

# Type 942C, Polypropylene Capacitors, for High Pulse, Snubber

## Very High dV/dt for Snubber Applications



Type 942 round, axial film capacitors utilize a hybrid section design of polypropylene film, metal foils and metallized polypropylene dielectric to achieve both high peak current as well as superior rms current ratings. This series is ideal for high pulse operation and high peak current circuits.

### Highlights

- Very high dV/dt
- Very high pulse current
- Low inductance
- Self Healing

### Specifications

|                                               |                                                                                             |
|-----------------------------------------------|---------------------------------------------------------------------------------------------|
| Capacitance Range                             | 0.01 to 2.5 $\mu$ F                                                                         |
| Capacitance Tolerance                         | $\pm$ 10% Standard Tolerance                                                                |
| Rated Voltage                                 | 600 to 2000 Vdc (300 to 500 Vac, 60 Hz)                                                     |
| Operating Temperature Range with Ripple       | -55 °C to 105 °C*<br>*Full rated voltage at 85 °C - derated linearly to 50% rated at 105 °C |
| Maximum rms Current                           | Check tables for values                                                                     |
| Insulation Resistance                         | > 100,000 M $\Omega$ x $\mu$ F                                                              |
| Test Voltage between Terminals @ 25°C         | 150% rated DC voltage for 60 s                                                              |
| Test Voltage between Terminals & Case @ 25 °C | 3 kVac @ 50/60 Hz for 60 s                                                                  |
| Life Test                                     | 2,000 h @ 85 °C, 125% rated DC voltage                                                      |
| Life Expectancy                               | 60,000 h @ rated Vdc, 70 °C<br>30,000 h @ rated Vac, 70 °C                                  |
| RoHS Compliant                                |                                                                                             |

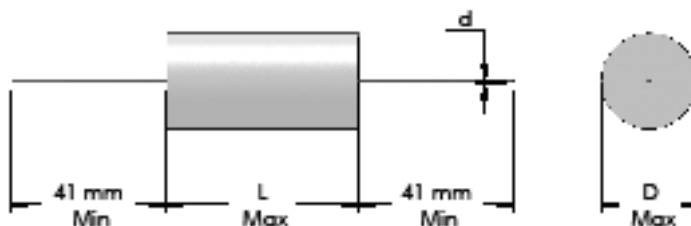
### Dimensions

#### Construction Diagram



#### Construction Details

|                   |                           |
|-------------------|---------------------------|
| Case Material     | UL510 Polyester Tape Wrap |
| Resin Material    | UL94V-0 Epoxy Fill        |
| Terminal Material | Tin Plated Copper         |



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### Part Numbering System

|        |                             |               |               |                                               |                |                          |
|--------|-----------------------------|---------------|---------------|-----------------------------------------------|----------------|--------------------------|
| 942    | C                           | 6             | P             | 22                                            | K              | -F                       |
|        |                             |               |               |                                               |                |                          |
| Series | Termination Code            | Voltage Code  |               | Capacitance Significant Figures $\mu\text{F}$ | Tolerance Code | RoHS Compliant Indicator |
| 942    | C = Tinned Copper Wire      | 6 = 600 Vdc   | 12 = 1200 Vdc | S = 0.0                                       | K = $\pm 10\%$ |                          |
|        | F = Insulated Stranded Wire | 8 = 850 Vdc   | 16 = 1600 Vdc | P = 0.                                        |                |                          |
|        |                             | 10 = 1000 Vdc | 20 = 2000 Vdc | W = No decimal point                          |                |                          |
|        | H = Copper Lugs             |               |               |                                               |                |                          |

