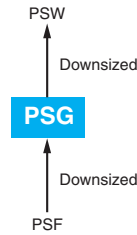


NPCAP™-PSG Series

- High capacitance model has been introduced to the product range.
- Super low ESR, high ripple current capability
- Endurance: 15,000 to 20,000 hours at 105°C
- Rated voltage : 16 to 35V_{dc}
- RoHS2 Compliant
- Halogen Free



◆ SPECIFICATIONS

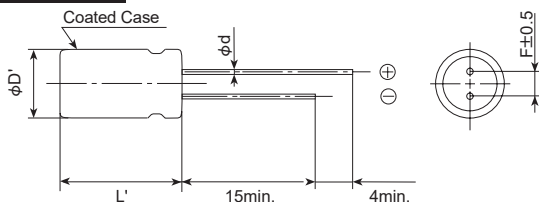
Items	Characteristics																				
Category	-55 to +105°C																				
Temperature Range																					
Rated Voltage	16 to 35V _{dc}																				
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)																				
Leakage Current *Note	$I=0.2CV$ or 500µA, whichever is greater Where, I : Max. leakage current (µA), C : Nominal capacitance (µF), V : Rated voltage (V) (at 20°C after 2 minutes)																				
Dissipation Factor (tan δ)	0.12 max. (at 20°C, 120Hz)																				
Low Temperature Characteristics (Max.Impedance Ratio)	$Z(-25°C)/Z(+20°C) \leq 1.15$ $Z(-55°C)/Z(+20°C) \leq 1.25$ (at 100kHz)																				
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 20,000 hours (20 to 35V : 15,000 hours) at 105°C. <table border="1"> <tr><td>Appearance</td><td>No significant damage</td></tr> <tr><td>Capacitance change</td><td>≤ ±20% of the initial value</td></tr> <tr><td>D.F. (tan δ)</td><td>≤ 150% of the initial specified value</td></tr> <tr><td>ESR</td><td>≤ 150% of the initial specified value</td></tr> <tr><td>Leakage current</td><td>≤ The initial specified value</td></tr> </table>	Appearance	No significant damage	Capacitance change	≤ ±20% of the initial value	D.F. (tan δ)	≤ 150% of the initial specified value	ESR	≤ 150% of the initial specified value	Leakage current	≤ The initial specified value										
Appearance	No significant damage																				
Capacitance change	≤ ±20% of the initial value																				
D.F. (tan δ)	≤ 150% of the initial specified value																				
ESR	≤ 150% of the initial specified value																				
Leakage current	≤ The initial specified value																				
Bias Humidity Test	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjecting them to DC voltage at 60°C, 90 to 95% RH for 1,000 hours. <table border="1"> <tr><td>Appearance</td><td>No significant damage</td></tr> <tr><td>Capacitance change</td><td>≤ ±20% of the initial value</td></tr> <tr><td>D.F. (tan δ)</td><td>≤ The initial specified value</td></tr> <tr><td>ESR</td><td>≤ 150% of the initial specified value</td></tr> <tr><td>Leakage current</td><td>≤ The initial specified value</td></tr> </table>	Appearance	No significant damage	Capacitance change	≤ ±20% of the initial value	D.F. (tan δ)	≤ The initial specified value	ESR	≤ 150% of the initial specified value	Leakage current	≤ The initial specified value										
Appearance	No significant damage																				
Capacitance change	≤ ±20% of the initial value																				
D.F. (tan δ)	≤ The initial specified value																				
ESR	≤ 150% of the initial specified value																				
Leakage current	≤ The initial specified value																				
Surge Voltage Test	The capacitors shall be subjected to 1,000 cycles each consisting of charge with the surge voltage specified at 105°C for 30 seconds through a protective resistor(R=1kΩ) and discharge for 5 minutes 30 seconds. <table border="1"> <tr><td>Rated voltage (V_{dc})</td><td>16</td><td>20</td><td>25</td><td>35</td></tr> <tr><td>Surge voltage (V_{dc})</td><td>18</td><td>23</td><td>29</td><td>40</td></tr> </table> <table border="1"> <tr><td>Appearance</td><td>No significant damage</td></tr> <tr><td>Capacitance change</td><td>≤ ±20% of the initial value</td></tr> <tr><td>D.F. (tan δ)</td><td>≤ The initial specified value</td></tr> <tr><td>ESR</td><td>≤ 150% of the initial specified value</td></tr> <tr><td>Leakage current</td><td>≤ The initial specified value</td></tr> </table>	Rated voltage (V _{dc})	16	20	25	35	Surge voltage (V _{dc})	18	23	29	40	Appearance	No significant damage	Capacitance change	≤ ±20% of the initial value	D.F. (tan δ)	≤ The initial specified value	ESR	≤ 150% of the initial specified value	Leakage current	≤ The initial specified value
Rated voltage (V _{dc})	16	20	25	35																	
Surge voltage (V _{dc})	18	23	29	40																	
Appearance	No significant damage																				
Capacitance change	≤ ±20% of the initial value																				
D.F. (tan δ)	≤ The initial specified value																				
ESR	≤ 150% of the initial specified value																				
Leakage current	≤ The initial specified value																				

*Note : If any doubt arises, measure the leakage current after the following voltage treatment.
Voltage treatment : DC rated voltage is applied to the capacitors for 120 minutes at 105°C.

