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PRESS RELEASE: Advanced Component Technology

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Added +135°C rating & 80VDC & 100VDC Ratings

Hybrid technology construction capacitors feature higher VDC, higher operating temperatures, ideal to replace solid polymer capacitors

NIC Components has expanded its NSPE product series family of high performance HYBRID CONSTRUCTION aluminum electrolytic capacitors to include extended temperature +135°C and 80VDC and 100VDC ratings. The NSPE products feature ultra-low ESR, stability at low temperature and the high current rating performance of SOLID POLYMER electrolyte version aluminum electrolytic capacitors, with the advantages of liquid electrolyte construction (higher voltage ratings, higher temperature ratings and improved tolerance to abnormal transient conditions). Ideal for use as higher voltage replacements or alternates to solid polymer (organic semiconductor type OS-CON) aluminum electrolytic capacitors.

Five NSPE series are now available covering voltage ratings up to 100VDC, operating temperatures to +135°C, and load life ratings to 10,000 hours @ +105°C. Compatible with Pb-Free (SAC Alloy) reflow soldering process; +260°C & +250°C soldering heat rated

Series	Temp Range	Load Life @ Max Temp	Voltage Rating	Capacitance Range	100KHz ESR ¹	100Hz RCR ² @ Max Temp	Reflow Limit	Auto Equipment
NSPE-S	-55°C +105°C	3K& 5KHrs	6.3~ 16VDC	10~ 1000uF	≥0.015Ω	≤3.89A	+250°C	Option
NSPE-H	-55°C +105°C	5K~ 10KHrs	25~ 100VDC	2.7~ 270uF	≥0.022Ω	≤2.53A	+260°C	Standard
NSPE-T	-55°C +125°C	1.5~ 3KHrs	25~ 63VDC	3.9~ 270uF	≥0.022Ω	≤1.52A	+260°C	Standard
NSPE-U	-55°C +125°C	2KHrs	6.3~ 16VDC	22~ 560uF	≥0.016Ω	≤2.19A	+250°C	Option
NSPE-Y	-55°C +135°C	2KHrs	6.3 ~ 16VDC	22 ~ 270uF	≥0.016Ω	≤2.19A	+260°C	Standard

¹ - ESR = Equivalent Series Resistance (Ω) ² - RCR = Ripple Current Rating (Arms)

Hybrid Construction Advantages:

- Higher voltage & temperature ratings than Solid Polymer Version Alum E-caps
- Low ESR & High Ripple Current Ratings (RCR)
- High Voltage; 35V, 40V, 50V, 63V, 80V & 100VDC
- Wide Temperature -55°C to +135°C
- Extended life: 10,000 hrs @ +105°C
- Low ESR - Z at low temperature (-55°C) [[LINK](#)]
- High Capacitance; up to 1000uF
- Surge & Transient Resistant ... Open mode failure & Wear-out
- Reduces number of components per PCB

"YF" suffix versions, for automotive equipment, sourced to special production and inspection at TS-16949 certified production site are standard on NSPE-H, NSPE-T & NSPE-Y and option on NSPE-S & NSPE-U

:: Key Parameters - Substitutes & Selection Tips

NSPE-x hybrid technology fills the void, so you don't get pushed into using solid polymer electrolyte technology if not needed

Select NSPE-x series based upon:

- Capacitance Value
- Voltage Requirements
- Operating Temperature Range

Cross & Replace Solid Polymer Versions based upon:

- Required Lifetime
- ESR and Ripple Current Rating (RCR)
- Operating Temperature Range

Use NPSE-x Series to Cross and Replace these Solid Polymer Type V-Chip Alum E-caps:
Competition Series

- Nichicon **CF, CJ, CG**
- United Chemicon **PXS, PXF, PXE, PXA, PXH**
- Sanyo **OS-CON (SVP, SVQ)**

NIC Technical Support:

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Specification Data Sheets:

- www.niccomp.com/catalog/nspe-h.pdf
- www.niccomp.com/catalog/nspe-s.pdf
- www.niccomp.com/catalog/nspe-t.pdf
- www.niccomp.com/catalog/nspe-u.pdf
- www.niccomp.com/catalog/nspe-y.pdf

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