Wide Temperature, 2.7V Radial Supercapacitor



ADCR-T02R7S

Request Samples | Check Inventory

Various Sizes
RoHS/RoHS II Compliant
MSL Level = 1

Features

- Extended Temperature 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_R)	Capacitance	Tol.	ESR (Max)	Nominal Current	Peak Current (Max)	Leakage Current	Stored Energy (Max)	Gravimetric Energy Density	Power Density	Volumetric Energy Density
ADCR-T02R7S	DC(V)	Farads	±%	mΩ	A	A	mA	mWh	Wh/kg	kW/kg	Wh/L
ADCR-T02R7SA504MB	2.7V	0.5	20	500	0.13	0.54	0.008	0.51	1.13	4.05	1.31
ADCR-T02R7SA105MB	2.7V	1	20	350	0.25	1.00	0.008	1.01	1.14	2.93	1.55
ADCR-T02R7SA205MB	2.7V	2	20	180	0.50	1.99	0.012	2.03	1.67	4.18	2.52
ADCR-T02R7SB205MB	2.7V	2	20	260	0.49	1.78	0.013	2.03	1.81	3.13	2.02
ADCR-T02R7SA305MB	2.7V	3	20	120	0.76	2.98	0.013	3.04	2.27	5.67	3.02
ADCR-T02R7SA335MB	2.7V	3.3	20	120	0.83	3.19	0.015	3.34	1.45	3.29	3.32
ADCR-T02R7SA505MB	2.7V	5	20	80	1.25	4.82	0.016	5.06	3.54	6.97	4.19
ADCR-T02R7SA605MB	2.7V	6	20	75	1.25	4.91	0.016	6.08	3.51	7.02	3.87
ADCR-T02R7SA705MB	2.7V	7	20	70	1.72	6.34	0.028	7.09	3.83	7.04	4.51
ADCR-T02R7SA106MB	2.7V	10	20	65	2.39	8.18	0.030	20.25	5.77	5.77	10.31
ADCR-T02R7SA256MB	2.7V	25	20	30	5.87	19.29	0.070	25.31	4.30	5.16	5.04

Operating Temperature: -40°C to +85°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 $I(mA) = 8(C * U_R)$

Maximum Surge Voltage: 2.85V ≤ 30 seconds
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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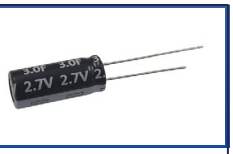
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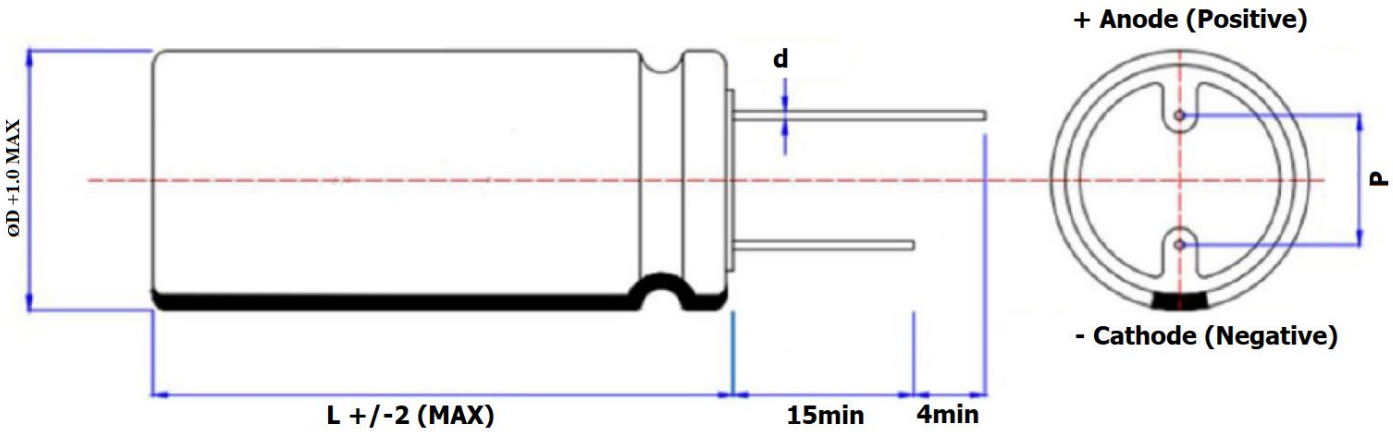


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Mechanical Specifications



Dimensions	D	L	P	d
ADCR-T02R7SA504MB	6.3±1.0	12.5±1.0	2.5±0.5	0.5±0.05
ADCR-T02R7SA105MB	8.0±1.0	13.0±1.0	3.5±0.5	0.6±0.05
ADCR-T02R7SA205MB	8.0±1.0	16.0±1.5	3.5±0.5	0.6±0.05
ADCR-T02R7SB205MB	8.0±1.0	20.0±1.0	3.5±0.5	0.6±0.05
ADCR-T02R7SA305MB	8.0±1.0	20.0±1.0	3.5±0.5	0.6±0.05
ADCR-T02R7SA335MB	8.0±1.0	20.0±1.0	3.5±0.5	0.6±0.05
ADCR-T02R7SA505MB	8.0±1.0	24.0±1.0	3.5±0.5	0.6±0.05
ADCR-T02R7SA605MB	10.0±1.0	20.0±1.0	5.0±0.5	0.6±0.05
ADCR-T02R7SA705MB	10.0±1.0	20.0±1.0	5.0±0.5	0.6±0.05
ADCR-T02R7SA106MB	10.0±1.0	25.0±1.0	5.0±0.5	0.6±0.05
ADCR-T02R7SA256MB	16.0±0.5	25.0±2.0	7.5±0.5	0.8±0.05

