Effective June 2017 Supersedes December 2007

# A Supercapacitors Cylindrical cells

RoHS

### Description

Eaton come reparties are unique. Itro igh capacitation devices utilizing electrochemical locible law priceparties (EDLC) on truction rom, ined with new, bich perior hance in aterials. This combination of advanced technologies allows Elitor to offer a wide varies of capacitor solutions tailored to specific application, that range from a few in order mps for some it cays to several amosite millised one s.

## Features

- Very low ESR
- · Low leakage current
- · Long cycle life
- High usable capacity

### Aprilina ions

- alse power
- Hora-up power
- DC/DC converto
- Hybrid batter, pac s
- Value / role or cuation



# Technical Data 4302 Effective June 2017

# Ratings

Capacitance	0.47 F to 4.7 F			
Maximum working voltage	2.5 V			
Surge voltage	3.0 V			
Capacitance tolerance	-20% to +80% (+20 °C)			
Operating temperature range	-25 °C to +70 °C			

# Specifications

Capacitance (F)	Part Number	Nominal ESR (Ω) (Equivalent Serie Measured @ 1 kHz	es Resistance)	Nom (diar	inal dimensio neter x length	ns (mm) )	Typical Mass (grams/piece)
0.47	A0820-2R5474-R	0.150		8	20		1.8
1.0	A1020-2R5105-R	0.090		10	20	.5	2.6
1.5	A1030-2R5155-R	0.060		10	30		3.8
4.7	A1635-2R5475-R	0.025		13	35	K	10.7
Performance		5	es		100		ior
Parameter		Capacit. " (5) of initia	cr change at value)	5	ESR (% of ma	x. in tial \ lue	e)
Life (1000 hours @ +70 °C	@ 2.5 Vdc)	`≤`)%			≤ 5 <sup>\</sup> 0%		
Storage - Low and High Te	emperature (1000 hours @ -25 °C a	nd .75°C' ≤ 30%	~~~		≤ 300%	9	
Dimensions (mm)		6	)a	~0		_	
Part Number			Ľ		d'	<b>C</b>	C'
A0820-2R5474-R		.5 <u>2u</u> 5		3.	0.50	20.0	5.0
A1020-2R5105-R	10.0	5 21.8		5.0	0.60	20.0	5.0
A1030-275155-h		0.5 31.0		5.0	0.60	20.0	5.0
A1635-2Rt 175-R <b>Tolerances</b>	. 0 1 Ma. imum	6.5 37 s	38.0	7.5	0.80 ±0.02	20.0 Minimum	5.0
		C Ød <sup>+</sup> Positive Lead		F±0.5 [.020]	<ul><li>Capac</li><li>Maxim</li><li>Family</li></ul>	<b>ng</b> iacturer itance (F) uum operating code (or par y marking	g voltage (V) t number)
Part numbering sy	vstem						
,	<b>20</b>	205	40		-		_

Α	1020		_	2R5	10	5	-R
Family Code Size refer (mm)	Ciza reference	e e		Capacitance (µF)			
				Voltage (V) R = Decimal	Value	Multiplier	Standard product
A Family	Diameter = 10	Length = 20		2R5 = 2.5 V	Example: 105 = 10 x 10 <sup>5</sup> μF or 1.0 F		

# **Packaging information**

- Standard packaging: Bulk, 100 units per bag
  Larger bulk packages available on request

# Wave solder profile

T <sub>p</sub> First Wave T <sub>smax</sub> T <sub>smax</sub> T <sub>smax</sub> T <sub>smax</sub> T <sub>smax</sub> T <sub>smax</sub> T <sub>smax</sub> T <sub>smax</sub>	Second Wave	6-60
Profile Feature	Standard Sr. S. Yder	/ ead <sup>o</sup> b) Free Solder
Preheat and soak • Temperature max. (T <sub>smax</sub> )	10° C	1u.`°^
• Time max.	30 sc conr.s	oO seconds
$\Delta$ preheat to max Temperature	160 °C max.	160 °C max.
Peak temperature (Tp)*	220 °C – 260 °C	250 °C – 260 °C
Time at peak temperature (p)	10 second am x 5 secrine max ach wave	10 seconds max 5 seconds max each wave
Ramp-down rate	$\sim$ K/s min	~ 2 K/s min
	~, K/s min ~3.5 K/s typ 5 K/s max	~ 2 K/s min ~3.5 K/s typ ~5 K/s max
,	4 minutes	4 minutes

# Manual solder

+350 °C, 4-5 sconum by soldering iron), generally manual, hand soldering in not recommended.

#### Reflow scidering

Do not use it flow soldering using interee or convection over that in, mathods.

# Cleaning/Washing

Avoid cleaning of cities it board, however if the cities with board must be cleaned use static or ultrasonic immersion in a standard circuit board cleaning fluid for nom the transformation of a maximum temperature of +60 °C. Afterwards thoroughly rinse and dry the circuit boards. In general, treat super apalitors in the same minner you would an aluminum electrolytic capacitor.

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