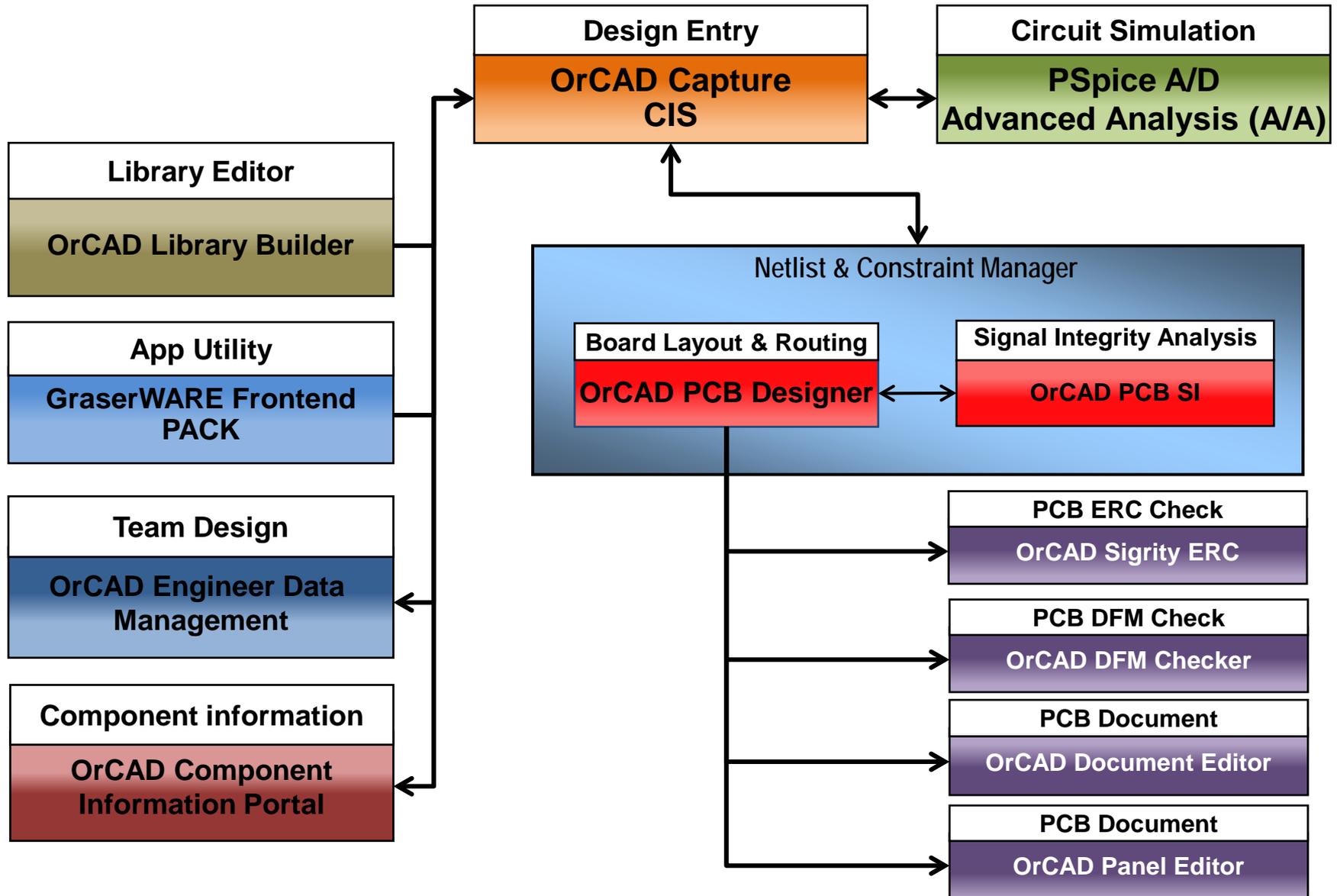


# Circuit Design / Simulation Requirement & Solution

*Addi / Mark*

*16 / Oct / 2015*

# OrCAD PCB Design Flow – Overview



# Topic

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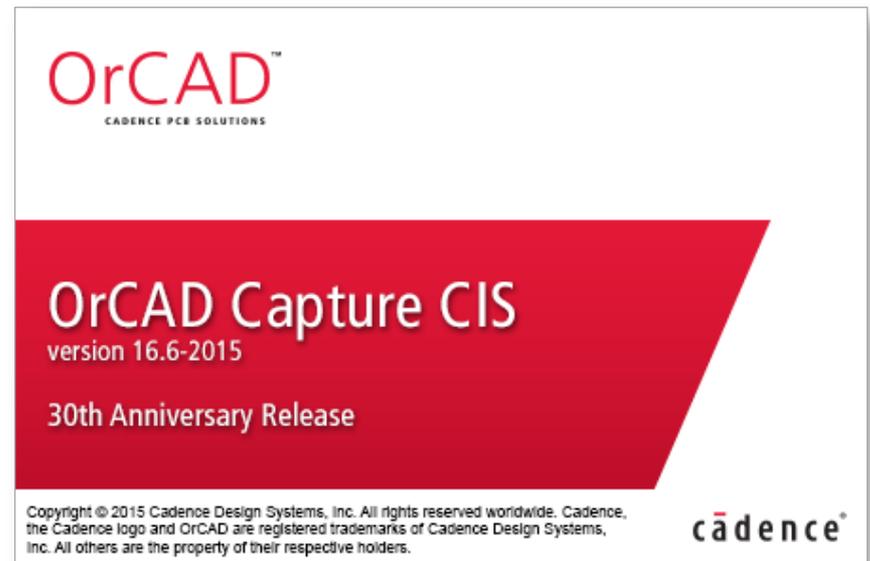
- OrCAD Capture / CIS What's New
- OrCAD Component Information Portal
- Circuit Design Challenges