### Ratings

**NOTE:** Other ratings, sizes and performance specifications are available. Contact us.

| Cap. ( $\mu\text{F}$ )    | Catalog Part Number | D mm | L mm | d mm | Typical ESR (m $\Omega$ ) | Typical ESL (nH) | dV/dt (V/ $\mu\text{s}$ ) | I <sub>PEAK</sub> (A) | I <sub>RMS</sub> 70 °C 100 kHz (A) |
|---------------------------|---------------------|------|------|------|---------------------------|------------------|---------------------------|-----------------------|------------------------------------|
| <b>600 Vdc (300 Vac)</b>  |                     |      |      |      |                           |                  |                           |                       |                                    |
| .15                       | 942C6P15K-F         | 14.0 | 34.0 | 1.0  | 5                         | 21               | 1427                      | 214                   | 7.7                                |
| .22                       | 942C6P22K-F         | 16.0 | 34.0 | 1.0  | 7                         | 22               | 1427                      | 314                   | 7.0                                |
| .33                       | 942C6P33K-F         | 19.0 | 34.0 | 1.0  | 6                         | 23               | 1427                      | 471                   | 8.4                                |
| .47                       | 942C6P47K-F         | 22.0 | 34.0 | 1.0  | 5                         | 24               | 1427                      | 671                   | 10.1                               |
| .68                       | 942C6P68K-F         | 25.6 | 34.0 | 1.2  | 4                         | 26               | 1427                      | 970                   | 12.4                               |
| 1.00                      | 942C6W1K-F          | 23.5 | 46.0 | 1.2  | 5                         | 30               | 800                       | 800                   | 11.8                               |
| 1.50                      | 942C6W1P5K-F        | 28.5 | 46.0 | 1.2  | 4                         | 32               | 800                       | 1200                  | 14.8                               |
| 2.00                      | 942C6W2K-F          | 28.5 | 54.0 | 1.2  | 3                         | 36               | 628                       | 1256                  | 18.2                               |
| 2.20                      | 942C6W2P2K-F        | 30.0 | 54.0 | 1.2  | 3                         | 36               | 628                       | 1382                  | 18.8                               |
| 2.50                      | 942C6W2P5K-F        | 32.0 | 54.0 | 1.2  | 3                         | 37               | 628                       | 1570                  | 19.5                               |
| <b>850 Vdc (360 Vac)</b>  |                     |      |      |      |                           |                  |                           |                       |                                    |
| .15                       | 942C8P15K-F         | 15.5 | 34.0 | 1.0  | 5                         | 22               | 1712                      | 257                   | 8.1                                |
| .22                       | 942C8P22K-F         | 18.0 | 34.0 | 1.0  | 7                         | 23               | 1712                      | 377                   | 7.5                                |
| .33                       | 942C8P33K-F         | 21.5 | 34.0 | 1.0  | 6                         | 24               | 1712                      | 565                   | 7.7                                |
| .47                       | 942C8P47K-F         | 25.0 | 34.0 | 1.2  | 5                         | 26               | 1712                      | 805                   | 10.9                               |
| .68                       | 942C8P68K-F         | 29.5 | 34.0 | 1.2  | 4                         | 27               | 1712                      | 1164                  | 13.6                               |
| 1.00                      | 942C8W1K-F          | 28.0 | 46.0 | 1.2  | 5                         | 32               | 960                       | 960                   | 13.1                               |
| 1.50                      | 942C8W1P5K-F        | 29.0 | 54.0 | 1.2  | 4                         | 36               | 754                       | 1131                  | 15.9                               |
| 2.00                      | 942C8W2K-F          | 29.5 | 64.0 | 1.2  | 3                         | 41               | 574                       | 1148                  | 19.9                               |
| <b>1000 Vdc (400 Vac)</b> |                     |      |      |      |                           |                  |                           |                       |                                    |
| .10                       | 942C10P1K-F         | 16.0 | 34.0 | 1.0  | 8                         | 22               | 2283                      | 228                   | 6.6                                |
| .15                       | 942C10P15K-F        | 19.0 | 34.0 | 1.0  | 7                         | 23               | 2283                      | 342                   | 7.8                                |
| .22                       | 942C10P22K-F        | 22.5 | 34.0 | 1.0  | 6                         | 24               | 2283                      | 502                   | 9.3                                |
| .33                       | 942C10P33K-F        | 21.0 | 46.0 | 1.0  | 5                         | 29               | 1280                      | 422                   | 11.0                               |
| .47                       | 942C10P47K-F        | 24.0 | 46.0 | 1.2  | 5                         | 30               | 1280                      | 601                   | 11.9                               |
| .68                       | 942C10P68K-F        | 28.5 | 46.0 | 1.2  | 5                         | 32               | 1280                      | 870                   | 13.3                               |
| 1.00                      | 942C10W1K-F         | 30.0 | 54.0 | 1.2  | 5                         | 37               | 1005                      | 1005                  | 14.6                               |
| 1.40                      | 942C10W1P4K-F       | 31.5 | 64.0 | 1.2  | 4                         | 41               | 765                       | 1071                  | 17.9                               |

