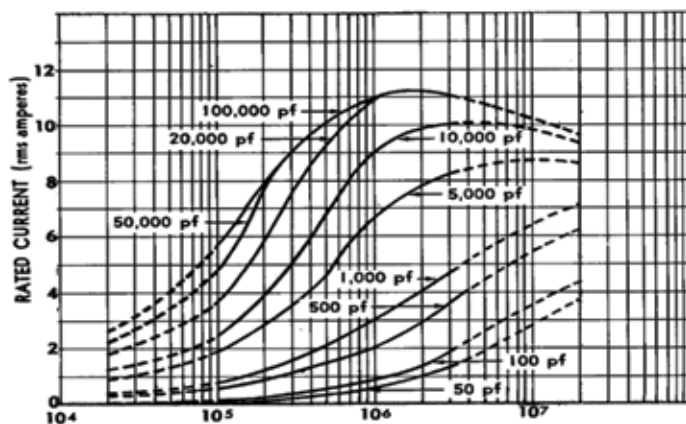
# High-Voltage Types Application Guide, Transmitting Mica

## Type 273

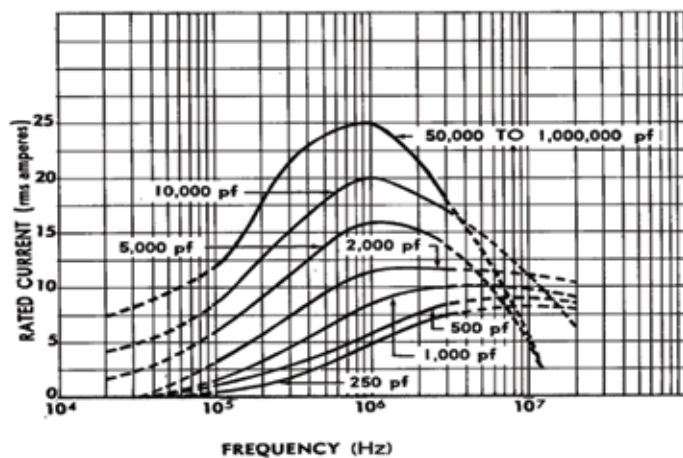


Tolerances Unless  
Otherwise Specified  $\pm .031$

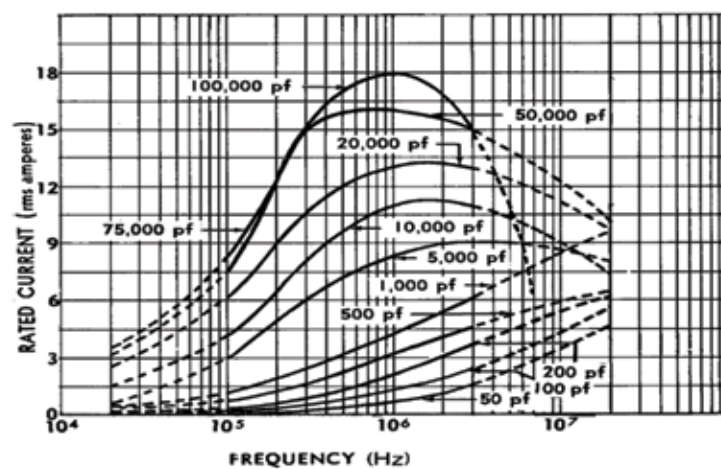
**Type 271 (CM 66)**  
**Rated Current Versus Frequency**



**Type 273**  
**Rated Current Versus Frequency**



**Type 272 (CM 71)**  
**Rated Current Versus Frequency**



# High-Voltage Types Ordering Information, Mica Capacitors

## Ordering Information

Ordering Information: Order by complete part number, as below. For other options, write your requirements on your quote request or purchase order.

## Cast-Case Part Numbering System

|                     |                                                      |                |                                              |                                |                                                     |                                                                                                           |
|---------------------|------------------------------------------------------|----------------|----------------------------------------------|--------------------------------|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| 271,<br>272,<br>273 | 30                                                   | B              | 470                                          | J                              | O                                                   | O                                                                                                         |
| CDE<br>Type         | Rated Peak<br>Voltage                                | Characteristic | Capacitance                                  | Capacitance<br>Tolerance       | Temperature Range                                   | Mounting Style                                                                                            |
|                     | 10 = 1000<br>30 = 3000<br>250 = 25000<br>600 = 60000 |                | 470 = 47 pF<br>361 = 360 pF<br>122 = 1200 pF | G = $\pm 2\%$<br>J = $\pm 5\%$ | O = $-55^{\circ}\text{C}$ to $+125^{\circ}\text{C}$ | 0 = No mounting plate<br>1 = Mounting plate<br>on bottom only<br>2 = Mounting plates<br>on top and bottom |

|   | Temp. Coeff.<br>ppm/ $^{\circ}\text{C}$ | Capacitance Drift           | Standard<br>Cap.<br>Range |
|---|-----------------------------------------|-----------------------------|---------------------------|
| B | Not specified                           | Not specified               |                           |
| C | -200 to +200                            | $\pm(0.5\% + 0.1\text{pF})$ | 1-18 pF                   |
| D | -100 to +100                            | $\pm(0.3\% + 0.1\text{pF})$ |                           |
| E | - 20 to +100                            | $\pm(0.1\% + 0.1\text{pF})$ | 20-82 pF                  |

## Specifications

**Capacitance** is within tolerance when measured at these frequencies:

1–1000 pF @ 1 MHz

> 1000 pF @ 1 kHz

**Dissipation Factor** is typically less than 0.05% when measured as above. Dissipation factor (DF) equals  $2\pi fRC$ , where  $f$  is the test frequency,  $R$  is the equivalent series resistance ( $\Omega$ ), and  $C$  is nominal capacitance (F).  $Q$  is the reciprocal of the dissipation factor.