# OrCAD Capture / CIS What's New

# OrCAD Capture / CIS What's New

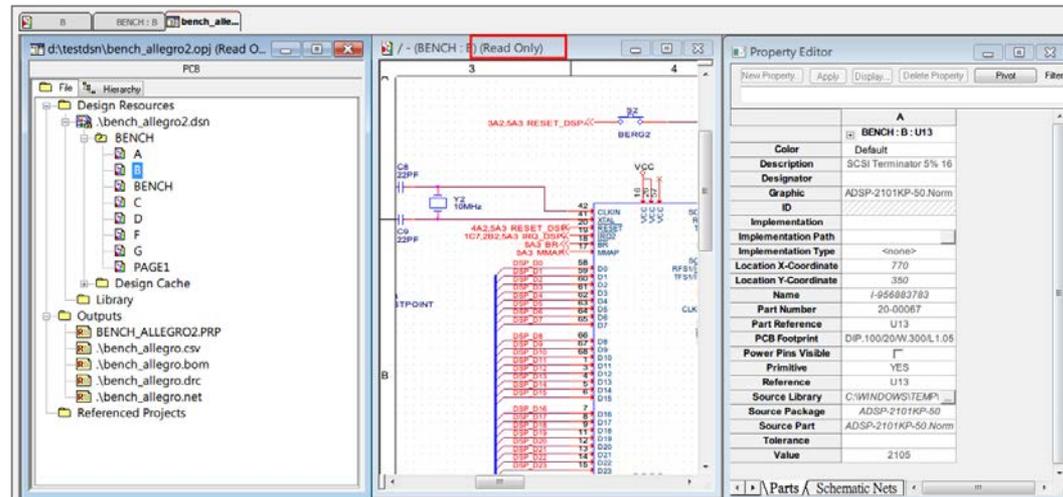
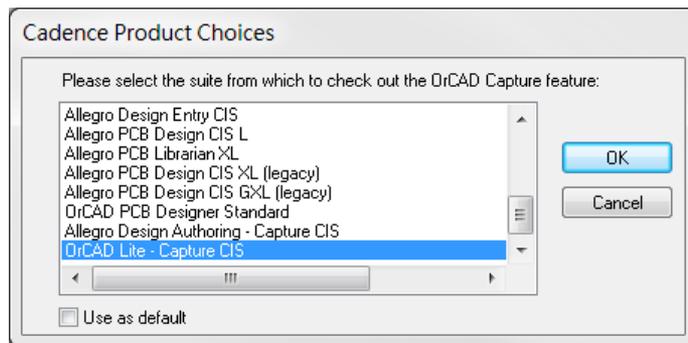
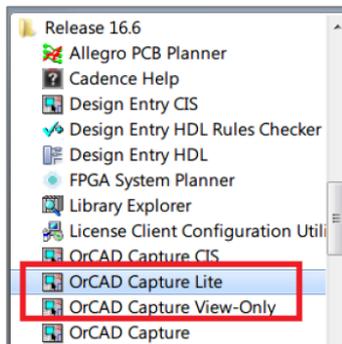
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- Capture
  - View & Lite Mode Support
  - Schematic Page Name in Title Block
  - Mechanical Parts in Capture-Allegro Flow
  - Part Properties Display
  - Object Alignment in OrCAD Capture
  - Object Distribution in OrCAD Capture



