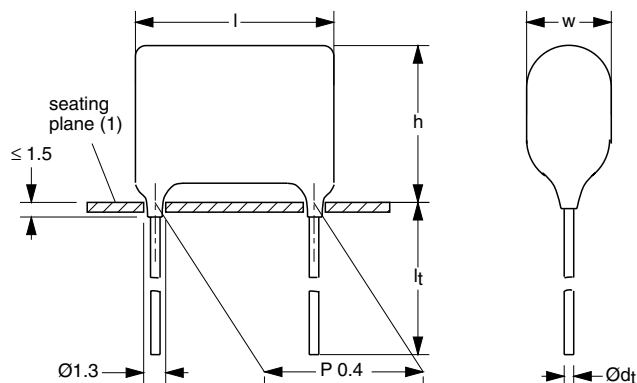


# Metallized Polyester Film Capacitors MKT Radial Epoxy Lacquered Type



Dimensions in mm

(1) Hole  $\varnothing 1.0$  for  $d_t = 0.6$  mm

## FEATURES

Available taped on reel and loose in box

Lead (Pb)-free product

RoHS-compliant product



**RoHS**  
COMPLIANT

## CAPACITANCE TOLERANCE

$\pm 10\%$ ;  $\pm 5\%$

## RATED (DC) VOLTAGE

63 V; 100 V; 250 V; 400 V; 630 V

## RATED (AC) VOLTAGE

40 V; 63 V; 160 V; 220 V; 250 V

## CLIMATIC CATEGORY

55/105/56

## RATED TEMPERATURE

85 °C

## MAXIMUM APPLICATION TEMPERATURE

105 °C

## REFERENCE SPECIFICATIONS

IEC 60384-2

## PERFORMANCE GRADE

Grade 1 (long life)

## DETAIL SPECIFICATION

For more detailed data and test requirements see "Type detail specification HQN-384-02/101"

## APPLICATIONS

Blocking and coupling. Bypass and energy reservoir

## MARKING

C-value; tolerance; rated voltage

## DIELECTRIC

Polyester film

## ELECTRODES

Vacuum deposited aluminium

## COATING

Flame retardant epoxy material (UL-class 94 V-0)

