

Introduction

A use case on how a top international electronic and electromechanical manufacturer has utilized SiliconExpert's advanced Part Search, Bill-of-Materials Manager, and Power BI tools to simplify logistics, cut costs, and find alternatives for Chinese-based parts.

The Challenge

A top international manufacturer of electronic instruments and electromechanical devices found that they had a problem with duplicate manufacturer and corporate part numbers (MPN & CPN, respectively) across multiple business units. This made for finding source alternatives and drop-in replacements a tedious and inefficient process that cluttered their supply chain.

Additionally, because of on-going socioeconomic factors, they became increasingly determined to find non-Chinese sourced parts for their instruments and devices. However, combined with the aforementioned problem, this became an exponentially more difficult task.

Why SiliconExpert?

SiliconExpert analyzes and develops detailed charts and reports not only specific to your business but crafted based on the data you care about most — enhancing your ability to foresee future challenges, wants, and needs.

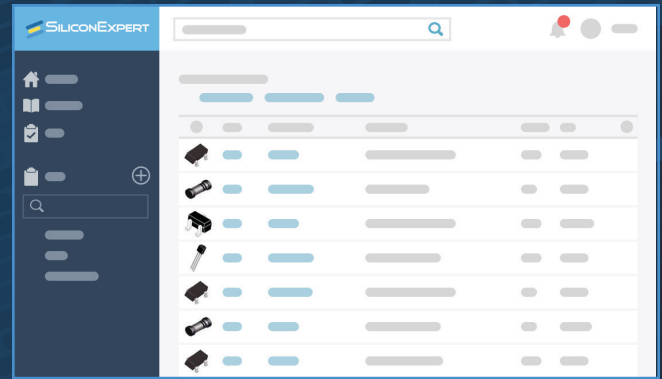


The customer had a requirement to understand and address risk associated from parts with China given the current political conditions including tariffs and increased tensions, as well as a need for increased supply chain efficiencies from having duplications across multiple parts libraries in disparate systems and business units. SiliconExpert had the content and capabilities to scrub their parts lists and identify these risk areas and duplications, and to find alternatives, and to make this data and analyses available in intuitive dashboards and pie charts with the capability to drill down to part number level details. Furthermore, the approved and preferred parts are flagged within the P5 platform, so that engineers can make the most informed choices early in the design cycle that will avoid downstream issues and future fire drills associated with otherwise non-optimal part selections.”

Jeff Williams, SiliconExpert

The Solution

- ◆ P5 BOM Manager, PartSearch, Geo-Risk and ACL (Approved Component Library)
- ◆ SEBIS Data Analytics Platform
- ◆ Alert Manager
- ◆ Professional Data Services (Part Scrubbing, Geo-Risk, alternatives for China-sourced parts)



SiliconExpert P⁵ Platform

SiliconExpert's parts database and associated tools keep your team up to date on billions of electronic parts ranging from semiconductors and passives to electromechanicals. We provide global manufacturers, EMS, and suppliers with the most accurate data and sophisticated tools for component management.

Instantly find the part information you need including datasheets, parametric data, and cross references. Stay on top of your inventory with automated obsolescence and PCN notices in addition to inventory and lead time availability from distributors.

Can't find your part or the data you need? SiliconExpert's dedicated team of engineers are here to address your specific customer issues through our customer ticket support system.

Beyond the in-tool enhancements, SiliconExpert P⁵ Platform also delivers direct integrations with PLM and EDA companies such as Mentor, OrCAD, PTC Windchill, Zuken, Arena, and Omnify. Whether direct in our platform or embedded in the central tools that engineers, procurement, or supply chain managers work on a daily basis, SiliconExpert P⁵ delivers unique and valuable workflows.

With a deep focus on security and data integrity, our SaaS software has helped many of today's top global technology companies manage their product lifecycles, from design to sustainment.

Universal Part Search™

Search millions of semiconductors, passives & electromechanical parts through an easy-to-use interface. Gain access to datasheets, allowing you to cross reference data and daily inventory feeds from dozens of authorized distributors. **Find out current lifecycle status, PCN/PDNs connected at the part number level and run risk analysis on individual parts.** Part Search™ also allows you to compare parametrically within individual product lines.

