

Successful Design for Production



Producent van innovatieve elektronica



Altium



Expice Hoorn B.V.

Producent van innovatieve elektronica

Marcel Soliani

Sales Manager at Expice Hoorn B.V.



Altium

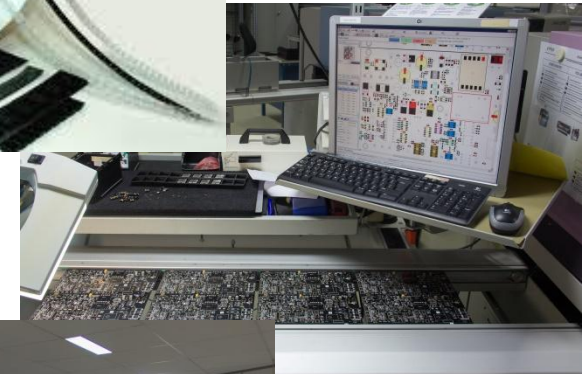
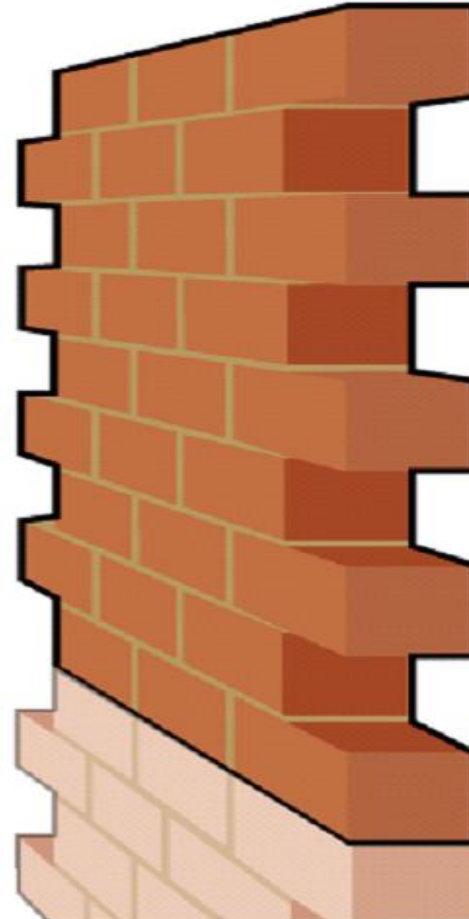
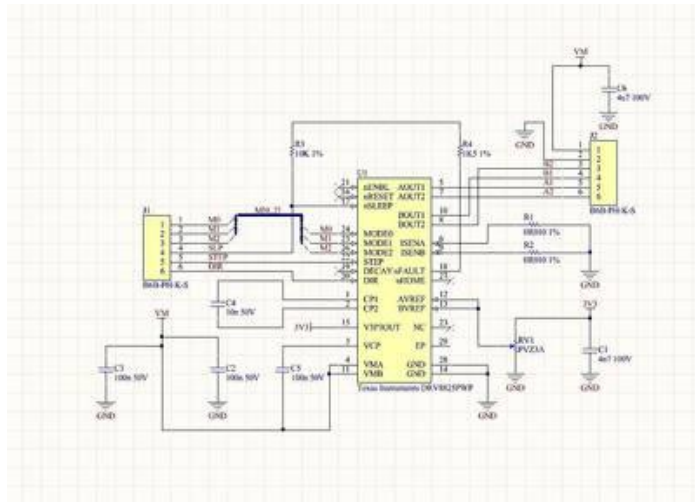


Success how ?

Cooperation between:

- Engineer
- Parts supplier
- PCB assembler

Design Space & Supply Chain Space



What's it all about ...