Dimensions: mm

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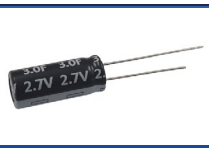
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Part Number Identification

ADCR – T [ ] [ ] [ ] [ ] [ ] [ ]

VDC
02R7: 2.7V

Rating
S: Standard

Dimensions Options*
A
B

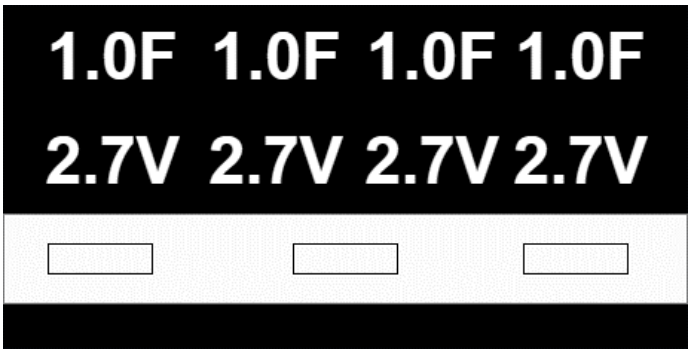
Capacitance*
Refer to Electrical Specification table
E.g., 505: 50 x10^5 = 5F

Tolerance
M: ±20%

Packaging
B: Bulk

*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 2.7V capacitor

Capacitance (F)
Rated Voltage (V)
Polarity (negative bar on the sleeve to indicate the cathode)

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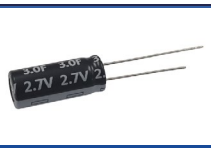
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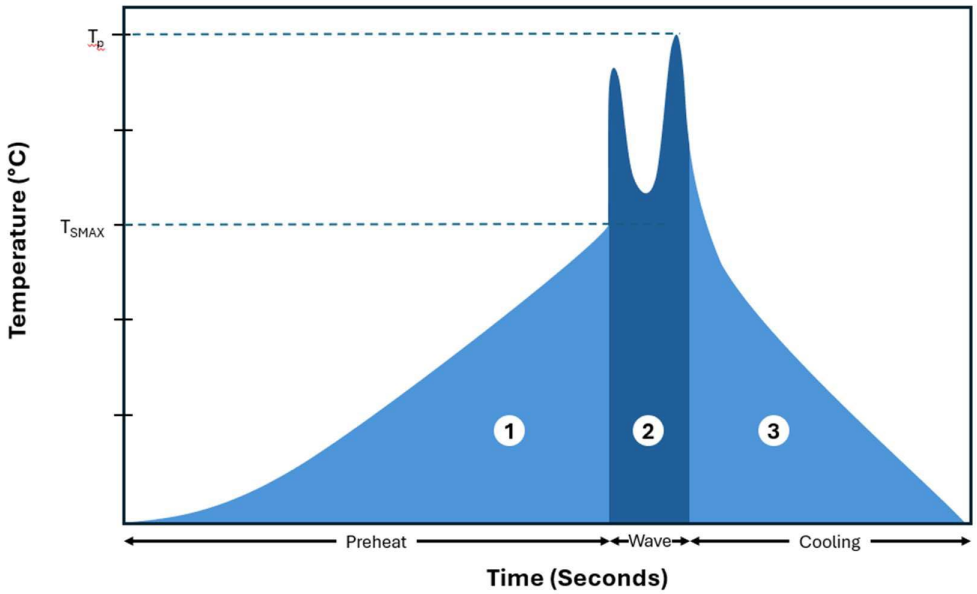


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Wave Soldering Profile



Zone	Description	Temperature	Times
1	Preheat	T_{SMIN} ~ T_{SMAX} 25°C ~ 130°C	80 sec. MAX
	Preheat Rate	$T_{PREHEAT}$ +4ºC/Sec MAX	
2	Wave Temperature	T_w 245°C ~ 260°C	10 sec. MAX Dual wave
	Wave Peak Temperature	T_P 260°C	5 sec. MAX/wave
3	Cooling Rate	$T_{COOLING}$	-5ºC/Sec MAX

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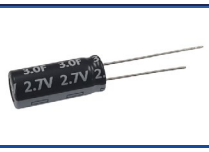
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Packaging

The product is packaged in a carton containing multiple inner boxes, each containing several trays.

Part Number	Quantity (PCS/Tray)	Quantity (PCS/Bundle)
ADCR-T02R7SA504MB	180	1620
ADCR-T02R7SA105MB	160	960
ADCR-T02R7SA205MB	140	840
ADCR-T02R7SB205MB	120	720
ADCR-T02R7SA305MB	120	720
ADCR-T02R7SA335MB	120	720
ADCR-T02R7SA505MB	100	600
ADCR-T02R7SA605MB	120	600
ADCR-T02R7SA705MB	120	600
ADCR-T02R7SA106MB	80	400
ADCR-T02R7SA256MB	50	200

Transport of Product

This product is not subject to US DOT or IATA regulations UN3499 since maximum stored energy is below 10Wh and can be considered Non-Hazardous Goods. Please refer to the Abracon | UN/IATA Transportation Guidelines for more information.

ATTENTION: Abracon LLC's products are Commercial-Off-The-Shelf (COTS, which are designed, intended and validated for use in commercial, industrial and automotive applications. The customer is responsible for testing and verifying the performance of an Abracon solution to meet their system-level requirements.

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