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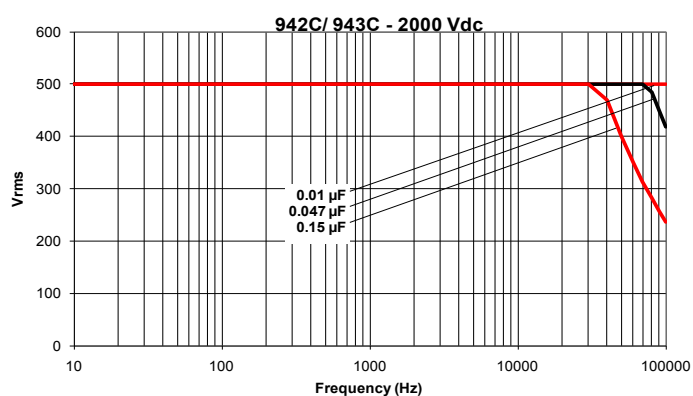
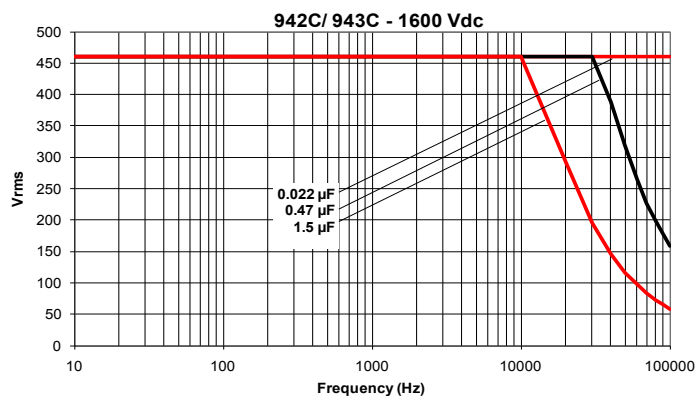
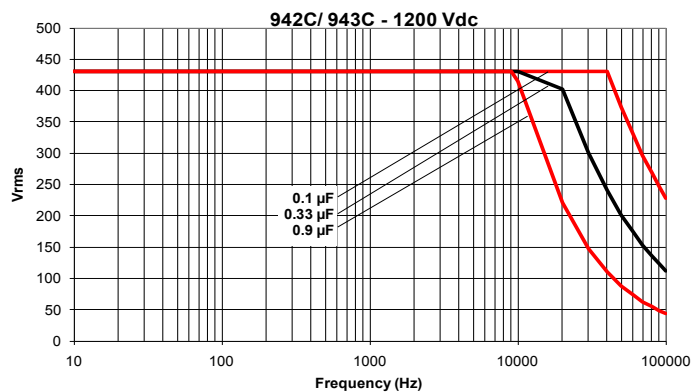
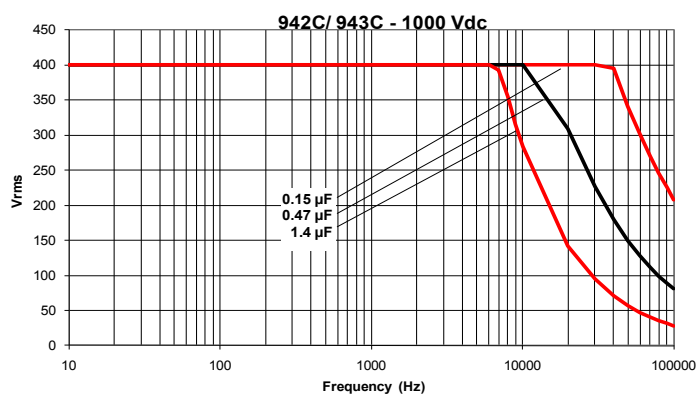
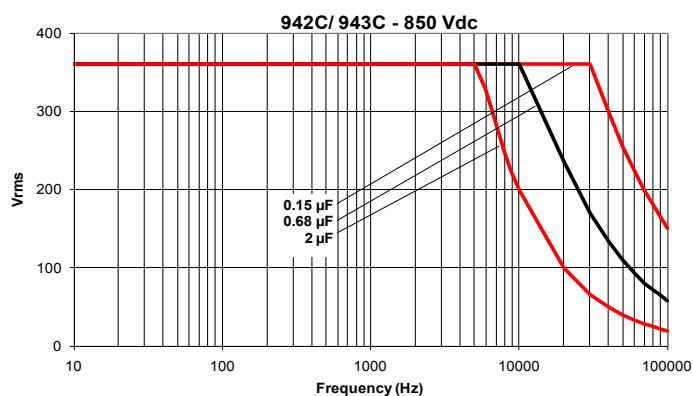
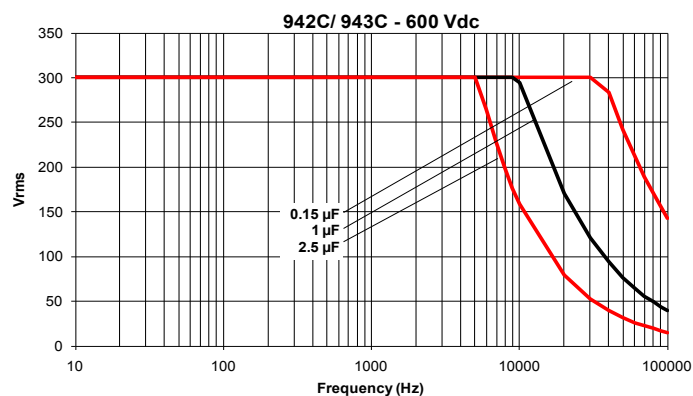
## Very High dV/dt for Snubber Applications