- Customer is satisfied when expectations have been met:

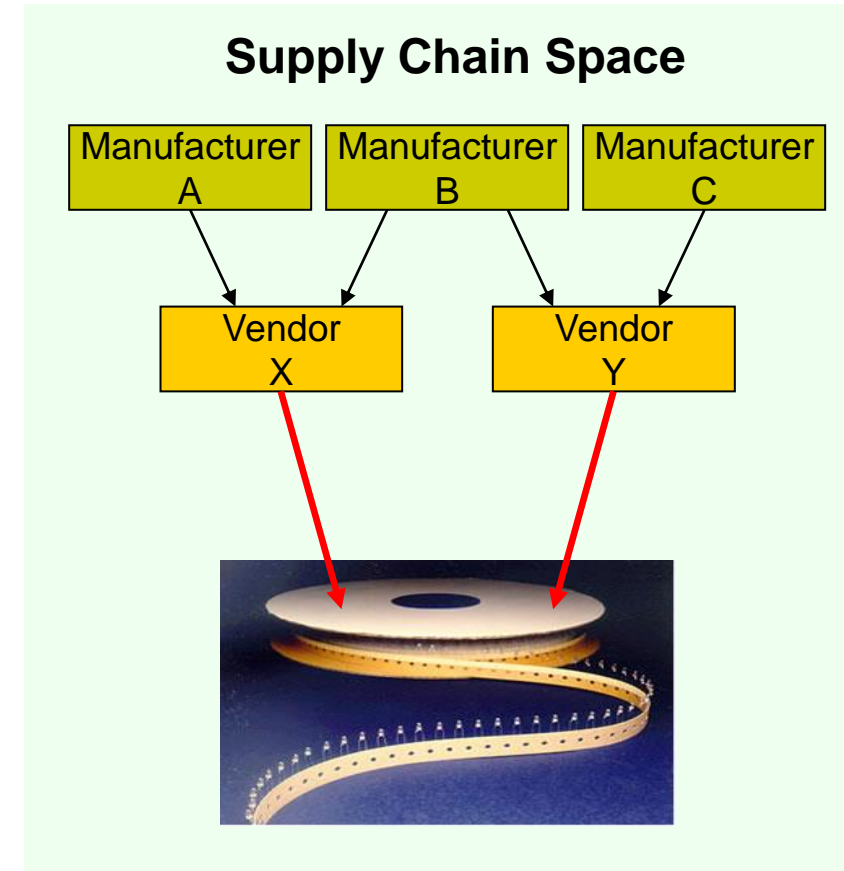
- Delivery time of the final products
- Quality ('First Time Right')
- Best price

■ Reliability!!!



Challenges in PCBA Production

- Sharing files (trust)
- Delivery Times
- Alternatives
- End of Life/Last Time Buy
- Fake components
- Manufacturability



Workmanship

- Who cares?

- Designer world different than Producer world

- Expectation level of designer does not always fit to available skills of producer
 - Designers know their design. Producers know their production process
 - Producer cannot take responsibility for the design intent

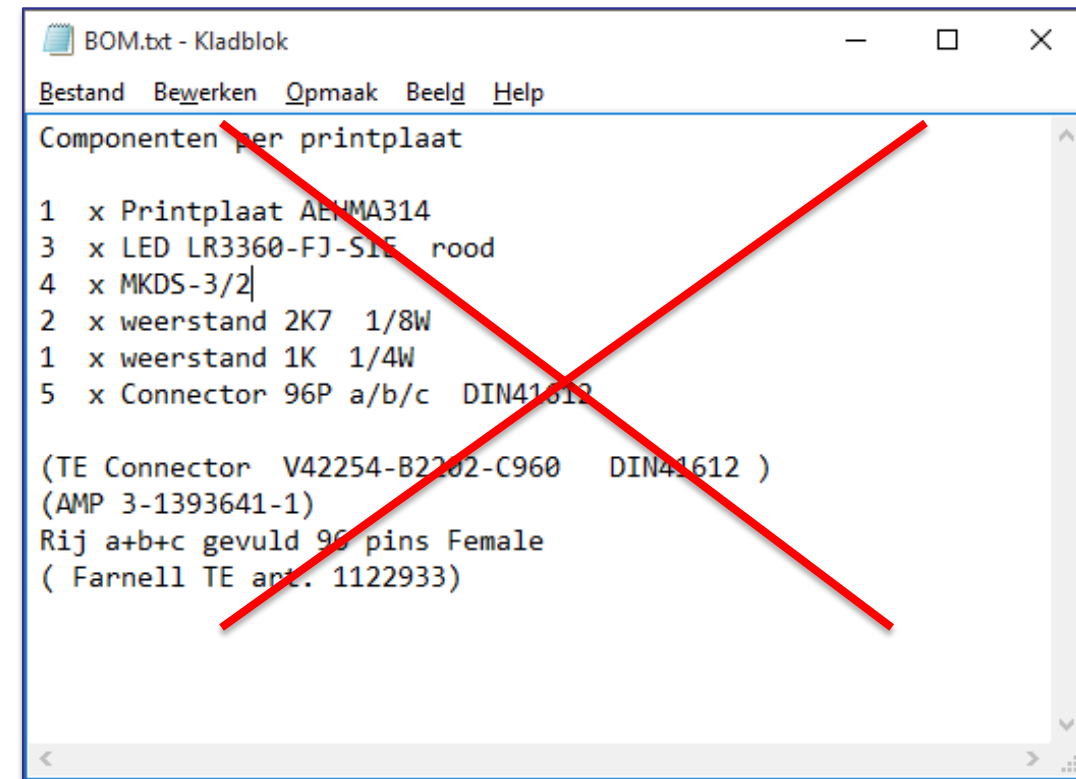
- Improvements:

- Early involvement of the producer. (prototype)
 - Making right choices for PCB technology
 - Awareness of design rules (IPC-610)

What do we need?

What do we need?

- Production data
 - Bill of Materials validation
 - Print Specifications
 - Gerbers, ODB ++, Cad data
 - 3D picture
 - Sample



First Time Right (Right?)

- Quality Assurance
 - Producer wants to deliver good products (with a high yield)
 - Problems often can be found after (or during) production
 - Test methods will help
 - Visual inspection (AOI, X-ray, manual)
 - Functional test
 - Boundary scan test

Transfer B.V.

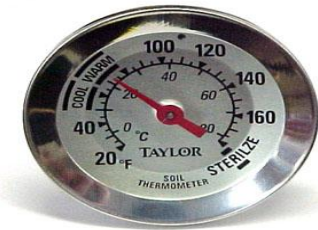
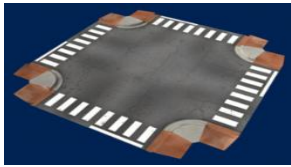
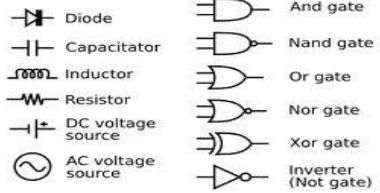
- Henk de Jonge
- CTO at Transfer B.V.



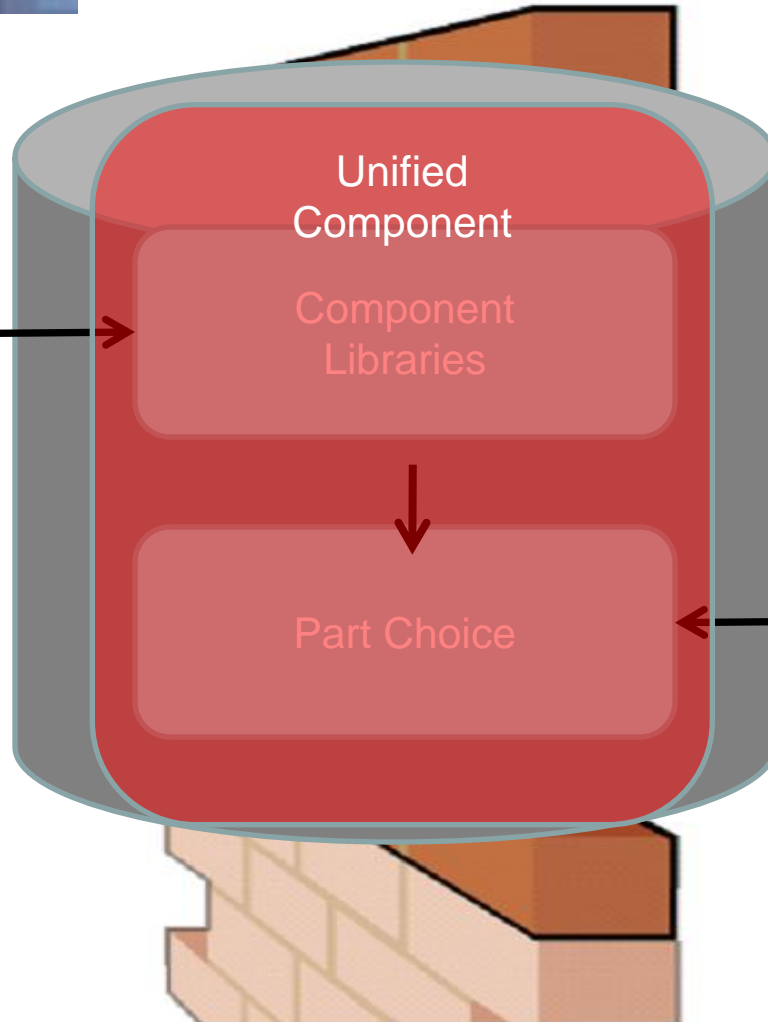
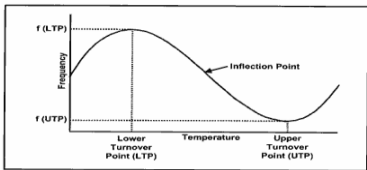
Altium Designer