**Operating Temperature Range** is  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ . Insulation Resistance is no less than 7500 M $\Omega$  when measured at 100 Vdc.

**Temperature Coefficient and Capacitance Drift:** Measure the capacitors' capacitance at  $25^{\circ}\text{C}$ ,  $55^{\circ}\text{C}$ ,  $25^{\circ}\text{C}$ ,  $125^{\circ}\text{C}$ , and at  $25^{\circ}\text{C}$  after stabilizing at each temperature. The capacitance will meet the limits of the Characteristic table shown in Ordering Information.

**Rated Peak Voltage** is not to be exceeded in actual use. Voltage ratings are in the listings and apply under the following conditions:

Temperature: Within the specified operating temperature range.

Altitude: Up to 50,000 feet or 3.4 inches of mercury.

Relative Humidity: Up to 80%.

Frequency: As specified.

Where pulse conditions are encountered, contact us.

**Withstanding Voltage:** Capacitors will withstand application of an ac potential between terminals having an rms value equal to the rated peak voltage at a frequency of 100 Hz or less without damage, arcing or breakdown. Apply the potential by raising the voltage from zero to the specified value. Apply the full potential for a minimum of 5 seconds.

**Case Insulation:** Capacitor cases will withstand, without damage, arcing or breakdown, a 60-Hz peak ac potential equal to twice the rated peak voltage applied between the terminals connected together and a metal electrode touching the case. Apply this potential for 1 to 5 seconds.

**Current Ratings** at various frequencies are in the listings and apply under the following conditions:

Temperature:  $65^{\circ}\text{C}$  maximum

Derating Factor: None

**Vibration:** Capacitors will withstand vibrational forces occurring at rates of from 10 to 55 Hz for  $4\frac{1}{2}$  hours. The total excursion during vibration is 0.06 inches. At the end of this period, make the following inspections and tests:

Visual and Mechanical Inspection: No perceptible deterioration. Withstanding Voltage: As specified under Withstanding Voltage.

Insulation Resistance: No less than 7500 M $\Omega$ .

Capacitance Change: Not to exceed 3% of the nominal value or one picofarad, whichever is greater.

**Temperature and Immersion Cycling:** Capacitors will withstand the temperature and immersion cycles indicated in the tables below. Follow three temperature cycles by two immersion cycles. Make the measurements listed below no more than 30 minutes following the final immersion cycle:

Withstanding Voltage: As specified under Withstanding Voltage.

Insulation Resistance: No less than 7500 M $\Omega$ .

Capacitance: Change not to exceed 4% of the nominal value or one picofarad, whichever is greater.

## Temperature Cycling Test Conditions

| Steps | Temp<br>( $^{\circ}\text{C}$ ) | Interval<br>(Minutes) |
|-------|--------------------------------|-----------------------|
| 1     | $-55 + 0$<br>$-3$              | 30                    |
| 2     | $25 + 10$<br>$-5$              | 10 to 15              |
| 3     | $125 + 3$<br>$-0$              | 30                    |
| 4     | $25 + 10$<br>$-5$              | 10 to 15              |

## Immersion Test Conditions

•Number of cycles: 2

•Duration of each immersion: 15 minutes

•Immersion bath: Saturated solution of sodium chloride and water

•Temp. of hot bath:  $65 - 0 + 5^{\circ}\text{C}$

•Temp. of cold bath:  $25 - 0 + 10^{\circ}\text{C}$

**Life Test:** Subject all capacitors to a temperature of  $55^{\circ}\text{C}$  for 48 hours. Then subject units cast in rectangular cases (Types 271, 272, and 273) to a 60-Hz rms voltage equal to the rated peak voltage for 250 hours. Subject units cast in cylindrical cases (Types 291, 292, 293, and 294) to a 60-Hz rms voltage equal to 90% of the rated peak voltage for 250 hours. In both tests, maintain the temperature at  $125^{\circ}\text{C}$ . After test, the capacitors will meet these requirements:

Withstanding Voltage: As specified under Withstanding Voltage.

Insulation Resistance: No less than 7500 M $\Omega$ .

Capacitance Change: Within the limits given in the table below or one picofarad, whichever is greater.

## Characteristic Maximum Cap.

|          |           |
|----------|-----------|
| <b>B</b> | $\pm 8\%$ |
| <b>C</b> | $\pm 3\%$ |
| <b>D</b> | $\pm 3\%$ |
| <b>E</b> | $\pm 3\%$ |

In addition, the capacitor must show no visual damage and the markings must be legible.

## High-Voltage Types **Application Guide, Transmitting Mica**

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Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: [org@lifeelectronics.ru](mailto:org@lifeelectronics.ru)

[www.lifeelectronics.ru](http://www.lifeelectronics.ru)