## CONSTRUCTION

Wound mono construction

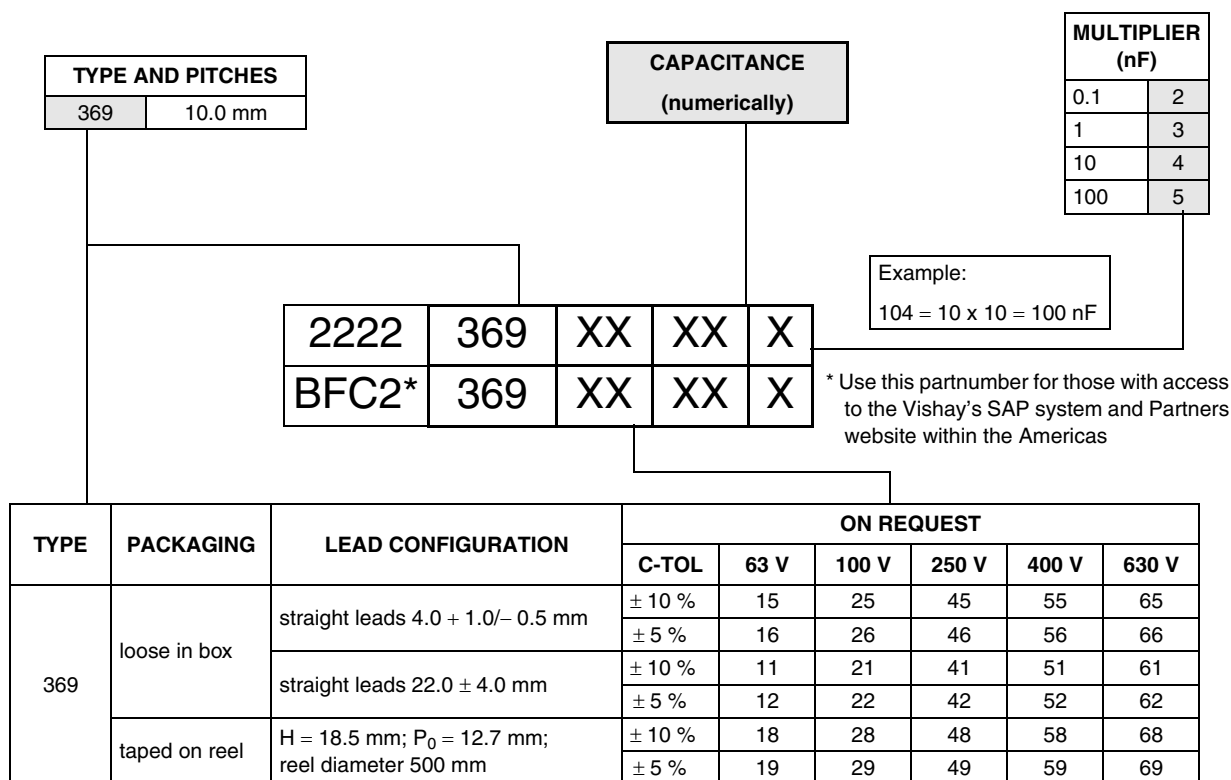
## LEADS

Tinned wire

## CAPACITANCE RANGE (E12 SERIES)

0.001 to 1.0  $\mu$ F

## COMPOSITION OF CATALOG NUMBER



## SPECIFIC REFERENCE DATA

| DESCRIPTION                                                                                                  | VALUE                   |                 |                          |                 |                          |
|--------------------------------------------------------------------------------------------------------------|-------------------------|-----------------|--------------------------|-----------------|--------------------------|
| Tangent of loss angle:<br>C ≤ 0.47 µF<br>0.47 µF < C ≤ 1.0 µF<br>C ≥ 0.1 µF                                  | at 1 kHz                |                 | at 10 kHz                |                 | at 100 kHz               |
|                                                                                                              | ≤ 75 × 10 <sup>-4</sup> |                 | ≤ 130 × 10 <sup>-4</sup> |                 | ≤ 300 × 10 <sup>-4</sup> |
|                                                                                                              | ≤ 75 × 10 <sup>-4</sup> |                 | ≤ 130 × 10 <sup>-4</sup> |                 | ≤ 225 × 10 <sup>-4</sup> |
|                                                                                                              | ≤ 75 × 10 <sup>-4</sup> |                 | ≤ 130 × 10 <sup>-4</sup> |                 | ≤ 300 × 10 <sup>-4</sup> |
| Rated voltage pulse slope (dU/dt) <sub>R</sub>                                                               | at 63 V (DC)            | at 100 V (DC)   | at 250 V (DC)            | at 400 V (DC)   | at 630 V (DC)            |
|                                                                                                              | 30 V/µs                 | 28 V/µs         | 70 V/µs                  | 110 V/µs        | 70 V/µs                  |
| R between leads, for C ≤ 0.33 µF:<br>at 10 V; 1 minute<br>at 100 V; 1 minute<br>at 500 V; 1 minute           | > 15000 MΩ              | > 15000 MΩ      | > 30000 MΩ               | > 30000 MΩ      | > 30000 MΩ               |
| RC between leads, for C > 0.33 µF:<br>at 10 V; 1 minute<br>at 500 V; 1 minute                                | > 5000 s                |                 |                          |                 | > 10000 s                |
| R between interconnecting leads and casing;<br>at 10 V; 1 minute<br>at 100 V; 1 minute<br>at 500 V; 1 minute | > 30000 MΩ              | > 30000 MΩ      | > 30000 MΩ               | > 30000 MΩ      | > 30000 MΩ               |
| Withstanding (DC) voltage (cut off current 10 mA);<br>rise time 100 V/s                                      | 100 V; 1 minute         | 160 V; 1 minute | 400 V; 1 minute          | 640 V; 1 minute | 1008 V; 1 minute         |
| Withstanding (DC) voltage between leads and case                                                             | 200 V; 1 minute         | 200 V; 1 minute | 500 V; 1 minute          | 800 V; 1 minute | 1260 V; 1 minute         |