BOM Manager™

SiliconExpert's BOM Manager™ tool allows users to scrub groups of bills of materials and organize components based on product categories and suppliers. Empowered by SiliconExpert's Parts Database, the BOM Manager allows you to scrub, edit, and fix your part list automatically. In addition to performing maintenance functions, the tool also provides Lifecycle, Datasheet, RoHS, PCN, and Cross Reference data. Combined with the Part Search tool by default, the BOM Manager truly becomes a complete component management tool.

diodes

PART NUMBER

1N4007-T

6A6

B240Q-13-F

DMN3404L-7

MMBD914LT1G

MANUFACTURER

Diodes Incorporated

Virginia Diodes, Inc

DESCRIPTION

Stud Diodes Avalanche Diodes

DAMPER DIODES

POWER DIODES

RECTIFIER DIODES

SCHOTTKY DIODES

PRODUCT CATEGORIES

Circuit Protection / ESD Protection Diodes

Diodes, Transistors and Thyristors

Optoelectronics / Laser Diodes

Diodes, Transistors and Thyristors / RF Diodes

GRADE (CUSTOM)

B

HIGH RISK PARTS

Overall 3

Lifecycle 4

Multisourcing 0

Compliance 14

Inventory 19

Overall Risk

OVERALL RISK

High [20]

Medium [21]

Low [120]

Unknown [16]

RISK STATUS

No Status

New

Ignored

In Progress

Done

	PART	MANUFACTURER	OVERALL RISK	SE GRADE	RECOMMENDATION	STATUS
1	GRM188R7	Pacific Bay Semiconductor	Low	★★★★★	✓ Accepted for MAX232DR View Recommendation	Done
2	ECJ1VB1	Sunrise Thermalloy	Low	★★★★★	✓ Accepted for MAX232DR View Recommendation	Done
3	LT1236ACS	Prototron	Medium	★★★★★	LT1240ABG View Recommendation	In Progress
4	HCPL0638	ZP Semiconductor	Low	★★★★★	HCPL0640 View Recommendation	In Progress
5	D3F60-5063	California Components	High	★★★★★	A9921 1027 View Recommendation	In Progress
6	XC17S05	Coniferous Device	Low	★★★★★	✓ Accepted for MAX232DR View Recommendation	Done
7	C1608X7R1	Koseta Enterprise	Low	★★★★★	C1608X7R1 View Recommendation	In Progress

SiliconExpert Case Study

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[SiliconExpert.com](https://siliconexpert.com)

SiliconExpert Business Intelligence Solutions (SEBIS)

Data is pure data. The SiliconExpert component database is providing you and your organization quantitative and qualitative information to help you answer questions about components you are managing within your supply chain. SiliconExpert analytic dashboards takes the data specific to the components you are managing within your supply chain and to structure trends and insights through revealed patterns, correlations, and cause-and-effect relationships.

How can these analytics help drive organizational efficiency, sustainment and growth?

- Cost-saving visibility across all business units
 - If two business units are using the same part, then there is an opportunity to consolidate and purchase from one supplier, resulting in volume cost savings.
 - If two business units are using very similar parts, there is an opportunity to cross-reference, and reduce the size of your corporate parts library and avoid the unnecessary and costly expansion of it through parts re-use, vendor consolidation, and aggregate-on-spend strategic sourcing, and also help with cost savings.
- Component visibility across all business units allows for efficiencies in risk mitigation:
 - Single part use across multiple business units allows you one-time risk mitigation
- Ability to build and manage a master approved components list
 - Ease of managing better lifetime buys, finding alternate parts, etc.

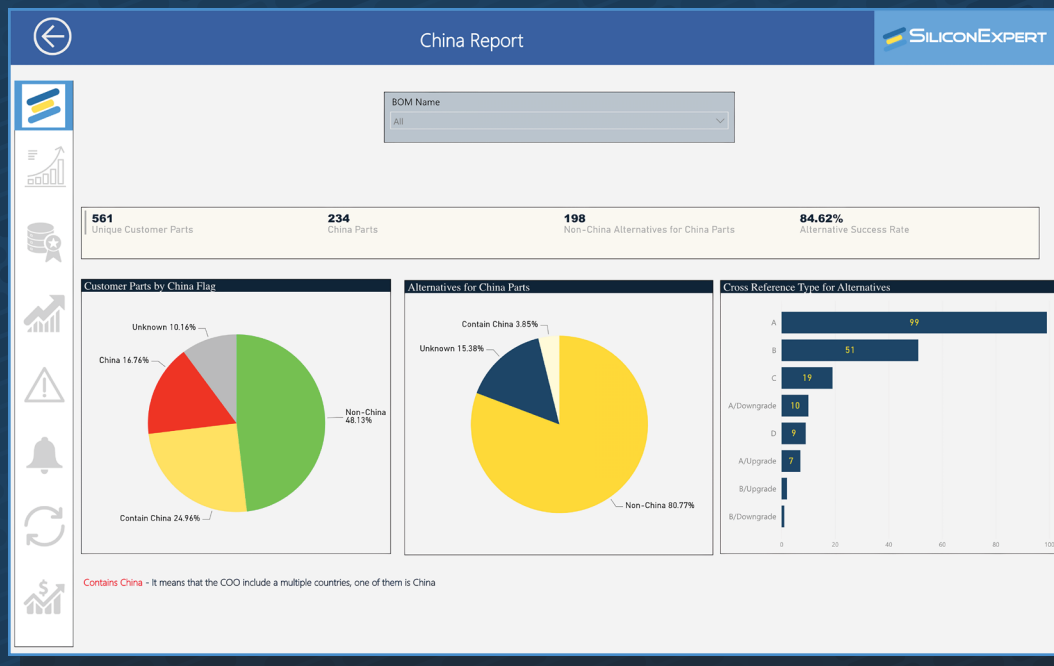
The Results

China COO Risk / Parts and Alternatives For Better Part Selection:

