

# 3.0V Radial Supercapacitors



ADCR-S03R0S

Request Samples



Check Inventory



Various Sizes

RoHS/RoHS II Compliant

MSL Level = 1

## Features

- High Voltage 3.0V Series
- High power density
- Minimal discharge rate, 72 hours @ discharge<20%
- Excellent cycle life
- Green, meet RoHS requirements.

## Applications

- Power Assist Circuits
- Power Backup
- Micro Energy Storage
- IoT Energy Harvesting
- SSD applications
- DDR power back up
- RTC System power transfer to battery backup

## Electrical Specifications

| Part Number       | Nominal Voltage (U <sub>R</sub> ) | Capacitance | Tol.    | ESR (Max) | Nominal Current | Peak Current (Max) | Leakage Current | Stored Energy (Max) | Gravimetric Energy Density | Power Density | Volumetric Energy Density |
|-------------------|-----------------------------------|-------------|---------|-----------|-----------------|--------------------|-----------------|---------------------|----------------------------|---------------|---------------------------|
| ADCR-S03R0S       | DC(V)                             | Farads      | ±%      | mΩ        | A               | A                  | mA              | mWh                 | Wh/kg                      | kW/kg         | Wh/L                      |
| ADCR-S03R0SA105MB | 3.0V                              | 1           | ±20     | 350       | 0.28            | 1.11               | 0.008           | 1.25                | 1.37                       | 3.53          | 1.91                      |
| ADCR-S03R0SA305MB | 3.0V                              | 3           | ±20     | 120       | 0.84            | 3.31               | 0.013           | 3.75                | 2.82                       | 4.05          | 3.73                      |
| ADCR-S03R0SA335MB | 3.0V                              | 3.3         | ±20     | 120       | 0.92            | 3.55               | 0.013           | 4.13                | 1.77                       | 4.02          | 4.11                      |
| ADCR-S03R0SA505MB | 3.0V                              | 5           | ±20     | 80        | 1.39            | 5.36               | 0.016           | 6.25                | 4.40                       | 9.90          | 5.18                      |
| ADCR-S03R0SB505MB | 3.0V                              | 5           | ±20     | 75        | 1.40            | 5.45               | 0.016           | 6.25                | 4.03                       | 9.68          | 3.98                      |
| ADCR-S03R0SA605MB | 3.0V                              | 6           | ±20     | 75        | 1.65            | 6.21               | 0.024           | 7.50                | 4.21                       | 8.43          | 4.77                      |
| ADCR-S03R0SA605QB | 3.0V                              | 6           | -10/+30 | 75        | 1.65            | 6.21               | 0.024           | 7.50                | 4.21                       | 8.43          | 4.77                      |
| ADCR-S03R0SA106MB | 3.0V                              | 10          | ±20     | 65        | 2.65            | 9.09               | 0.032           | 12.50               | 5.71                       | 7.90          | 6.37                      |
| ADCR-S03R0SA156MB | 3.0V                              | 15          | ±20     | 55        | 3.86            | 12.33              | 0.052           | 18.75               | 7.08                       | 7.72          | 6.11                      |
| ADCR-S03R0SA256MB | 3.0V                              | 25          | ±20     | 30        | 6.52            | 21.43              | 0.075           | 31.25               | 5.04                       | 6.05          | 6.22                      |
| ADCR-S03R0SA306MB | 3.0V                              | 30          | ±20     | 30        | 7.63            | 23.68              | 0.075           | 37.50               | 5.15                       | 5.15          | 6.22                      |

**Operating Temperature:** -40°C to +65°C

**Storage:** Temperature -30°C to +50°C, RH<60%, Max. Humidity <85% RH

**Test Conditions:** +25°C

All parameters are measured according to the IEC 62391-1 standard.