**U<sub>Rdc</sub> = 63 V; U<sub>Rac</sub> = 40 V**

| C<br>(μF)                                           | DIMENSIONS<br>$w_{\max} \times h_{\max} \times l_{\max}$<br>(mm) | MASS<br>(g) | CATALOG NUMBER 2222 369 ..... AND PACKAGING |      |                         |      |
|-----------------------------------------------------|------------------------------------------------------------------|-------------|---------------------------------------------|------|-------------------------|------|
|                                                     |                                                                  |             | LOOSE IN BOX                                |      |                         | REEL |
|                                                     |                                                                  |             | $l_t = 4.0 + 1.0/-0.5$ mm                   |      | $l_t = 22.0 \pm 4.0$ mm | SPQ  |
|                                                     |                                                                  |             | C-tol = $\pm 10$ %                          | SPQ  | SPQ                     |      |
|                                                     |                                                                  |             | last 5 digits of<br>catalog number          |      |                         |      |
| Pitch = $10.0 \pm 0.4$ mm; $d_t = 0.60 \pm 0.06$ mm |                                                                  |             |                                             |      |                         |      |
| 0.22                                                | $4.2 \times 9.3 \times 12.5$                                     | 0.4         | 15224                                       | 2000 | 1000                    | 1300 |
| 0.27                                                | $3.8 \times 9.0 \times 12.5$                                     | 0.4         | 15274                                       | 2000 | 1000                    | 1300 |
| 0.33                                                | $4.1 \times 9.3 \times 12.5$                                     | 0.4         | 15334                                       | 2000 | 1000                    | 1300 |
| 0.39                                                | $4.0 \times 9.2 \times 12.5$                                     | 0.4         | 15394                                       | 2000 | 1000                    | 1300 |
| 0.47                                                | $4.3 \times 9.5 \times 12.5$                                     | 0.5         | 15474                                       | 2000 | 1000                    | 1200 |
| 0.56                                                | $4.7 \times 9.8 \times 12.5$                                     | 0.5         | 15564                                       | 2000 | 1000                    | 1200 |
| 0.68                                                | $5.1 \times 10.2 \times 12.5$                                    | 0.5         | 15684                                       | 2000 | 1000                    | 1100 |
| 0.82                                                | $5.5 \times 10.7 \times 12.5$                                    | 0.6         | 15824                                       | 2000 | 1000                    | 1000 |
| 1                                                   | $6.0 \times 11.1 \times 12.5$                                    | 0.7         | 15105                                       | 2000 | 1000                    | 900  |

**U<sub>Rdc</sub> = 100 V; U<sub>Rac</sub> = 63 V**

| C<br>(μF)                                           | DIMENSIONS<br>$w_{\max} \times h_{\max} \times l_{\max}$<br>(mm) | MASS<br>(g) | CATALOG NUMBER 2222 369 ..... AND PACKAGING |      |                         |      |
|-----------------------------------------------------|------------------------------------------------------------------|-------------|---------------------------------------------|------|-------------------------|------|
|                                                     |                                                                  |             | LOOSE IN BOX                                |      |                         | REEL |
|                                                     |                                                                  |             | $l_t = 4.0 + 1.0/-0.5$ mm                   |      | $l_t = 22.0 \pm 4.0$ mm | SPQ  |
|                                                     |                                                                  |             | C-tol = $\pm 10$ %                          | SPQ  | SPQ                     |      |
|                                                     |                                                                  |             | last 5 digits of<br>catalog number          |      |                         |      |
| Pitch = $10.0 \pm 0.4$ mm; $d_t = 0.60 \pm 0.06$ mm |                                                                  |             |                                             |      |                         |      |
| 0.056<br>0.068                                      | $4.0 \times 9.1 \times 12.5$                                     | 0.4         | 25563<br>25683                              | 2000 | 1000                    | 1500 |
| 0.082                                               | $3.7 \times 8.8 \times 12.5$                                     | 0.4         | 25823                                       | 2000 | 1000                    | 1500 |
| 0.1                                                 | $4.0 \times 9.0 \times 12.5$                                     | 0.4         | 25104                                       | 2000 | 1000                    | 1500 |
| 0.12                                                | $4.3 \times 9.3 \times 12.5$                                     | 0.4         | 25124                                       | 2000 | 1000                    | 1500 |
| 0.15                                                | $3.9 \times 8.9 \times 12.5$                                     | 0.4         | 25154                                       | 2000 | 1000                    | 1500 |
| 0.18                                                | $4.2 \times 9.2 \times 12.5$                                     | 0.5         | 25184                                       | 2000 | 1000                    | 1300 |
| 0.22                                                | $4.5 \times 9.4 \times 12.5$                                     | 0.5         | 25224                                       | 2000 | 1000                    | 1200 |