- Content:
 - Free content for Altium users (> 300.000 items)
 - Components
 - Symbols
 - Footprints
 - Templates
 - Vault Server
 - Customer content
 - Release management
 - PDM

Breaking the barrier...



Frequency vs. Temperature Characteristics



ALTERA®

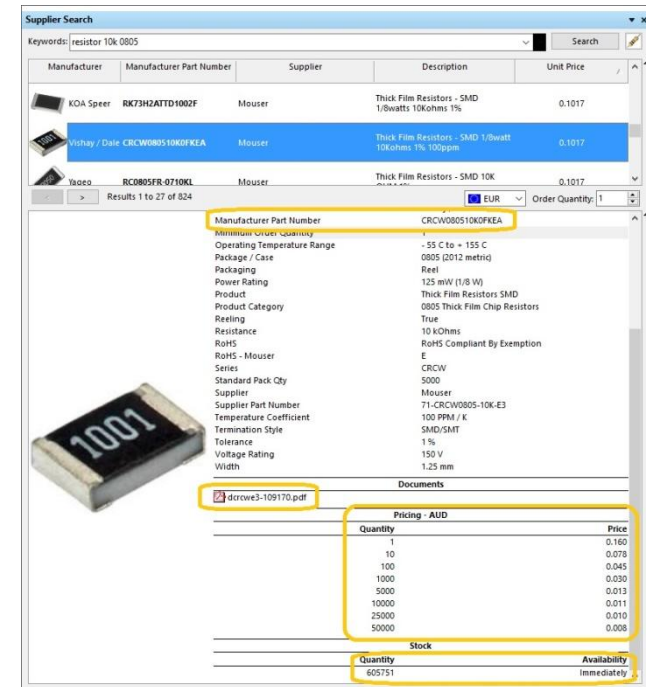
ARROW
ARROW ELECTRONICS, INC.

Digi-Key
CORPORATION



Supplier Links

- Altium has Live Links to Supplier data
 - Known suppliers:
 - Farnell, Mouser, Digi-Key, Arrow, Allied, RS-Components, Newark, TME, ...
 - ODBC Link to the inventory of supplier (Expice)
 - Need for Altium Vault Server
 - Product information
 - Technical
 - Pricing, availability
 - Possible to drag content from the supplier panel to a design object on the sheet or in library
 - Datasheets
 - Parameters (MPN, supplier nr., product specs)



Supplier Search

Keywords: resistor 10k 0805

Manufacturer	Manufacturer Part Number	Supplier	Description	Unit Price
KOA Speer	RK73H2ATD1002F	Mouser	Thick Film Resistors - SMD	0.1017
Vishay / Dale	RCW080510K05FKEA	Mouser	Thick Film Resistors - SMD 1/8watt	0.1017
Yageo	RC0805FR-0710K	Mouser	Thick Film Resistors - SMD 10K	0.1017

