



# Electronic Part Selection: How SiliconExpert helps you make better Electronic Part Selection decisions

White Paper exploring the problems with improper part selection and the solutions from SiliconExpert that enable optimal part selection.

## Abstract

Part Selection, as well as choosing the right part at the right time, is one of the most important aspects of your business. Unfortunately, many electronics manufacturers don't utilize a standardized, measurable method for selecting electronic parts. Instead, they're using unreliable and less than optimal management tools like Microsoft Excel at the most critical upfront design stage. This lack of a standardized and measurable part selection process causes enterprises to:

- Make incorrect part selection decisions
- Waste time, money, and resources
- Manage obsolescence issues inefficiently

We are here to explore the problems associated with incorrect part selection and introduce dynamic and intuitive solutions from SiliconExpert which have been designed to alleviate these challenges.

## Common mistakes with part selection processes

In order to ensure the quality of the end product, the part selection process needs to be well-defined, properly implemented, and measurable.

Too often, OEMs rely on non-standardized, non-measurable methods for part selection, which can lead to last minute, rushed decisions.

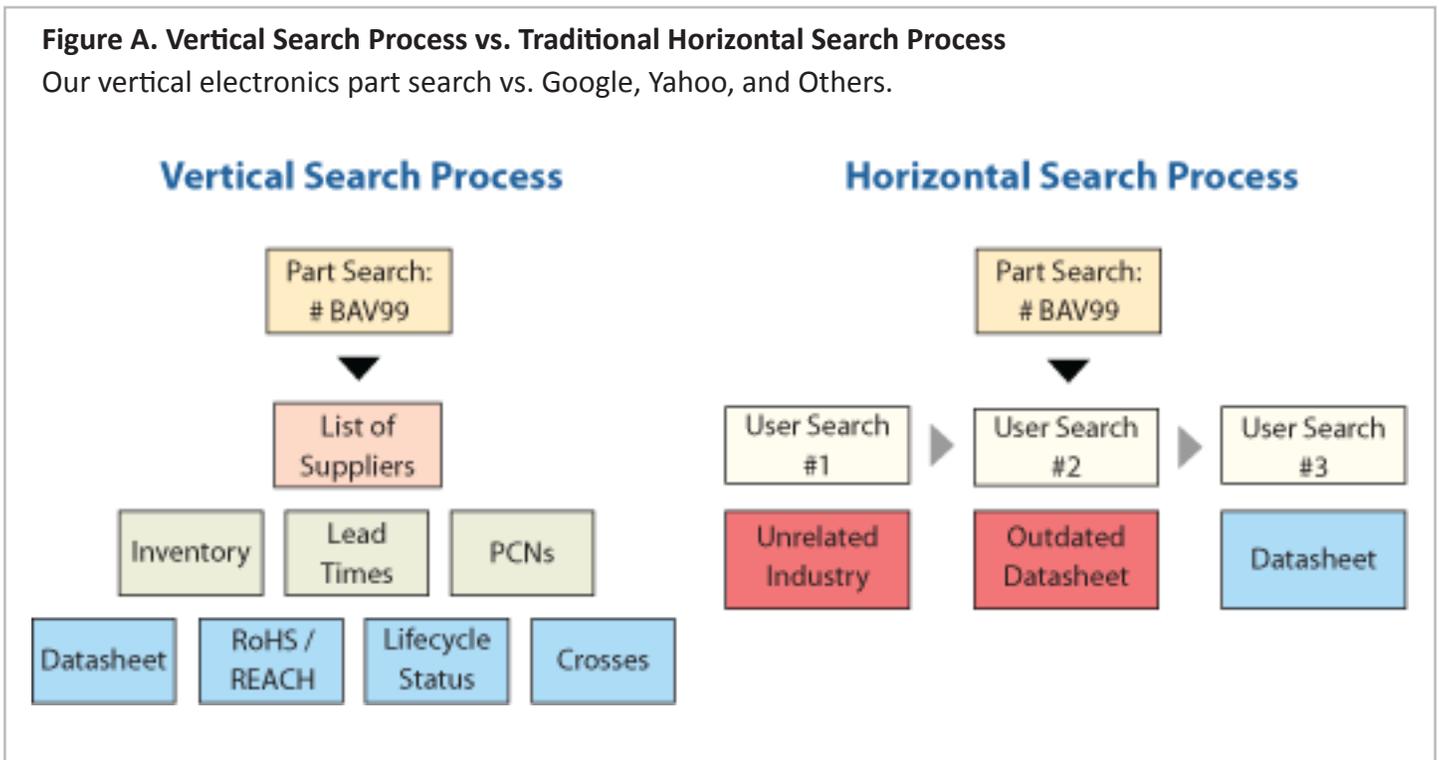
One such method is the use of traditional

search engines to find electronic parts data. While traditional search engines are sometimes useful for finding obscure documentation, they lack the context of vertical search engines that specialize in searching for data on electronics parts only (See Figure A).