**U<sub>Rdc</sub> = 250 V; U<sub>Rac</sub> = 160 V**

| C<br>(μF)                                                            | DIMENSIONS<br>$w_{\max} \times h_{\max} \times l_{\max}$<br>(mm) | MASS<br>(g) | CATALOG NUMBER 2222 369 ..... AND PACKAGING |      |                                 |      |
|----------------------------------------------------------------------|------------------------------------------------------------------|-------------|---------------------------------------------|------|---------------------------------|------|
|                                                                      |                                                                  |             | LOOSE IN BOX                                |      |                                 | REEL |
|                                                                      |                                                                  |             | $l_t = 4.0 + 1.0/- 0.5 \text{ mm}$          |      | $l_t = 22.0 \pm 4.0 \text{ mm}$ | SPQ  |
|                                                                      |                                                                  |             | C-tol = $\pm 10 \%$                         | SPQ  | SPQ                             |      |
|                                                                      |                                                                  |             | last 5 digits of<br>catalog number          |      |                                 |      |
| Pitch = $10.0 \pm 0.4 \text{ mm}$ ; $d_t = 0.60 \pm 0.06 \text{ mm}$ |                                                                  |             |                                             |      |                                 |      |
| 0.027                                                                | $4.2 \times 8.7 \times 12.5$                                     | 0.4         | 45273                                       | 2000 | 1000                            | 1500 |
| 0.033                                                                | $4.6 \times 8.8 \times 12.5$                                     | 0.5         | 45333                                       | 2000 | 1000                            | 1300 |
| 0.039                                                                | $4.0 \times 8.8 \times 12.5$                                     | 0.4         | 45393                                       | 2000 | 1000                            | 1500 |
| 0.047                                                                | $4.5 \times 9.0 \times 12.5$                                     | 0.5         | 45473                                       | 2000 | 1000                            | 1500 |
| 0.056                                                                | $4.6 \times 8.8 \times 12.5$                                     | 0.5         | 45563                                       | 2000 | 1000                            | 1300 |
| 0.068                                                                | $4.6 \times 9.2 \times 12.5$                                     | 0.5         | 45683                                       | 2000 | 1000                            | 1300 |
| 0.082                                                                | $4.4 \times 9.4 \times 12.5$                                     | 0.5         | 45823                                       | 2000 | 1000                            | 1200 |
| 0.1                                                                  | $4.7 \times 9.7 \times 12.5$                                     | 0.5         | 45104                                       | 2000 | 1000                            | 1200 |