Results 1 to 27 of 824

EUR Order Quantity: 1

Manufacturer Part Number: RCW080510K05FKEA

Minimum order quantity: 1

Operating Temperature Range: - 55 C to + 155 C

Package / Case: 0805 (2012 metric)

Packaging: Reel

Power Rating: 125 mW (1/8 W)

Product: Thick Film Resistors SMD

Product Category: 0805 Thick Film Chip Resistors

Reeling: True

Resistance: 10 kOhms

RoHS: RoHS Compliant By Exemption

RoHS - Mouser: E

Series: CRCIV

Standard Pack Qty: 5000

Supplier: Mouser

Supplier Part Number: 71-CRCW0805-10K-E3

Temperature Coefficient: 100 PPM / K

Termination Style: SMD/SMT

Tolerance: 1 %

Voltage Rating: 150 V

Width: 1.25 mm

Documents: drcw0805-10k05fke.pdf

Pricing - AUD

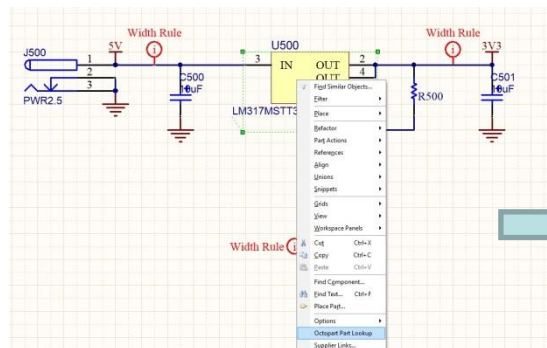
Quantity	Price
1	0.160
10	0.078
100	0.045
1000	0.030
5000	0.013
10000	0.011
25000	0.010
50000	0.008

Stock

Quantity	Availability
605751	Immediately

Octopart

- Altium acquired Octopart
 - Website
 - www.octopart.com
 - Built-in in Altium
 - Need for MPN



Octopart

Search: CRCW08052K20FKEA BOM Manager

Categories: Cables and Wire, Connectors and Adapters, Current Filtering, Enclosures, Hydraulics, Indicators and Displays, Industrial Control, Machining, Optoelectronics, Passive Components, Pneumatics, Power Products, Raw Materials, Semiconductors and Active, Sound Input/Output, Storage and Organization, Test Equipment, Tools and Supplies

Manufacturer: Vishay

Distributor: element14 APAC, TTI, RS Components, Newark, Mouser

Part Details: Vishay CRCW08052K20FKEA Res Thick Film 0805 2.2K Ohm 1% 0.125W(1/8W) ±100ppm/°C Molded SMD Automotive Paper T/R

Distributor	SKU	Stock	MOQ	Pkg	1	100	1,000	10,000	Buy Now
Farnell	CRCW08052K20FKEA	375,000	25,000	+	EUR	-	-	-	Buy Now
Avnet Express	1460882BL	34,044	10	+	EUR	0.0295	0.0097	0.0045	Buy Now
Digi-Key	CRCW08052K20FKEA	140,000	5,000	+	EUR	-	-	-	Buy Now
Avnet Express	541238CCTAD-1	40,085	10	Cut Tape	+	0.0423	0.0166	0.0166	Buy Now
Mouser	CRCW08052K20FKEA	83,757	-	+	EUR	0.0879	0.0246	-	Buy Now

See Details Specs Realtime data

Part Details: Vishay CRCW08052K20FKEAHP Surface Mount Thick Film Resistor, ASD-Q200 CRCW Series, 2.2 kOhm, 250 mW, 1%, 150 V

Distributor	SKU	Stock	MOQ	Pkg	1	100	1,000	10,000	Buy Now
Farnell	3728954	13,781	-	+	EUR	0.0848	0.0473	0.0232	Buy Now
Digi-Key	541238KCTAD-1	203,683	10	Cut Tape	+	0.1399	0.0548	0.0548	Buy Now
Avnet Express	CRCW08052K20FKEAHP	5,000	5,000	+	EUR	-	-	-	Buy Now
Avnet Express	29W220FKEAHP	125,000	50,000	+	EUR	-	-	-	Buy Now
Mouser	CRCW08052K20FKEAHP	7,990	-	+	EUR	0.2548	0.0808	-	Buy Now