◆ DIMENSIONS [mm]

- Terminal Code : E

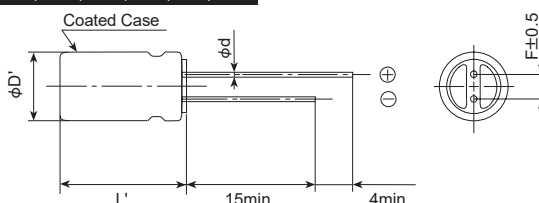
F05,F08,H08



Size code	F05	F08	H08	HB5	H16	H20	JB5	J16	J20
φD	6.3				8.0			10.0	
φd	0.5 (Note2)				0.6				
F	2.5				3.5			5.0	
φD'					φD+0.5max.				
L'	L+1.0max. (Note1)				L+1.5max.				

Note1: L+1.2 max. for 16V270 µF (Rated ripple current 5,080mArms), for 16V330 µF (Rated ripple current 5,080mArms).
Note2: 0.45 is planned to be discontinued.

HB5,H16,H20,JB5,J16,J20



◆ MARKING

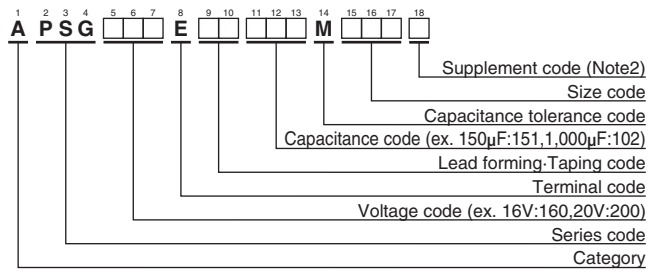
EX) 16V150µF





NPCAP™-PSG Series

◆PART NUMBERING SYSTEM



(Note2) : PSG series, 16V270µF (Rated ripple current 5,080mArms), 16V330µF (Rated ripple current 5,080mArms), 16V470µF (Rated ripple current 5,400mArms), 16V560µF (Rated ripple current 5,400mArms), 16V560µF (Rated ripple current 6,100mArms), and 16V680µF (Rated ripple current 6,100mArms) have supplement code “J”. Terminal and terminal plating are the same as all others in the PSG series.

Please refer to “Product code guide (conductive polymer type)”

◆STANDARD RATINGS

WV (V _{dc})	Cap (µF)	Case size φ D × L (mm)	ESR (mΩ max./20°C, 100k to 300kHz)	Rated ripple current (mArms/105°C, 100kHz)	Part No.
16	150	6.3 × 5	20	3,200	APSG160E□□151MF05S
	270	6.3 × 8	10	5,080	APSG160E□□271MF08J
	270	6.3 × 8	15	3,800	APSG160E□□271MF08S
	330	6.3 × 8	10	5,080	APSG160E□□331MF08J
	330	6.3 × 8	15	3,800	APSG160E□□331MF08S
	470	8 × 8	8	5,400	APSG160E□□471MH08J
	470	8 × 8	16	4,000	APSG160E□□471MH08S
	560	8 × 8	8	5,400	APSG160E□□561MH08J
	560	8 × 8	16	4,000	APSG160E□□561MH08S
	560	8 × 11.5	8	6,100	APSG160E□□561MHB5J
	560	8 × 11.5	14	4,970	APSG160E□□561MHB5S
	680	8 × 11.5	8	6,100	APSG160E□□681MHB5J
	680	8 × 11.5	14	4,970	APSG160E□□681MHB5S
	820	8 × 16	8	7,000	APSG160E□□821MH16S
	820	10 × 11.5	12	5,400	APSG160E□□821MJB5S
	1,000	8 × 16	8	7,000	APSG160E□□102MH16S
	1,000	8 × 20	8	7,500	APSG160E□□102MH20S
	1,000	10 × 11.5	12	5,400	APSG160E□□102MJB5S
	1,200	8 × 20	8	7,500	APSG160E□□122MH20S
	1,200	10 × 11.5	12	5,400	APSG160E□□122MJB5S
1,500	8 × 20	8	7,500	APSG160E□□152MH20S	
1,500	10 × 16	8	7,700	APSG160E□□152MJ16S	
1,800	10 × 16	8	7,700	APSG160E□□182MJ16S	
1,800	10 × 20	8	8,100	APSG160E□□182MJ20S	
2,200	10 × 20	8	8,100	APSG160E□□222MJ20S	
2,700	10 × 20	8	8,100	APSG160E□□272MJ20S	
20	120	6.3 × 5	20	3,200	APSG200E□□121MF05S
	180	6.3 × 8	18	3,460	APSG200E□□181MF08S
	330	8 × 8	17	3,880	APSG200E□□331MH08S
	390	8 × 11.5	14	4,970	APSG200E□□391MHB5S
	680	8 × 16	10	6,260	APSG200E□□681MH16S
	680	10 × 11.5	12	5,400	APSG200E□□681MJB5S
25	56	6.3 × 5	30	2,600	APSG250E□□560MF05S
	82	6.3 × 8	28	2,780	APSG250E□□820MF08S
	100	6.3 × 8	28	2,780	APSG250E□□101MF08S
	120	6.3 × 8	28	2,780	APSG250E□□121MF08S
	150	6.3 × 8	28	2,780	APSG250E□□151MF08S
	180	8 × 8	18	3,770	APSG250E□□181MH08S
	180	8 × 11.5	16	4,650	APSG250E□□181MHB5S
	220	8 × 8	18	3,770	APSG250E□□221MH08S
	220	8 × 11.5	16	4,650	APSG250E□□221MHB5S
	270	8 × 8	18	3,770	APSG250E□□271MH08S
	270	8 × 11.5	16	4,650	APSG250E□□271MHB5S
	330	8 × 11.5	16	4,650	APSG250E□□331MHB5S
	330	10 × 11.5	14	5,000	APSG250E□□331MJB5S
	390	8 × 11.5	16	4,650	APSG250E□□391MHB5S
	390	10 × 11.5	14	5,000	APSG250E□□391MJB5S
	470	10 × 11.5	14	5,000	APSG250E□□471MJB5S
	560	8 × 16	14	5,400	APSG250E□□561MH16S
	560	10 × 11.5	14	5,000	APSG250E□□561MJB5S
680	10 × 11.5	14	5,000	APSG250E□□681MJB5S	
35	68	8 × 11.5	18	4,380	APSG350E□□680MHB5S
	120	10 × 11.5	16	4,670	APSG350E□□121MJB5S