| Cap.<br>( $\mu$ F)        | Catalog<br>Part Number | D<br>mm | L<br>mm | d<br>mm | Typical<br>ESR<br>(m $\Omega$ ) | Typical<br>ESL<br>(nH) | dV/dt<br>(V/ $\mu$ s) | I <sub>PEAK</sub><br>(A) | I <sub>RMS</sub><br>70 °C<br>100 kHz<br>(A) |
|---------------------------|------------------------|---------|---------|---------|---------------------------------|------------------------|-----------------------|--------------------------|---------------------------------------------|
| <b>1200 Vdc (430 Vac)</b> |                        |         |         |         |                                 |                        |                       |                          |                                             |
| .10                       | 942C12P1K-F            | 19.0    | 34.0    | 1.0     | 5                               | 23                     | 2854                  | 285                      | 9.2                                         |
| .15                       | 942C12P15K-F           | 22.5    | 34.0    | 1.0     | 5                               | 24                     | 2854                  | 428                      | 10.2                                        |
| .22                       | 942C12P22K-F           | 26.5    | 34.0    | 1.2     | 6                               | 26                     | 2854                  | 628                      | 10.3                                        |
| .33                       | 942C12P33K-F           | 24.5    | 46.0    | 1.2     | 6                               | 31                     | 1600                  | 528                      | 11.0                                        |
| .47                       | 942C12P47K-F           | 29.0    | 46.0    | 1.2     | 5                               | 32                     | 1600                  | 752                      | 13.4                                        |
| .68                       | 942C12P68K-F           | 30.5    | 54.0    | 1.2     | 5                               | 37                     | 1256                  | 854                      | 14.7                                        |
| .90                       | 942C12P9K-F            | 31.0    | 64.0    | 1.2     | 5                               | 41                     | 957                   | 861                      | 15.9                                        |
| <b>1600 Vdc (460 Vac)</b> |                        |         |         |         |                                 |                        |                       |                          |                                             |
| .022                      | 942C16S22K-F           | 12.0    | 34.0    | 1.0     | 27                              | 20                     | 3425                  | 75                       | 3.0                                         |
| .033                      | 942C16S33K-F           | 14.5    | 34.0    | 1.0     | 14                              | 21                     | 3425                  | 113                      | 4.7                                         |
| .047                      | 942C16S47K-F           | 16.5    | 34.0    | 1.0     | 8                               | 22                     | 3425                  | 161                      | 6.7                                         |
| .068                      | 942C16S68K-F           | 19.0    | 34.0    | 1.0     | 6                               | 23                     | 3425                  | 233                      | 8.4                                         |
| .10                       | 942C16P1K-F            | 22.5    | 34.0    | 1.0     | 4                               | 24                     | 3425                  | 342                      | 11.4                                        |
| .15                       | 942C16P15K-F           | 20.5    | 46.0    | 1.0     | 5                               | 29                     | 1919                  | 288                      | 10.9                                        |
| .22                       | 942C16P22K-F           | 23.5    | 46.0    | 1.0     | 5                               | 68                     | 1919                  | 422                      | 11.8                                        |
| .33                       | 942C16P33K-F           | 28.5    | 46.0    | 1.2     | 5                               | 32                     | 1919                  | 633                      | 13.3                                        |
| .47                       | 942C16P47K-F           | 30.0    | 54.0    | 1.2     | 5                               | 36                     | 1507                  | 708                      | 14.6                                        |
| .56                       | 942C16P56K-F           | 28.5    | 64.0    | 1.2     | 5                               | 40                     | 1148                  | 643                      | 15.1                                        |
| .68                       | 942C16P68K-F           | 31.5    | 64.0    | 1.2     | 5                               | 42                     | 1148                  | 781                      | 16.0                                        |
| <b>2000 Vdc (500 Vac)</b> |                        |         |         |         |                                 |                        |                       |                          |                                             |
| .01                       | 942C20S1K-F            | 12.0    | 34.0    | 1.0     | 50                              | 20                     | 5137                  | 51                       | 2.2                                         |
| .015                      | 942C20S15K-F           | 14.5    | 34.0    | 1.0     | 40                              | 21                     | 5137                  | 77                       | 2.8                                         |
| .022                      | 942C20S22K-F           | 16.5    | 34.0    | 1.0     | 20                              | 22                     | 5137                  | 113                      | 4.2                                         |
| .033                      | 942C20S33K-F           | 19.5    | 34.0    | 1.0     | 12                              | 23                     | 5137                  | 170                      | 6.0                                         |
| .047                      | 942C20S47K-F           | 18.0    | 46.0    | 1.0     | 10                              | 28                     | 2879                  | 135                      | 7.1                                         |
| .068                      | 942C20S68K-F           | 20.5    | 46.0    | 1.0     | 6                               | 29                     | 2879                  | 196                      | 9.9                                         |
| .10                       | 942C20P1K-F            | 24.5    | 46.0    | 1.2     | 5                               | 30                     | 2879                  | 288                      | 12.1                                        |
| .15                       | 942C20P15K-F           | 29.5    | 46.0    | 1.2     | 5                               | 32                     | 2879                  | 432                      | 13.5                                        |