# View & Lite Mode Support

- Capture new version support starts at view or lite mode
  - View mode : only preview schematic design
  - Lite Mode : more functions can be used
    - Search function
    - Part / Net properties preview
    - Full-featured operation under the limitations (*Lite Mode only*)



# Schematic Page Name in Title Block

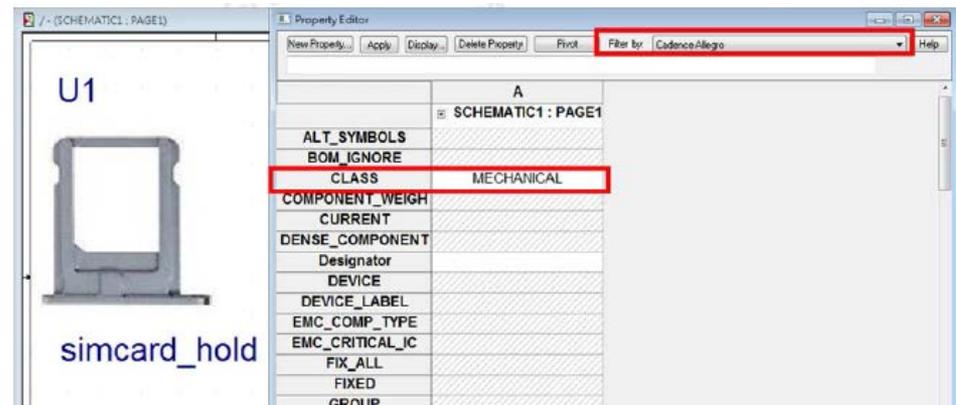
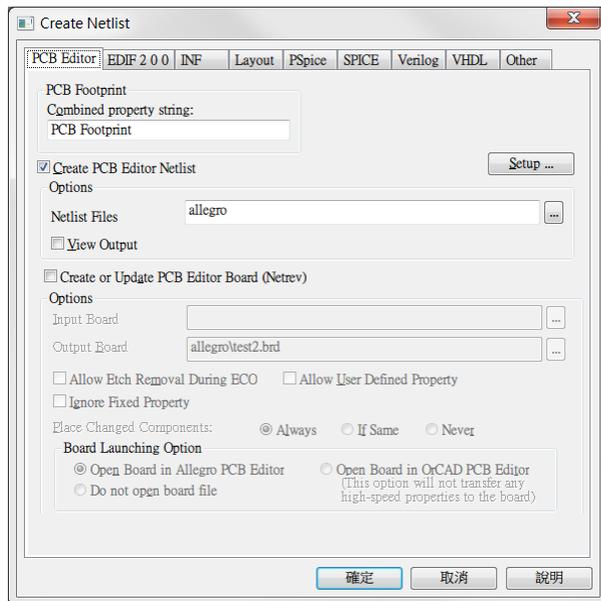
- Capture supports Schematic name and Page name on the title block property.