Non-measurable part selection processes may work fine at times, but they aren't reliable, and it's only a matter of time before they create an error that's going to cost your supply chain and business.

**Figure A. Vertical Search Process vs. Traditional Horizontal Search Process**

Our vertical electronics part search vs. Google, Yahoo, and Others.



## Non-Optimal Part Selection

It is impossible to keep track of every electronic part in the market. Even if your business could maintain a comprehensive list of every part in the world, it would require endless dedication and man-hours to keep up-to-date.

Data on these parts is not accessible at all times, making it extremely difficult to obtain and manage such information. In order to make an informed and intelligent part selection decision, one must go through the seemingly endless task of searching, finding and organizing data sheets, PCN product brochures, documents, etc. and still be faced with the challenge of analyzing and extracting the needed information.

The risks associated with non-optimal part selection are great. Soon-to-be obsolete parts and non-compliant parts can lead to costly violations.

With SiliconExpert's comprehensive Parts Database of over 185+ million components and its robust parametric search, finding and selecting the right part at the right time is a click away. From design to supply chain, enterprises are benefitting from the many data and feature sets offered by SiliconExpert, including risk analysis features that instantly provide accurate and dependable lifecycle forecasting, greatly reducing the risks of obsolescence.

## Effective use of Resources

Manually performing part search and selection processes is time consuming and error prone, and can result in incorrect or incomplete part numbers, missing information on various part attributes, and a host of other inconveniences and errors.

With SiliconExpert's tools at your disposal, you'll have quick and easy access to detailed information on millions of parts. All the parts data you need is in one place, and the legwork of finding reliable and up to date data on electronic parts has already been done for you by SiliconExpert's team. With SiliconExpert's Parts Database and a dedicated team of Electronic Engineers by your side, you'll save time, boost revenue, and make fewer errors.

## Inefficient Obsolescence Management

Obsolescence management is an ongoing, highly-engaging task for every electronics manufacturer. Failure to properly manage obsolescence issues can have disastrous consequences, threatening the integrity of end products and bringing manufacturing to a halt.

Obtaining accurate end-of-life forecasts for electronic parts is difficult and highly prone to errors. Without full visibility into the life

expectancy of an electronic part, selecting the right electronic part can be challenging.

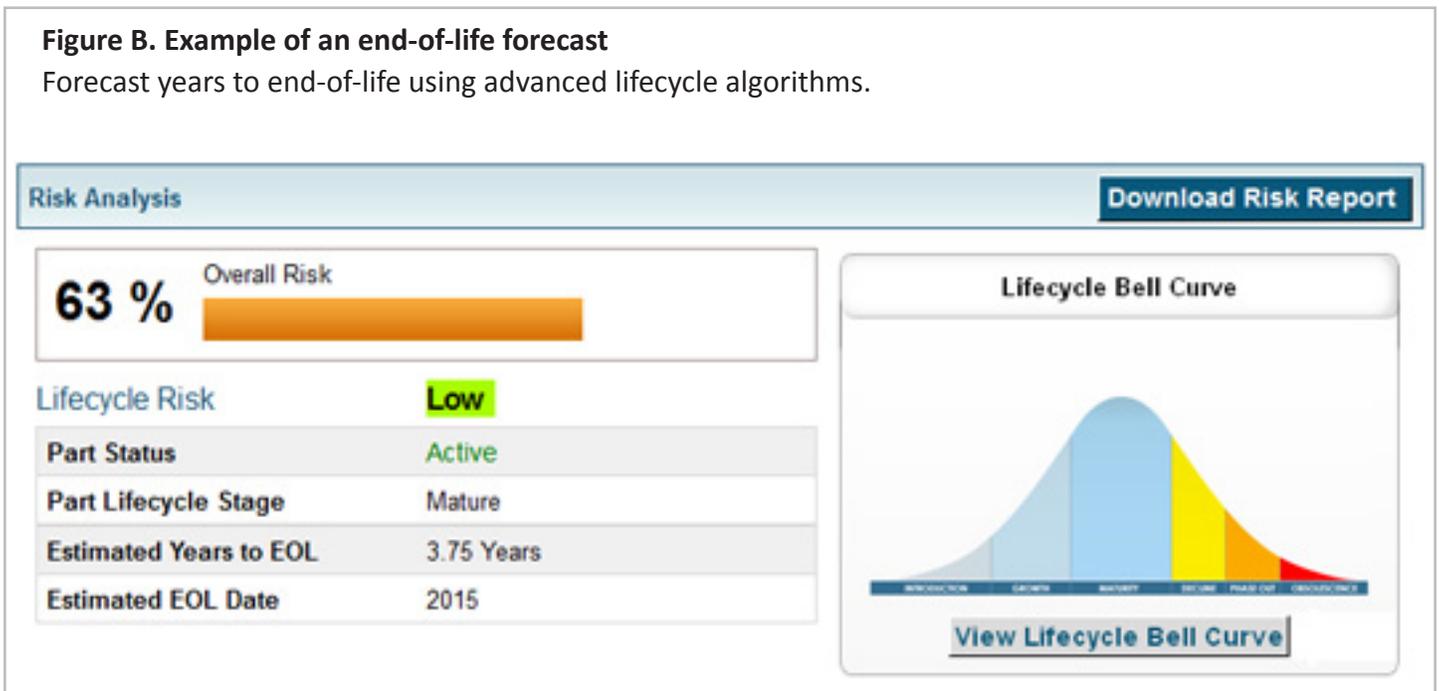
When one of your parts inevitably does become obsolete, finding a suitable cross can be cumbersome. Again, you'll have to sift through mountains of part data and visit several competing manufacturer websites to find the crosses that you need.

