# PSH Series

- Ultra Low ESR, High ripple current, High reliability, long life
- Rated voltage range : 2.5 to 16 Vdc
- 1000 hours at 125℃
- Suitable for DC – DC converters, voltage regulators and decouping applications for computer motherboards

## ■ SPECIFICATIONS

<table>
<tr><th>Items</th><th>Characteristics</th></tr>
<tr><td>Operating Temperature Range</td><td>－55～＋125℃</td></tr>
<tr><td>Capacitance Tolerance</td><td>± 20 %　　(20℃、120Hz)</td></tr>
<tr><td>Dissipation Factor (tan δ)</td><td>0.12　(max.)　　(20℃、120Hz)</td></tr>
<tr><td>Surge Voltage</td><td>Rated voltage ╳ 1.15V</td></tr>
<tr><td>Leakage Current</td><td>I = 0.2CV . After 2 minutes application of rated voltage. ≦6.3ψ I = 0.5CV<br>I= Leakage Current ( μA)　C= Nominal Capacitance ( μF)　V= Rated Voltage<br>(If the leakage current is not stabilized,apply rated voltage for 120 minutes at 105℃)</td></tr>
<tr><td>Equivalent series resistance ( ESR )</td><td>Please see the attached standard products list.</td></tr>
<tr><td>High temperature & Low temperature Characteristic</td><td><table><tr><td>Z(-55℃)/Z(20℃)</td><td>0.75 ~ 1.25</td></tr><tr><td>Z(+125℃)/Z(20℃)</td><td>0.75 ~ 1.25</td></tr></table>(100KHZ)<br>(20℃)</td></tr>
<tr><td>Durability</td><td>After applying the rate voltage for 1000 hours at 125℃ and then being stabilized at 20℃, capacitors shall meet the following limits.<table><tr><td>Capacitance Change</td><td>Within ±20% of the initial value.</td></tr><tr><td>Dissipation Factor</td><td>Not more than 150% of　the specified value.</td></tr><tr><td>ESR</td><td>Not more than 150% of　the specified value.</td></tr><tr><td>Leakage Current</td><td>Not more than the specified value.</td></tr></table></td></tr>
<tr><td>High temperature & high humidity (Constant)</td><td>After storing for 1000 hours at 60℃、90~95%R.H.<table><tr><td>Capacitance Change</td><td>Within ±20% of the initial value.</td></tr><tr><td>Dissipation Factor</td><td>Not more than 150% of　the specified value.</td></tr><tr><td>ESR</td><td>Not more than 150% of　the specified value.</td></tr><tr><td>Leakage Current</td><td>Not more than the specified value.</td></tr></table></td></tr>
<tr><td>Resistance to Soldering heat<br>Flow method (260±5°C × 10s)</td><td><table><tr><td>Capacitance Change</td><td>Within ±5% of the initial value.</td></tr><tr><td>Dissipation Factor</td><td>Not more than the specified value.</td></tr><tr><td>ESR</td><td>Not more than the specified value.</td></tr><tr><td>Leakage Current</td><td>Not more than the specified value.</td></tr></table></td></tr>
<tr><td>Surge Voltage Test</td><td>The capacitors shall be subjected to 1000 cycles each consisting of charge with the surge voltage specified at 105℃ for 30 seconds through a protective resistor(R=1kΩ) and discharge for 5 minutes 30 seconds.<table><tr><td>Capacitance Change</td><td>Within ±20% of the initial value.</td></tr><tr><td>Dissipation Factor</td><td>Not more than 150% of　the specified value.</td></tr><tr><td>ESR</td><td>Not more than 150% of　the specified value.</td></tr><tr><td>Leakage Current</td><td>Not more than the specified value.</td></tr></table></td></tr>
<tr><td>Failure Rate</td><td>1% per 1000 hours maximum (Confidence level 60% at 105℃)</td></tr>
</table>

# PSH Series

## ■ STANDARD PRODUCTS

| Size Code | Rated voltage V.DC | Nominal capacitance (μF) | Max. permissible ripple current (mA r.m.s) (-55 to 105℃ 、100KHz to 300KHz) 105℃＜To≦125℃ | Max. permissible ripple current (mA r.m.s) (-55 to 105℃ 、100KHz to 300KHz) To≦105℃ | ESR (mΩ) Max. 20℃, 100KHz | Part No. |
|---|---|---|---|---|---|---|
| 0605 | 16 | 39 | 520 | 1620 | 50 | 16PSH390M0605 |
| | 10 | 56 | 540 | 1700 | 45 | 10PSH560M0605 |
| | 6.3 | 82 | 540 | 1700 | 45 | 6PSH820M0605 |
| | 4 | 150 | 580 | 1800 | 40 | 4PSH151M0605 |
| 0809 | 16 | 82 | 680 | 2200 | 40 | 16PSH820M0809 |
| | 10 | 120 | 820 | 2600 | 35 | 10PSH121M0809 |
| | 6.3 | 150 | 820 | 2600 | 35 | 6PSH151M0809 |
| | 6.3 | 220 | 820 | 2600 | 35 | 6PSH221M0809 |
| | 4 | 330 | 820 | 2600 | 35 | 4PSH330M0809 |
| 1010 | 16 | 150 | 960 | 3100 | 30 | 16PSH151M1010 |
| | 16 | 220 | 960 | 3100 | 30 | 16PSH221M1010 |
| | 10 | 270 | 1180 | 3800 | 25 | 10PSH271M1010 |
| | 10 | 330 | 1180 | 3800 | 25 | 10PSH331M1010 |
| | 6.3 | 330 | 1180 | 3800 | 25 | 6PSH331M1010 |
| | 6.3 | 470 | 1180 | 3800 | 25 | 6PSH471M1010 |
| | 4 | 470 | 1180 | 3800 | 25 | 4PSH471M1010 |
| | 4 | 560 | 1180 | 3800 | 25 | 4PSH561M1010 |
| | 4 | 680 | 1180 | 3800 | 25 | 4PSH681M1010 |
| 0812 | 16 | 180 | 1160 | 3700 | 20 | 16PSH181M0812 |
| | 16 | 220 | 1160 | 3700 | 20 | 16PSH221M0812 |
| | 10 | 330 | 1270 | 4000 | 17 | 10PSH331M0812 |
| | 6.3 | 470 | 1350 | 4300 | 15 | 6PSH471M0812 |
| | 4 | 560 | 1450 | 4600 | 13 | 4PSH561M0812 |
| 1012 | 16 | 330 | 1500 | 4800 | 16 | 16PSH331M1012 |
| | 10 | 560 | 1670 | 5300 | 13 | 10PSH561M1012 |
| | 6.3 | 820 | 1740 | 5500 | 12 | 6PSH821M1012 |
| | 4 | 1200 | 1740 | 5500 | 12 | 4PSH122M1012 |