Capacitance and ESR are measured with  $I(\text{mA}) = 8(C \cdot U_R)$

**Nominal Current:** 5 Seconds to discharge from  $U_R$  to  $1/2U_R$

**Peak Current (Max.):** 1 second to discharge to  $U_R$  to  $1/2U_R$

**Leakage Current:** Measured after 72h at  $U_R$



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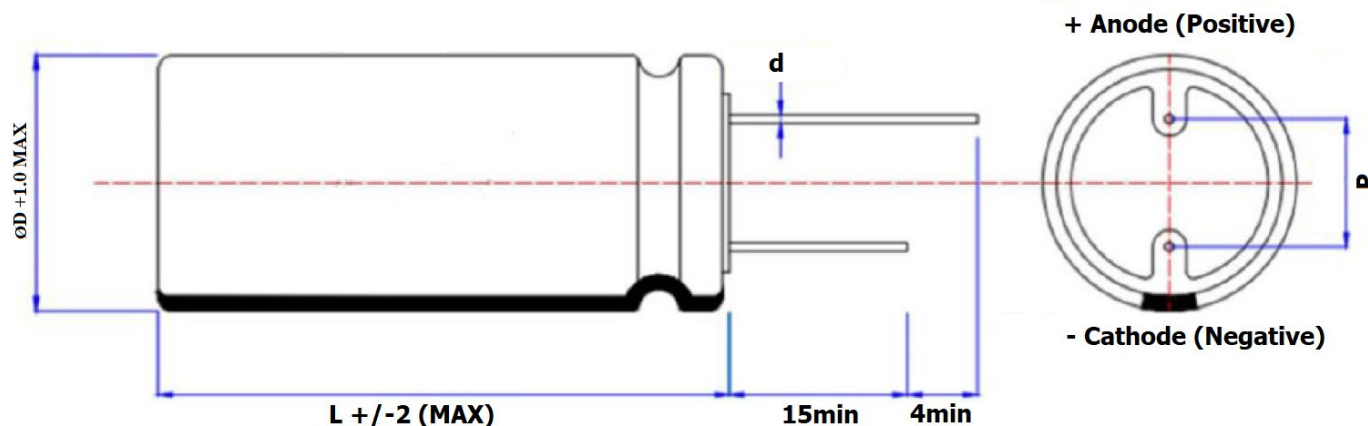


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### Mechanical Specifications



| Dimensions        | D        | L      | P       | d        |
|-------------------|----------|--------|---------|----------|
| ADCR-S03R0SA105MB | 8±1.0    | 13±1.5 | 3.5±0.5 | 0.6±0.05 |
| ADCR-S03R0SA305MB | 8±1.0    | 20±1.5 | 3.5±0.5 | 0.6±0.05 |
| ADCR-S03R0SA335MB | 8±1.0    | 20±1.5 | 3.5±0.5 | 0.6±0.05 |
| ADCR-S03R0SA505MB | 8±1.0    | 24±1.0 | 3.5±0.5 | 0.6±0.05 |
| ADCR-S03R0SB505MB | 10±1.0   | 20±1.5 | 5.0±0.5 | 0.6±0.05 |
| ADCR-S03R0SA605MB | 10±1.0   | 20±1.5 | 5.0±0.5 | 0.6±0.05 |
| ADCR-S03R0SA605QB | 10±1.0   | 20±1.5 | 5.0±0.5 | 0.6±0.05 |
| ADCR-S03R0SA106MB | 10±1.0   | 25±2.0 | 5.0±0.5 | 0.6±0.05 |
| ADCR-S03R0SA156MB | 12.5±1.0 | 25±2.0 | 5.0±0.5 | 0.6±0.05 |
| ADCR-S03R0SA256MB | 16±1.0   | 25±2.0 | 7.5±0.5 | 0.8±0.05 |
| ADCR-S03R0SA306MB | 16±1.0   | 30±2.0 | 7.5±0.5 | 0.8±0.05 |

Dimensions: mm

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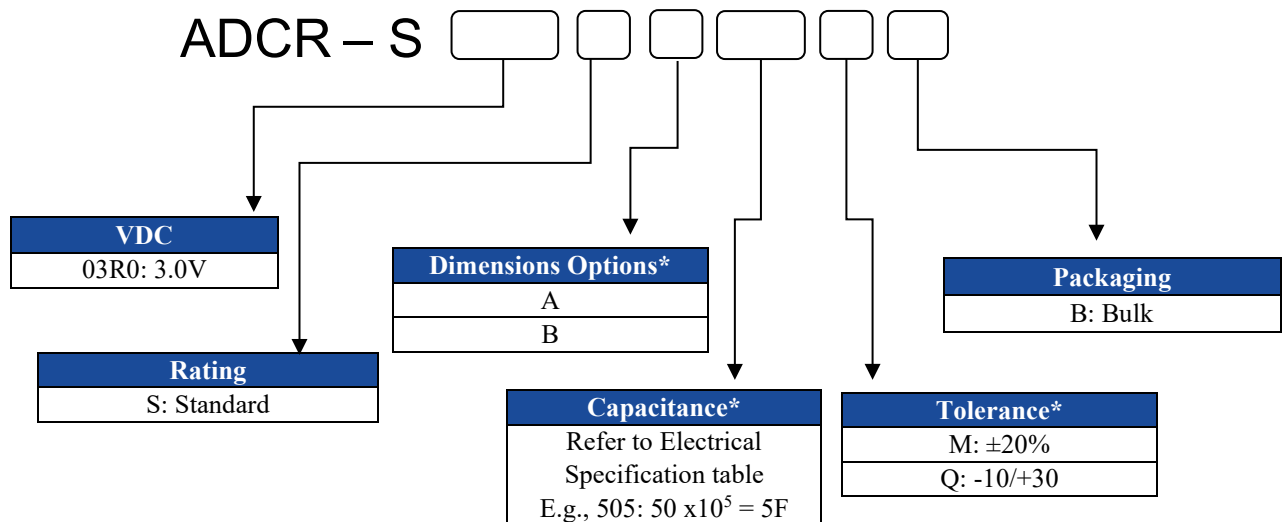


