

## There is Nothing Passive about NIC's Expanded Magnetic Line!



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NIC has taken the Muzzle off its Expanded Surface Mount Magnetic Offering!

NIC will aggressively Quote and Sample your Magnetic Applications, and you don't have to worry...

...We really don't Bite!

Over 28 Series in 100+ Styles:

- RF Chip Inductors
- EMI Suppression
- SMT Power Inductors



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## PASSIVE COMPONENTS TRENDS

### → Aluminum Electrolytic Capacitors -

■ NIC offers both "Solid" Aluminum Capacitors, **NPC** series and a "Hybrid" (solid-liquid construction) **NSPE-x** family. NIC's capacitance and voltage range exceeds our competitor's offerings to provide your customers choices.

### ■ Expanded Growth of Radial Leaded and Snap-In Aluminum Capacitors.

■ **NRLPW** series of high CV Snap-In and **NRB-XS** series of radial leaded aluminum electrolytic capacitors in 500VDC ratings. Industry first for upgraded voltage ratings.

■ **NRE-JL, NRZJ** series feature load life ratings to 10,000 hours @ +105°C for high reliability – long life circuit applications.

■ **Hybrid Aluminum electrolytic capacitors** combine the **ultra-low ESR** and **high current rating** performance of solid polymer electrolyte aluminum electrolytic capacitors, in higher voltage applications not offered by solid types.

#### Solid Aluminum Benefits:

- Replace tantalums with **Wide Temperature** Ranges without de-rating up to **+105°C**
- Capacitance values from 10uF ~ 470uF
- Voltage Ratings up to 16Vdc
- Ripple Current Ratings up to **3,500mA**
- ESR as low as 4.5 milli-ohms

#### Hybrid Technology Benefits:

- Open Mode Failure & Wear-out
- Ultra-Low ESR & High RCR
- Capacitance range up to 1,000uF
- Higher Voltage than Solid Versions: (6.3V ~ 100V ratings)
- Long Life Ratings (10,000Hrs)
- Temperature Ratings up to +135°C
- Low Impedance down to -55°C

Contact NIC TPMG for support in replacing solid aluminium electrolytic capacitors from all major makers

### → Ceramic & Film Capacitors

■ **NMC-Q** Low ESR, High Q and High Voltage MLCC in 0201, 0402 & 0603 case size, for use up to 3GHz

### ■ Made-To-Order Specialty Capacitors

- **NPP** Special Film Capacitors Made-To-Order for Green Power & Motor Drive Applications
- **NMC-S** Special Stacked MLCC Capacitors offers up to 34uF and voltages up to 1,000Vdc

### → Magnetics - Power Inductors, Chip Inductors, & EMI -

NIC has expanded their offering with a major push in Surface Mount Magnetic Products!

NIC has strength and diversity in Power Inductors, RF Inductors, and EMI suppression products with major focus on the current market and latest designs in mind.

NIC has further expanded its styles and sizes and increased capacity using the current market conditions on raw material as a center point in new product designs and continue growth. Focused growth in automatic assemblies reducing manual winding, multilayer, and metal composite constructions lower raw material useage with same or upgraded specifications compared to legacy products.

NIC recognizes the growth of power inductors in the market, focusing its series into smaller and more efficient designs to meet current and future market requirements. This focus results in movement towards new materials and component construction as a whole.

#### NIC Magnetic Road-map & Focus:

- Smallest Footprint -
  - New **NPI(S)\_LS** offers highest Current in smallest sizes
- Highest Currents -
  - Replace Vishay IHLF with Metal Composite **NPIM** from NIC
  - **NPIF\_C** new flat-wire designs from NIC offer lower DCR and higher current in ferrite package
- Wire-Wound **NIN-x** chip inductor expansion for higher frequency and entrance into RF Market
- Expanding Ferrite Chip Beads **NCB** and Common Mode Chokes
  - Higher Frequency
  - Large current signal lines
  - USB 3.0 design focus

→ **Environment Compliance Requirements** - NIC understands customer expectations on environmental compliance, and has developed strategic action plans, will be best placed to avoid adverse impacts on business

■ **EU RoHS** -
 

- Removal of Exemption #7c-III January 2013 forcing shift to introduce new lead-free materials in **ceramic capacitors 2011**

■ **IPC-1752 Forms** - Migration to IPC-1752A Data Feeds sets standard and assures due-diligence from all manufacturers

■ **Halogen Restrictions** set by major OEMS on Chlorine & Bromine

■ **REACH compliance**

- 46 Substances now included in SVHC list
- Manufacturers must stay aware of ongoing additions to list

# Passives By Design...

Look to NIC Components for the latest passive solutions to today's latest designs...