$U_{Rdc} = 400 \text{ V}$ ;  $U_{Rac} = 220 \text{ V}$ 

| C<br>(μF)                                                            | DIMENSIONS<br>$w_{\max} \times h_{\max} \times l_{\max}$<br>(mm) | MASS<br>(g) | CATALOG NUMBER 2222 369 ..... AND PACKAGING |      |                                 |      |
|----------------------------------------------------------------------|------------------------------------------------------------------|-------------|---------------------------------------------|------|---------------------------------|------|
|                                                                      |                                                                  |             | LOOSE IN BOX                                |      |                                 | REEL |
|                                                                      |                                                                  |             | $l_t = 4.0 + 1.0/- 0.5 \text{ mm}$          |      | $l_t = 22.0 \pm 4.0 \text{ mm}$ | SPQ  |
|                                                                      |                                                                  |             | C-tol = $\pm 10 \%$                         | SPQ  | SPQ                             |      |
|                                                                      |                                                                  |             | last 5 digits of<br>catalog number          |      |                                 |      |
| Pitch = $10.0 \pm 0.4 \text{ mm}$ ; $d_t = 0.60 \pm 0.06 \text{ mm}$ |                                                                  |             |                                             |      |                                 |      |
| 0.001                                                                | $4.5 \times 8.7 \times 12.5$                                     | 0.5         | 55102                                       | 2000 | 1000                            | 1500 |
| 0.0012                                                               | $4.5 \times 9.0 \times 12.5$                                     | 0.5         | 55122                                       | 2000 | 1000                            | 1500 |
| 0.0015                                                               | $4.5 \times 8.8 \times 12.5$                                     | 0.5         | 55152                                       | 2000 | 1000                            | 1500 |
| 0.0018                                                               | $4.5 \times 8.7 \times 12.5$                                     | 0.5         | 55182                                       | 2000 | 1000                            | 1500 |
| 0.0022                                                               | $4.0 \times 8.6 \times 12.5$                                     | 0.5         | 55222                                       | 2000 | 1000                            | 1500 |
| 0.0027                                                               | $4.3 \times 8.9 \times 12.5$                                     | 0.5         | 55272                                       | 2000 | 1000                            | 1500 |
| 0.0033                                                               | $4.6 \times 9.1 \times 12.5$                                     | 0.5         | 55332                                       | 2000 | 1000                            | 1500 |
| 0.0039                                                               | $4.0 \times 8.7 \times 12.5$                                     | 0.5         | 55392                                       | 2000 | 1000                            | 1500 |
| 0.0047                                                               | $4.1 \times 8.8 \times 12.5$                                     | 0.5         | 55472                                       | 2000 | 1000                            | 1500 |
| 0.0056<br>0.0068<br>0.0082<br>0.01                                   | $4.6 \times 9.1 \times 12.5$                                     | 0.5         | 55562<br>55682<br>55822<br>55103            | 2000 | 1000                            | 1500 |
| 0.012                                                                | $4.0 \times 8.7 \times 12.5$                                     | 0.5         | 55123                                       | 2000 | 1000                            | 1500 |
| 0.015                                                                | $4.1 \times 8.8 \times 12.5$                                     | 0.5         | 55153                                       | 2000 | 1000                            | 1500 |
| 0.018                                                                | $4.4 \times 8.8 \times 12.5$                                     | 0.5         | 55183                                       | 2000 | 1000                            | 1300 |
| 0.022                                                                | $4.2 \times 8.8 \times 12.5$                                     | 0.5         | 55223                                       | 2000 | 1000                            | 1500 |
| 0.027                                                                | $4.2 \times 9.1 \times 12.5$                                     | 0.5         | 55273                                       | 2000 | 1000                            | 1300 |
| 0.033                                                                | $4.6 \times 9.4 \times 12.5$                                     | 0.5         | 55333                                       | 2000 | 1000                            | 1300 |

 $U_{Rdc} = 630 \text{ V}$ ;  $U_{Rac} = 250 \text{ V}$ 

| C<br>(μF)                                                            | DIMENSIONS<br>$w_{\max} \times h_{\max} \times l_{\max}$<br>(mm) | MASS<br>(g) | CATALOG NUMBER 2222 369 ..... AND PACKAGING |      |                                 |      |
|----------------------------------------------------------------------|------------------------------------------------------------------|-------------|---------------------------------------------|------|---------------------------------|------|
|                                                                      |                                                                  |             | LOOSE IN BOX                                |      |                                 | REEL |
|                                                                      |                                                                  |             | $l_t = 4.0 + 1.0/- 0.5 \text{ mm}$          |      | $l_t = 22.0 \pm 4.0 \text{ mm}$ | SPQ  |
|                                                                      |                                                                  |             | C-tol = $\pm 10 \%$                         | SPQ  | SPQ                             |      |
|                                                                      |                                                                  |             | last 5 digits of<br>catalog number          |      |                                 |      |
| Pitch = $10.0 \pm 0.4 \text{ mm}$ ; $d_t = 0.60 \pm 0.06 \text{ mm}$ |                                                                  |             |                                             |      |                                 |      |
| 0.01                                                                 | $4.1 \times 8.7 \times 12.5$                                     | 0.4         | 65103                                       | 2000 | 1000                            | 1300 |
| 0.012                                                                | $4.4 \times 8.9 \times 12.5$                                     | 0.5         | 65123                                       | 2000 | 1000                            | 1200 |
| 0.015                                                                | $4.9 \times 9.2 \times 12.5$                                     | 0.5         | 65153                                       | 2000 | 1000                            | 1100 |
| 0.018                                                                | $5.3 \times 9.5 \times 12.5$                                     | 0.6         | 65183                                       | 2000 | 1000                            | 1000 |
| 0.022                                                                | $5.9 \times 9.9 \times 12.5$                                     | 0.7         | 65223                                       | 2000 | 1000                            | 900  |



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