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## Part Number Identification



\*Only part numbers listed in the Electrical Specs table are available. For custom builds, please contact us.

## Part Marking



Example of the Markings of a 1.0F 3.0V capacitor

Capacitance (F)

Rated Voltage (V)

Polarity (negative bar on the sleeve to indicate the cathode)



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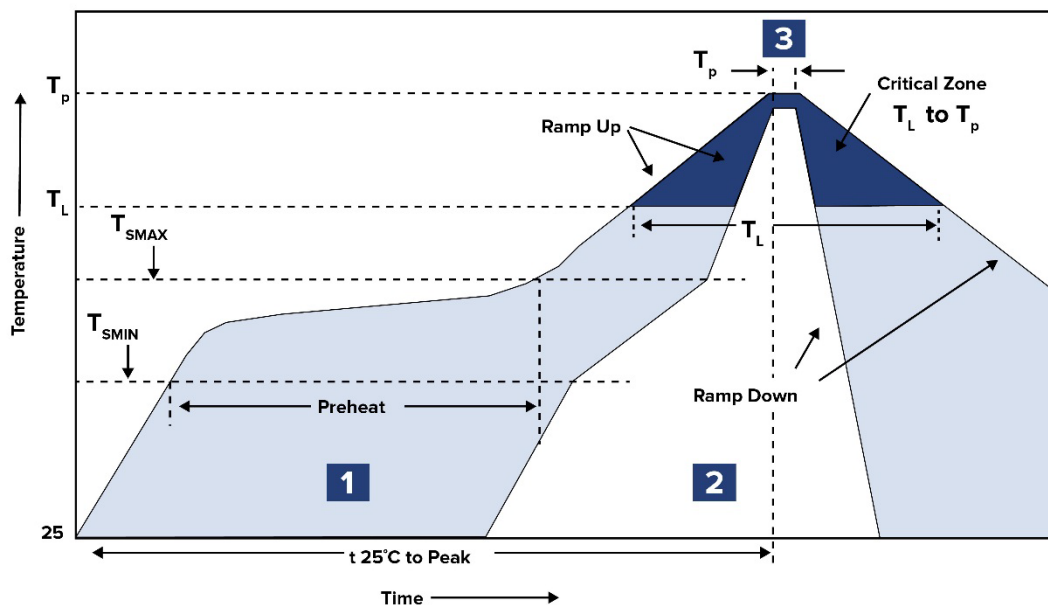


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## Reflow Profile



| Zone | Description | Temperature                               | Times         |
|------|-------------|-------------------------------------------|---------------|
| 1    | Preheat     | $T_{SMIN} \sim T_{SMAX}$<br>100°C ~ 150°C | 60 ~ 120 sec. |
| 2    | Reflow      | $T_L$<br>200°C                            | 30 ~ 40 sec.  |
| 3    | Peak heat   | $T_P$<br>240°C±5°C                        | 5 sec. MAX    |

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### Packaging

| Part Number       | Quantity<br>(PCS/Tray) |
|-------------------|------------------------|
| ADCR-S03R0SA105MB | 160                    |
| ADCR-S03R0SA305MB | 120                    |
| ADCR-S03R0SA335MB | 120                    |
| ADCR-S03R0SA505MB | 100                    |
| ADCR-S03R0SB505MB | 120                    |
| ADCR-S03R0SA605MB | 120                    |
| ADCR-S03R0SA605QB | 120                    |
| ADCR-S03R0SA106MB | 80                     |
| ADCR-S03R0SA156MB | 60                     |
| ADCR-S03R0SA256MB | 50                     |
| ADCR-S03R0SA306MB | 50                     |

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