## Liquid & Hybrid Aluminum E-Caps



**NAZK & NAZT Characteristics:**  
 Temperature Range : -55°C ~ +105°C  
 Capacitance : 4.7uF ~ **6800uH**  
 Capacitance Tolerance :20%  
 Voltage Ratings : 6.3V ~ **100V**  
 Ripple Current Ratings : up to 1,800mA  
 Sizes: 4x6.1 ~ 16x17

**NSPE-x - Hybrid Characteristics:**  
 Temperature Range : -55°C ~ +**135**°C  
 Capacitance : 22uF ~ 820uH  
 Capacitance Tolerance :20%  
 Voltage Ratings : 6.3V ~ **100V**  
 Ripple Current Ratings : up to 3,890mA  
 Sizes: 6.3x6.3 ~ 10x10.8

**Cross and Replace:**  
 Panasonic FK  
 Nichicon UUA,  
 UCC EMVA  
 Sanyo OE-EX, OSCON

## NICcomp.com/QK

**C-LR Performance Passives** are available in NIC's "Quick Kit"

**Free-Of-Charge** online sampling program

## C Input/Output Capacitors - Low ESR

- High-Cap MLCC > 1,0uF
- SMT Aluminium/Electrolytic

## L SMT Power Inductors

- Shielded & Non-Shielded
- High Current & Low Profile

## R SMT Current Sensing Resistors

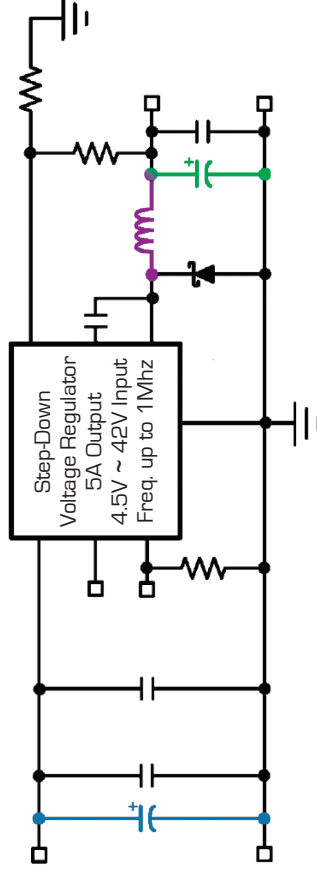
## Surface Mount Power Inductors



**Characteristics:**  
 Temperature Ranges : -55°C ~ +125°C  
 Inductance : 0.1uH ~ 10,000uH  
 Inductance Tolerance : ±10% ~ ±30%  
 Current Ratings : .1Amp ~ **110Amp**  
 DC Resistance (DCR) : .001 Ohm ~ 33 Ohm  
 Sizes (mm) : **28 Series in 100+ Styles**

### Cross and Replace:

- Coilcraft DO, DS
- Pulse P, PF, PG
- Sumida CD, CDR, CDRH
- Tokin MPS, HDI, HLI, SSB
- Vishey-Dale ILHP



-- Design Kit List --

### Performance Passive DesignKITS available...

- NIC bundles QuickKIT products focused around popular semiconductor chips in the industry today into **DesignKITS**
- Use your referred distributor **QK** page to find passive kits for reference designs our franchised distributors are promoting
- All **QuickKIT** home pages have a drop-down to order these **DesignKITS** with one click

### DesignKITS For

- LED Drivers
- Buck Regulators
- Boost Regulators
- AC-DC Converters
- PoL Devices
- SEPIC Circuits
- Display Drivers

## Solid Polymer E-Caps



**Characteristics:**  
 Temperature Range : -55°C ~ +105°C  
 Capacitance : 10uF ~ 470uH  
 Capacitance Tolerance :20%  
 Voltage Ratings : 2V ~ 8V  
 Ripple Current Ratings : up to **3,500mA**  
 Sizes: "D" Case [7343]

### PC advantages over High-Cap MLCC

Stability over voltage (VDC)  
 Stability over time  
 Immune from MLCC cracking

### Cross and Replace

Panasonic "SP" Caps • Kemet "AD" Caps  
 High-Cap MLCCs • Multiple Tantalums

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