SiliconExpert provides reliable, proven obsolescence forecasts, giving you full visibility into a part's expected life span before you buy

(See Figure B). SiliconExpert has created its lifecycle forecast algorithms in collaboration with the University of Maryland's Center for Advanced Life Cycle Engineering, a highly reputable systems research center focused on electronics reliability. Robust risk analysis features help you identify and avoid risky parts, PCN alerts ensure you get the part change data you need quickly and easily, and part-number-level cross references help you make intelligent replacement decisions quickly, as well as identify parts that can be easily replaced (See Figure C).

### Figure B. Example of an end-of-life forecast

Forecast years to end-of-life using advanced lifecycle algorithms.



### Figure C. Find Cross References

Cross reference your original part to others in the market based on parametric similarities.

49 cross(es) for **LM317T\_NL** 1 ▾ Next

[Compare Selected](#)

**Original Part** [Cross Type Definition](#) [Cross By Parametric](#)

	Part Number	Manufacturer	Description	DS	RoHS	Lifecycle	Y-to-EOL	Budgetary Prices	Cross Type	Differences	Inventory
<input checked="" type="checkbox"/>	<a href="#">LM317T_NL</a>	Fairchild Semiconductor	Standard Regulator Pos 1.2V to 37V 0.3A 3-Pin(3+Tab) TO-220AB Rail		Yes	Obsolete May 16, 08	0.0 Year(s)				

**Cross Results**

	Part Number	Manufacturer	Description	DS	RoHS	Lifecycle	Y-to-EOL	Budgetary Prices	Cross Type	Differences	Inventory
<input type="checkbox"/>	<a href="#">LM317BT</a> <small>(BOM)</small>	On Semiconductor	Standard Regulator Pos 1.2V to 37V 0.4A 3-Pin(3+Tab) TO-220 Rail		RoHS 5/6	Obsolete Feb 11, 09	0.0 Year(s)		A *****		12 Seller(s) * <a href="#">Buy Now</a>
<input type="checkbox"/>	<a href="#">LM317BTG</a> <small>(BOM)</small>	On Semiconductor	Standard Regulator Pos 1.2V to 37V 0.4A 3-Pin(3+Tab) TO-220 Rail		Yes	Active	5.25 Year(s)		A *****		12 Seller(s) <a href="#">Buy Now</a>
<input type="checkbox"/>	<a href="#">LM317KC</a>	Texas Instruments	Standard Regulator Pos 1.25V to 37V 1.5A 3-Pin(3+Tab) TO-220 Tube		Yes	Obsolete Feb 28, 08	0.0 Year(s)		A *****		1 Seller(s) <a href="#">Buy Now</a>

### Making Intelligent Part Selections with SiliconExpert

Improper part search and selection practices are bad for your business. They'll inevitably lead to incorrect part selection decisions, wasted time and resources, and inefficient obsolescence management.

Subscribing to SiliconExpert's services will help your business radically improve its part search and selection procedures. An intuitive,

parametric part search database gives you easy, instant access to information on millions of parts ranging from semiconductors and passives to electromechanical components. Environmental compliance, risk management, and cross reference data are all just a click away.

Subscribe to SiliconExpert's services now and free your business to focus on what really matters: the reliability and longevity of your end products. No more Google searches for parts, no more confusing, clunky Excel spreadsheets,

and no more relying on non-measurable methods to make part selection decisions.

Instead, you'll have access to all the data you need, all in one place. You'll make smarter decisions, create better products faster, beat design deadlines and provide better satisfaction for your customers—all with SiliconExpert's tools supporting you at every step.

It's time to stop spinning your wheels over part selection, and time to start trusting a proven process that works. To see why thousands of engineers from leading electronic OEMs rely on our data daily, get started with a free trial of SiliconExpert's Part Search or BOM Manager at <http://www.siliconexpert.com/demo-signup>





Founded in 2000, SiliconExpert Technologies has built the world's largest electronic components database from scratch and provides this data through custom built software tools to the electronics industry. SiliconExpert's software and data are used daily by 1000s of electronic engineers, supply chain and procurement managers at leading Fortune 500 companies.

With over 250 employees worldwide, SiliconExpert maintains a global presence for its wide range of customers spanning Asia, Europe and Americas, operating in innovative industries such as consumer electronics, telecommunications, automotive, medical and aerospace.

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