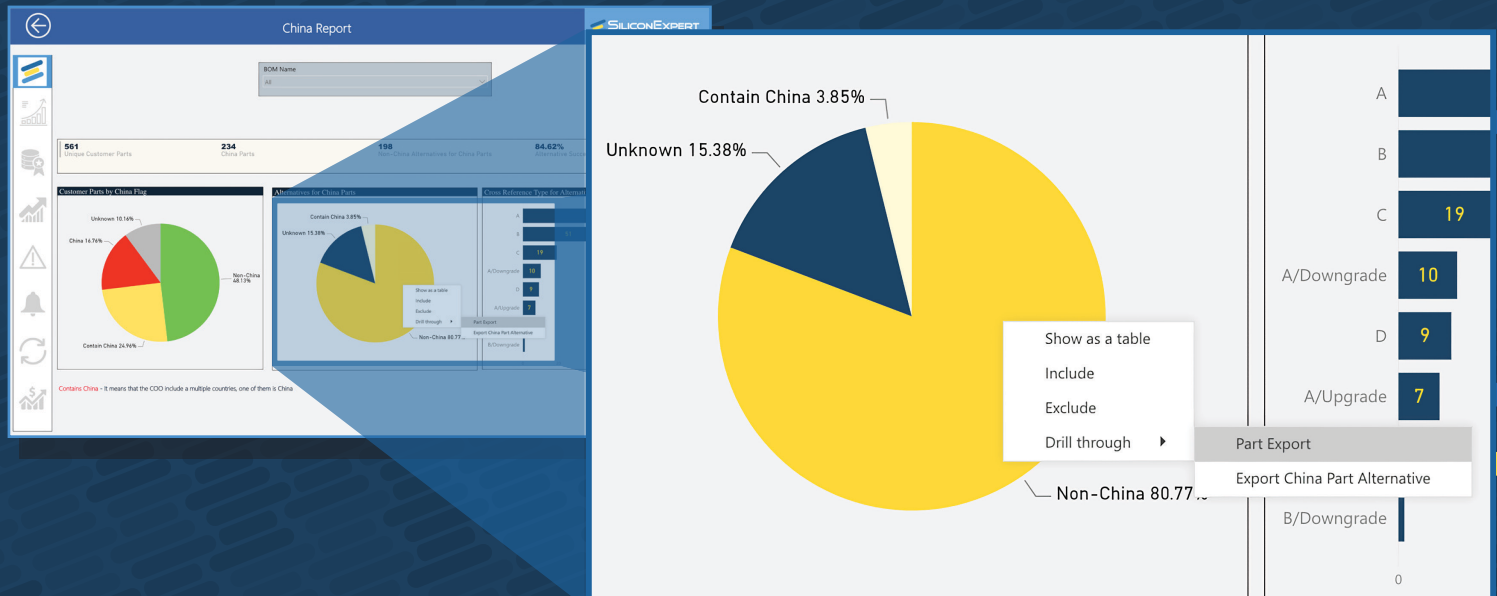
In this first screen shot a new 'Go to China Report' has been added to the standard Data Stats dashboard to the right of the China Tariff graph:



Here's what the client sees after clicking Go to China Report:



Right clicking the Non-China alternatives slice of the pie opens up a drill through to the details option 'Export China Part Alternatives':



After selecting the Export China Part Alternative Link, with the option to export to excel for further sorting or filtering, the client has a wide assortment of cross replacement parts by form, fit, and function. The data also includes inventory, lead time, and pricing to best align to production needs and budget constraints.