See Details Specs Realtime data

Octopart Part Detail

ON Semiconductor LM317MSTT3G

See more details at Octopart.com >>

Distributor	SKU	Authorized	Packaging	Stock	1	10	100	1000	MOQ	All Price Breaks
Farnell	1339412	Yes	Yes	5,499	1,02000	1,02000	0,55400	0,42400	4000	1: 0.0200 25: 0.75500 50: 0.68400 100: 0.55400 250: 0.47900 500: 0.42400 2000: 0.31300 5000: 0.29900
Verical	LM317MSTT3G	Yes	Yes	16,000	EUR	-	-	-	4000	4000: 0.22980
Avnet Express Europe	LM317MSTT3G	Yes	Yes	97,024	EUR	-	-	-	4000	4000: 0.30500 8000: 0.20870
Digi-Key	LM317MSTT3G050K8-ND	Yes	Custom Reel	3,385	EUR	0.76000	0.66500	0.50830	0.32258	1: 0.76000 10: 0.66500 100: 0.50830 500: 0.40274 1000: 0.32258
Digi-Key	LM317MSTT3G050CT-ND	Yes	Yes	3,385	EUR	0.76000	0.66500	0.50830	0.32258	1: 0.76000 10: 0.66500 100: 0.50830 500: 0.40274 1000: 0.32258
Avnet Express	LM317MSTT3G	Yes	Yes	24,250	EUR	0.80000	0.80000	0.71000	0.65000	1: 0.80000 25: 0.74000 100: 0.71000 500: 0.66000 1000: 0.65000
Rochester Electronics	LM317MSTT3G	Yes	Yes	55	EUR	0.28890	0.28890	0.27760	1	1: 0.28890 500: 0.27760
RS Components	669922	Yes	Yes	2,460	EUR	0.74000	0.38000	0.36500	2	2: 0.74000 20: 0.57500 100: 0.38000 250: 0.37000 500: 0.36500
Digi-Key	LM317MSTT3G0507R-ND	Yes	Tape & Reel	2,557	EUR	0.35200	0.34900	0.29600	5	5: 0.35200 50: 0.34900 500: 0.34400 1000: 0.29600 2000: 0.29300
Chip One Stop	ONS5M-006346	Yes	Yes	2,557	EUR	-	-	-	1	1: 0.78000 25: 0.60600 100: 0.39100 250: 0.38000 500: 0.36800 1000: 0.31300 4000: 0.25500 8000: 0.24700
Newark	2652627	Yes	Cut Tape	55	EUR	-	-	-	4000	1: 0.76000 25: 0.60600 100: 0.39100 250: 0.38000 500: 0.36800 1000: 0.31300 4000: 0.25500 8000: 0.24700
Newark	2508209	Yes	Cut Tape	2,157	EUR	1.17000	0.90900	0.58600	0.47000	1: 1.17000 10: 0.90900 100: 0.58600 1000: 0.47000 4000: 0.39600
element14 APAC	1339412	Yes	Yes	1,170	EUR	0.74100	0.66900	0.60400	2	2: 0.74100 20: 0.70400 100: 0.66900 250: 0.63500 500: 0.60400
Allied Electronics	70328785	Yes	Bulk	4,000	EUR	-	-	-	4000	4000: 0.58750
Avnet Express Asia	LM317MSTT3G	Yes	Yes	1,140	EUR	0.20300	0.17800	0.15000	10	1: 0.20300 20: 0.19700 100: 0.17800 1000: 0.15000
SOS electronic	LM317MSTT3G	No	No	1,868	EUR	-	-	-	-	-
EarthTron	LM317MSTT3G	No	No	199	EUR	-	-	-	-	-
LittleDiode	LM317MSTT3G	No	No	7,922	EUR	-	-	-	-	-
Alibaba Technologies	LM317MSTT3G	No	No	-	EUR	-	-	-	-	-

Octopart View datasheet Manufacturer product page


CIIVA

CIIVA :: Bill of Materials Management System

Support Show Me Settings Database Sell Inventory Order & Build Create Spreadsheet Clear Filters