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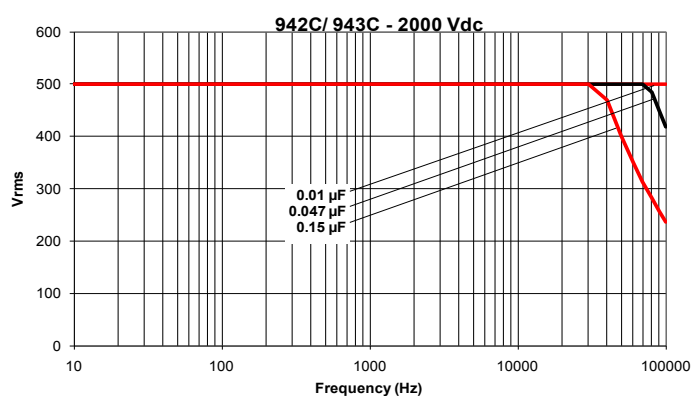
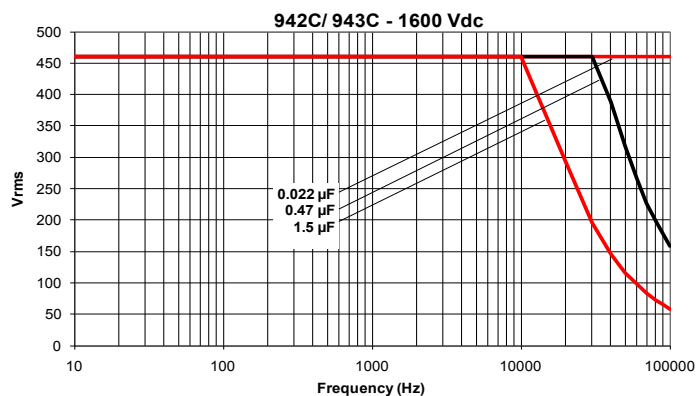
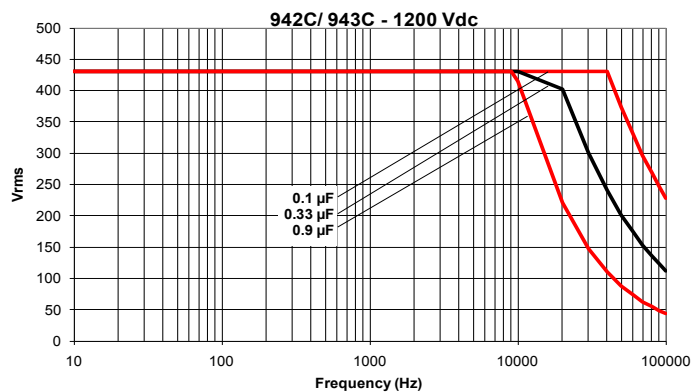
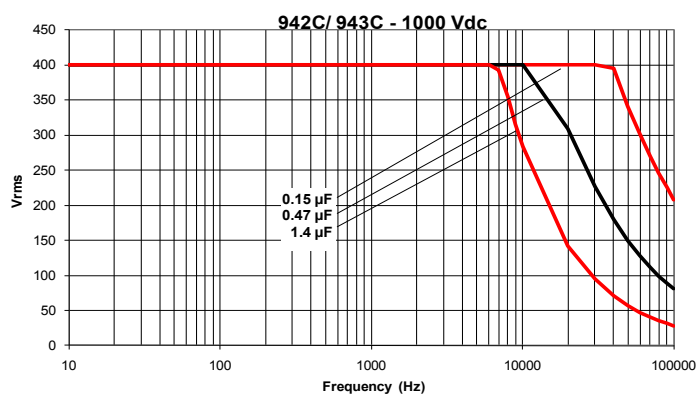
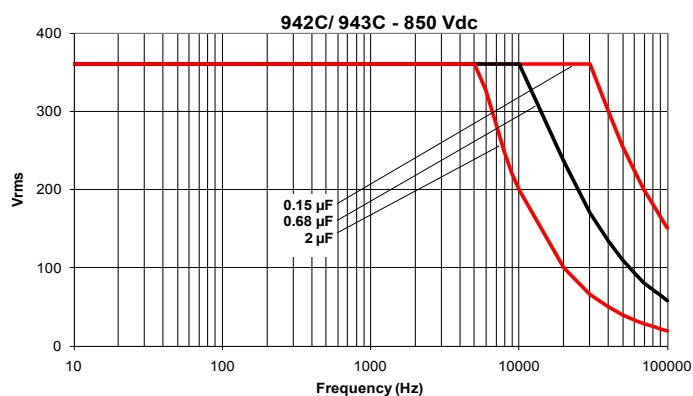
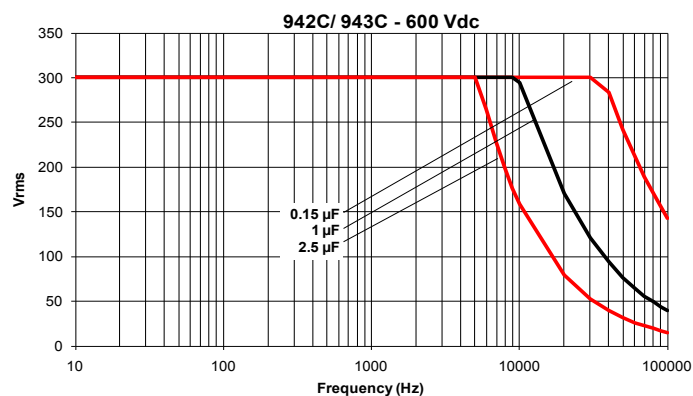
### RMS Voltage vs Frequency @ 25 °C



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## Very High dV/dt for Snubber Applications

### RMS Voltage vs Frequency @ 25 °C



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### Офис по работе с юридическими лицами:

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