Part Export - China Alternatives							
Original Part	COO	COO China Flag	Alternative Part	COO for Alternative	COO China Flag for Alternative	Cross Relation Type	LifeCycle for Alternative
04023C103KAT2A	China	China	250R07W103KT4T	United States of America	Other Countries	B	Active
04023C103KAT2A	China	China	250R07W103KV4T	United States of America	Other Countries	A	Active
04023C103KAT2A	China	China	AC0402KRX788B8103	China/Taiwan	Contain China	B/Upgrade	Active
04023C103KAT2A	China	China	C0402C103K3RAC	Other Countries	A	Active	Active
04023C103KAT2A	China	China	C0402C103K3RAC3121	Mexico	Other Countries	A	Unconfirmed
04023C103KAT2A	China	China	C0402C103K3RAC3325	Mexico	Other Countries	A	Unconfirmed
04023C103KAT2A	China	China	C0402C103K3RAC7013	Mexico	Other Countries	A	Unconfirmed
04023C103KAT2A	China	China	C0402C103K3RAC7196	Mexico	Other Countries	A	Unconfirmed
04023C103KAT2A	China	China	C0402C103K3RAC7411	Japan	Other Countries	A	Active
04023C103KAT2A	China	China	C0402C103K3RAC7536	Mexico	Other Countries	A	Unconfirmed
04023C103KAT2A	China	China	C0402C103K3RAC8045	Mexico	Other Countries	A	Unconfirmed
04023C103KAT2A	China	China	C0402C103K3RACAU70	Mexico	Other Countries	B/Upgrade	Active
04023C103KAT2A	China	China	C0402C103K3RACAU707411	Mexico	Other Countries	B/Upgrade	Active
04023C103KAT2A	China	China	C0402C103K3RAL	Mexico	Other Countries	B	Active
04023C103KAT2A	China	China	C0402C103K3RALU	Mexico	Other Countries	B	Active
04023C103KAT2A	China	China	C0402T103K3RAL	Mexico	Other Countries	B	Active
04023C103KAT2A	China	China	C0402T103K3RBC3325	Mexico	Other Countries	A	Unconfirmed
04023C103KAT2A	China	China	C0402T103K3RBC7013	Mexico	Other Countries	A	Unconfirmed
04023C103KAT2A	China	China	C0402T103K3RBL3325	Mexico	Other Countries	B	Unconfirmed
04023C103KAT2A	China	China	C0402T103K3RBL7013	Mexico	Other Countries	B	Unconfirmed
04023C103KAT2A	China	China	C0402T103K3RCC	Mexico	Other Countries	A	Unconfirmed
04023C103KAT2A	China	China	C0402T103K3RCC7867	Mexico	Other Countries	A	Active
04023C103KAT2A	China	China	C0402T103K3RCUTU	Mexico	Other Countries	B	Active
04023C103KAT2A	China	China	C0402XS250-103KNE	Republic of Korea/Taiwan	Other Countries	B/Downgrade	Active
04023C103KAT2A	China	China	C0402XS250-103KNP	Republic of Korea/Taiwan	Other Countries	B/Downgrade	Active
04023C103KAT2A	China	China	C0402X7R250-103KGD	Republic of Korea/Taiwan	Other Countries	B	Active
04023C103KAT2A	China	China	C0402X7R250-103KGE	Republic of Korea/Taiwan	Other Countries	B	Active
04023C103KAT2A	China	China	C0402X7R250-103KND	Republic of Korea/Taiwan	Other Countries	A	Active
04023C103KAT2A	China	China	C0402X7R250-103KNE	Republic of Korea/Taiwan	Other Countries	A	Active
04023C103KAT2A	China	China	C0402X7R250-103KNP	Republic of Korea/Taiwan	Other Countries	A	Active
04023C103KAT2A	China	China	C0402X7R250-103KNR	Republic of Korea/Taiwan	Other Countries	A	Active
04023C103KAT2A	China	China	C0402X7R250-103KNU	Republic of Korea/Taiwan	Other Countries	A	Active
04023C103KAT2A	China	China	C1005XS1E103K0508A	United States of America	Other Countries	B	Active
04023C103KAT2A	China	China	C1005X7R1E103K0508B	China/United States of America	Contain China	B/Upgrade	Active
04023C103KAT2A	China	China	C1005X7R1E103K0508E	United States of America	Other Countries	B	Unconfirmed
04023C103KAT2A	China	China	C1005XB1E103K0508A	United States of America	Other Countries	B/Upgrade	Active
04023C103KAT2A	China	China	C1005XB1E103K0508E	United States of America	Other Countries	B/Upgrade	Active
04023C103KAT2A	China	China	CALC0402B250A103K-T10	Taiwan	Other Countries	B/Upgrade	Active
04023C103KAT2A	China	China	CC0402KXCX788B8103	China/Taiwan	Contain China	B/Upgrade	Active
04023C103KAT2A	China	China	CC0402KXCX788B103	China/Taiwan	Contain China	B/Upgrade	Unconfirmed
04023C103KAT2A	China	China	CC0402KXCX788B103	China/Taiwan	Contain China	B/Upgrade	Unconfirmed

(Partial screenshot shown)



How Can SiliconExpert Help You?

Contact us at sales@siliconexpert.com to discuss your specific challenges and get a custom solution.