Navigation Component Library **LM317MSTT3G** Reports & Queries

Search Results Matrix View Summary View Exclude Evaluation Kits

Manufacturer Part Number	Manufacturer	Description	Lifecycle Status	Case/Package	Dropout Voltage
 LM317MSTT3G	ON Semiconductor	IC REG LDO ADJ 0.5A SOT-223	Volume Production	SOT-223	2.1V
LM317MSTT3G	Freescaple	Linear regulator	Volume Production	SOT-223	
LM317MSTT3G-CUTTAP	ON Semiconductor	Linear regulator	Volume Production		
LM317MSTT3G	Rochester Electronics	FILTER UNIT, 80MM - More Details	Volume Production		

Supply Chain Active Filter Standard

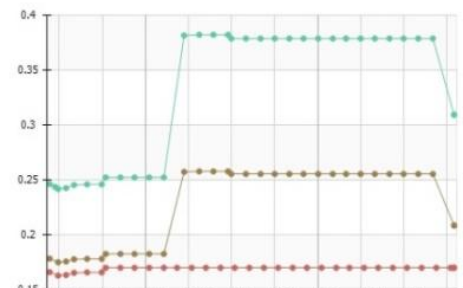
Pricing & Availability

Supplier	Part Number	Auth	Location	Stod
Arrow	LM317MSTT3G	<input checked="" type="checkbox"/>	Americas 1	2557
Arrow	LM317MSTT3G	<input checked="" type="checkbox"/>	Americas 2	1600
Arrow	LM317MSTT3G	<input checked="" type="checkbox"/>	Verical 1	1600
Arrow	LM317MSTT3G	<input checked="" type="checkbox"/>	Verical 2	2557
Arrow Europe	LM317MSTT3G	<input checked="" type="checkbox"/>	Americas 1	2557
Arrow Europe	LM317MSTT3G	<input checked="" type="checkbox"/>	Americas 2	1600
Arrow Europe	LM317MSTT3G	<input checked="" type="checkbox"/>	Verical 1	1600
Arrow Europe	LM317MSTT3G	<input checked="" type="checkbox"/>	Verical 2	2557
Avnet	LM317MSTT3G/BKN	<input checked="" type="checkbox"/>	Americas	4000
Avnet Asia	LM317MSTT3G	<input checked="" type="checkbox"/>	Asia	4000
Avnet Europe	LM317MSTT3G	<input checked="" type="checkbox"/>	Europe	9702
Digkey	LM317MSTT3GOSTR-ND	<input checked="" type="checkbox"/>	US	0
Digkey	LM317MSTT3GOSCT-ND	<input checked="" type="checkbox"/>	US	3360
Digkey	LM317MSTT3GOSDKR-ND	<input checked="" type="checkbox"/>	US	3360
Element14	1703412	<input checked="" type="checkbox"/>	UK	3508
Element14	1703412	<input checked="" type="checkbox"/>	SG	0

