

## Aluminum Electrolytic Power Capacitors High Ripple Current, Miniaturized Snap-In



### KEY BENEFITS

- > 25 years of 24 / 7 useful life at 60 °C
- 10 % to 30 % higher ripple current than similar sized standard products
- Compact size

### APPLICATIONS

- Industrial power supplies
- Welding / cutting / melting
- Motor drives
- Uninterruptable power supplies (UPS)
- Solar inverters
- Industrial lamp drivers

### RESOURCES

- Datasheet: 193 PUR-SI - [www.vishay.com/ppg?28458](http://www.vishay.com/ppg?28458)
- For technical questions contact [aluminumcaps2@vishay.com](mailto:aluminumcaps2@vishay.com)
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

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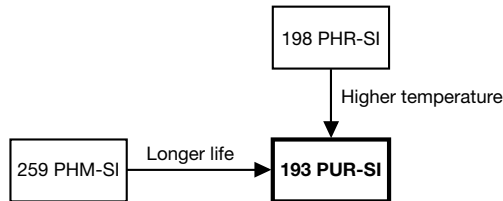


Fig. 1

ELECTRICAL DATA	
SYMBOL	DESCRIPTION
$C_R$	Rated capacitance at 100 Hz
$I_R$	Rated RMS ripple current at 100 Hz, 105 °C
$I_L$	Max. leakage current after 1 min at $U_R$
ESR	Max. equivalent series resistance at 100 Hz
Z	Max. impedance at 10 kHz

**Note**

- Unless otherwise specified, all electrical values in Table 2 apply at  $T_{amb} = 20\text{ °C}$ ,  $P = 86\text{ kPa}$  to  $106\text{ kPa}$ ,  $RH = 45\%$  to  $75\%$

QUICK REFERENCE DATA		
DESCRIPTION	VALUE	
Nominal case size (Ø D x L in mm)	22 x 25 to 35 x 60	
Rated capacitance range, $C_R$	47 µF to 820 µF	
Tolerance on $C_R$	± 20 %	
Rated voltage range, $U_R$	400 V to 450 V	500 V
Category temperature range	-40 °C to 105 °C	-25 °C to 105 °C
Endurance test at 105 °C	2000 h	
Useful life at 105 °C	5000 h	
Shelf life at 0 V, 105 °C	1000 h	
Based on sectional specification	IEC 60384-4 / EN 130300	
Climatic category IEC 60068	40 / 105 / 56	25 / 105 / 56

ELECTRICAL DATA AND ORDERING INFORMATION								
$U_R$ (V)	$C_R$ 100 Hz (µF)	NOMINAL CASE SIZE Ø D x L (mm)	$I_R$ 100 Hz, 105 °C (A)	$I_L$ 1 min (mA)	ESR 100 Hz (mΩ)	Z 10 kHz (mΩ)	ORDERING CODE MAL2193.....	
							2-TERM.	3-TERM.
400	68	22 x 25	0.69	0.167	1150	640	56689E3	16689E3
	150	22 x 35	1.11	0.364	530	300	66151E3	26151E3
	150	30 x 25	1.13	0.364	570	330	76151E3	36151E3
	220	30 x 30	1.41	0.532	390	230	76221E3	36221E3
	330	35 x 30	1.78	0.796	300	190	66331E3	26331E3
	470	35 x 40	2.26	1.132	210	130	66471E3	26471E3
	680	35 x 50	2.82	1.636	150	90	56681E3	16681E3
	820	35 x 60	3.27	1.972	120	80	56821E3	16821E3
450	68	22 x 25	0.7	0.188	1080	590	57689E3	17689E3
	120	25 x 30	1.01	0.328	630	350	67121E3	27121E3
	150	25 x 35	1.17	0.409	500	280	67151E3	27151E3
	220	30 x 35	1.5	0.598	370	210	67221E3	27221E3
	330	35 x 35	1.91	0.895	270	160	57331E3	17331E3
	470	35 x 50	2.53	1.273	180	110	57471E3	17471E3
	560	35 x 55	2.78	1.516	160	100	57561E3	17561E3
500	47	22 x 25	0.57	0.145	2800	2060	59479E3	19479E3
	100	22 x 40	0.94	0.304	1320	970	59101E3	19101E3
	180	30 x 35	1.34	0.544	760	560	59181E3	19181E3
	220	30 x 40	1.53	0.664	620	470	59221E3	19221E3
	330	35 x 45	2.06	0.994	430	320	59331E3	19331E3
	390	35 x 50	2.3	1.174	360	270	59391E3	19391E3
	470	35 x 55	2.55	1.414	310	230	59471E3	19471E3