□ □ : Enter the appropriate lead forming or taping code.

◆RATED RIPPLE CURRENT MULTIPLIERS

● Frequency Multipliers

Frequency (Hz)	120	1k	10k	50k	100k to 500k
Radial lead type	0.10	0.35	0.60	0.80	1.00



- Always read "Notes on Use" before using the product in order to enable you to use the product correctly and prevent any faults and accidents from occurring.
- Request the Product Specification on the product of NIPPON CHEMI-CON CORPORATION to refer to it as well as this brochure prior to the order of the products. Some specific notes on use of the ordered product may be described in the specifications.
- The products listed in this catalog are designed and manufactured for general electronics equipment use and are not intended for use in applications that can adversely affect human life; where the malfunction of equipment may cause damage to life or property. In addition, our products are not intended to be used in specific applications that may cause a major social impact. Please consult with us in advance of usage of our products in the following listed applications. ① Aerospace equipment ② Power generation equipment such as thermal power, nuclear power etc. ③ Medical equipment ④ Transport equipment (automobiles, trains, ships, etc.) ⑤ Transportation control equipment ⑥ Disaster prevention / crime prevention equipment ⑦ Highly publicized information processing equipment ⑧ Submarine equipment ⑨ Other applications that are not considered general-purpose applications.
- The circuits described as examples in this catalog and the "delivery specifications" are featured in order to show the operations and usage of our products, however, this fact does not guarantee that the circuits are available to function in your equipment systems. We are not in any case responsible for any failures or damage caused by the use of information contained herein. You should examine our products, of which the characteristics are described in the "delivery specifications" and other documents, and determine whether or not our products suit your requirements according to the specifications of your equipment systems. Therefore, you bear final responsibility regarding the use of our products.
Please make sure that you take appropriate safety measures such as use of redundant design and malfunction prevention measures in order to prevent fatal accidents and/or fires in the event any of our products malfunction.
- We strongly recommend our customers to purchase Nippon Chemi-Con products only through our official sales channels. We assume no responsibility for any defects or damages caused by using products purchased from outside our official sales channel or of counterfeit goods. In addition, we will ask the customer to pay the investigation cost for products purchased outside our official sales channel.
- We reserve the right to discontinue production and delivery of products. We do not guarantee that all the products included in this catalog will be available in the future.
The aforementioned does not apply in the case of individual agreements deviating from the foregoing for customer-specific products
- We continually strive to improve the quality and reliability of our products, but in any case that our product does not meet our published specifications, please stop using it promptly and contact us immediately. As for compensation for non-conforming goods delivered by Chemi-Con, we will limit it only to goods found in non-compliance of our published specifications. This may be accomplished by a no cost replacement of non-conforming individual products, a credit of the piece price paid per each individual non-conforming product, or in other ways deemed necessary.
In addition, we have an established system with enhanced traceability, therefore we will limit the applicable lot items for any potential compensation.

[Part Numbering System](#)

[Part Numbering System \(Appendix\)](#)

[Standardization](#)

[Available Items by Manufacturing Locations](#)

[Environmental Measures](#)

[Technical Note](#)

[Precautions and Guidelines](#)

[Recommended Soldering Conditions](#)

[Taping, Lead-preforming, Terminal and Packaging Options](#)