Normalised Currency EUR

Get Real Time Data

Historical Pricing

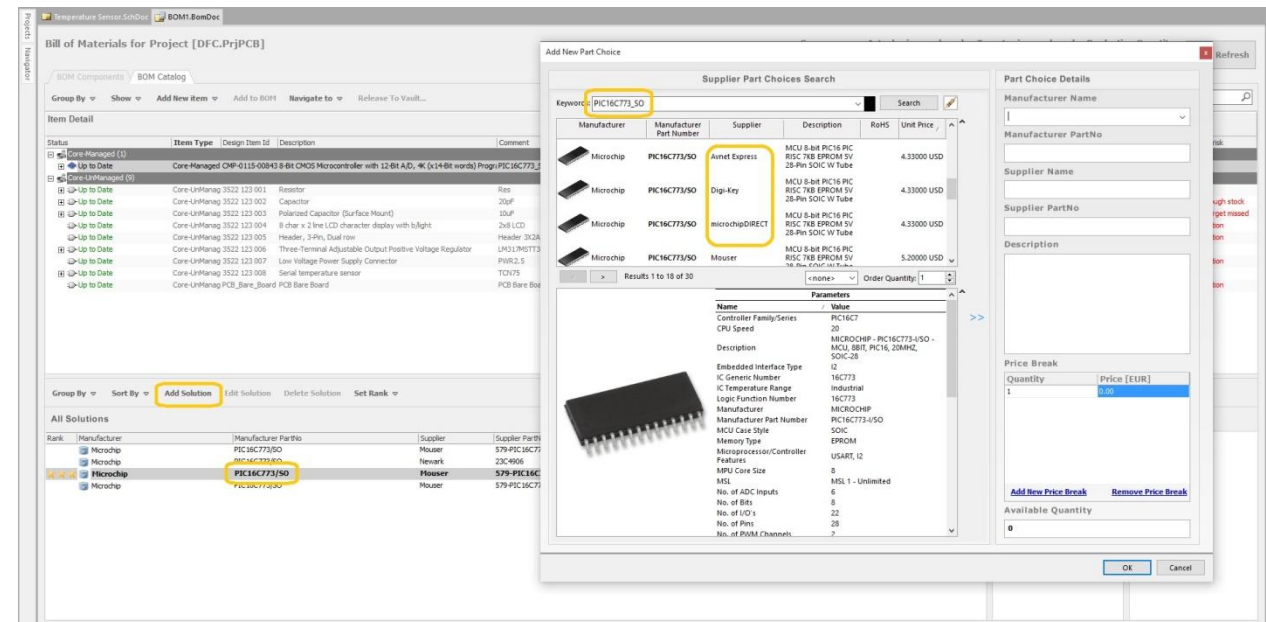


Technical Supply Chain Idle

h.dejonge@transfer.nl Transfer_CIIVA Free Logged In Excellent [10ms]

Active BOM

- Altium Designer supports 'Active BOM'
 - Add a .BomDoc to a PCB project
 - 2 Views
 - BOM Components
 - BOM Catalog
 - Experiment with Quantity
 - Price
 - Availability
 - Add Solutions
 - BOM generation without schematics



Bill of Materials-DFC.xls [Compatibiliteitsmodus] - Microsoft Excel

Bestand Start Invoegen Pagina-indeling Formules Gegevens Controleren Beeld DYNAMO Label

Knippen
Plakken
Kopiëren
Opmaak kopiëren/plakken
Klembord

Calibri 11
Lettertype

Tekstterugloop
Samenvoegen en centreren
Uitlijning

Standaard
Getal

Voorwaardelijke opmaak
Opmaken als tabel

Stijlen
Standaard
Goed
Neutraal
Ongeldig
Berekening
Controlecel

Invoegen Verwijderen Opmaak
Cellen

AutoSom
Doorvoeren
Wissen
Sorteren en filteren
Zoeken en selecteren
Bewerken

E8 'Manufacturer Part Number

Quantit	Part Number	Designator	Description	Manufacturer Part Number	Manufacturer	Alternative Allowed	Distributor	Remarks
1	3522 123 002	C300	Capacitor	08051A200JAT2A	Ja			
2	3522 123 003	C500, C501	Polarized Capacitor (Surface Mount)	08056D106KAT2A	Ja			
1	3522 123 007	J500	Low Voltage Power Supply Connector	PJ-002A-SMT	Ja			
1	3522 123 004	LCD400	8 char x 2 line LCD character display with b/light	MC20805BH6W-FPR3	Nee			
1	3522 123 005	P100	Header, 3-Pin, Dual row	M20-9720345	Ja			
1		PCB100	PCB Bare Board					
11	3522 123 001	R300, R301, R302, R303, R304, R305,	Resistor	CRCW08054K70FKTA	Ja			
1	3522 123 008	U200	Serial temperature sensor	TCN75-3.3MOA	Ja			
1	3522 123 009	U300	8-Bit CMOS Microcontroller with 12-Bit A/D, 4K (x14)	PIC16C773/SO	Ja			
1	3522 123 006	U500	Three-Terminal Adjustable Output Positive Voltage	LM317MSTT3G	Ja			

Project naam: DFC.PrjPCB

Versie:

Datum: 16-10-2015

BOM

Gereed

Q & A

Any questions?

Contact



sales@transfer.nl



Producent van innovatieve elektronica

sales@expice.nl



Altium