The screenshot displays the Graser software interface. On the left, a file hierarchy shows the project structure with 'CMOSCPU' and 'POWER.SCH' highlighted. The central workspace shows a schematic page titled 'CMOSCPU'. On the right, the title block is shown with the following fields:

Title		Project Info.	
<Title>		Schematic Name : <Schematic Name>	
		Page Name: <Page Name>	
Size	Document Number	Engineer:	Rev
A	<Doc>	<OrgName>	?
Date: <Page Modify Date>			
CMOSCPU		CMOSCPU	
Size	Document Number	Engineer:	Rev
A	20160014	Addi Lin	V1.0
Date: Wednesday, August 21, 2013		Sheet 1 of 1	

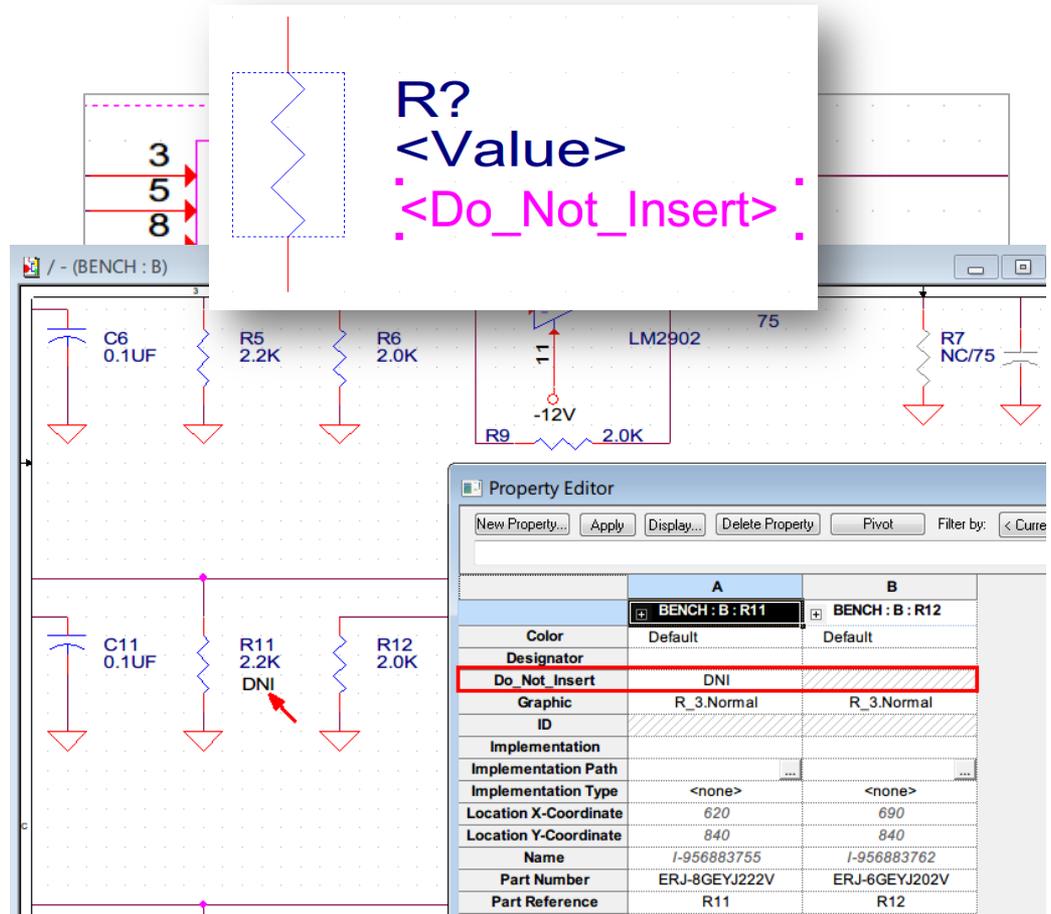
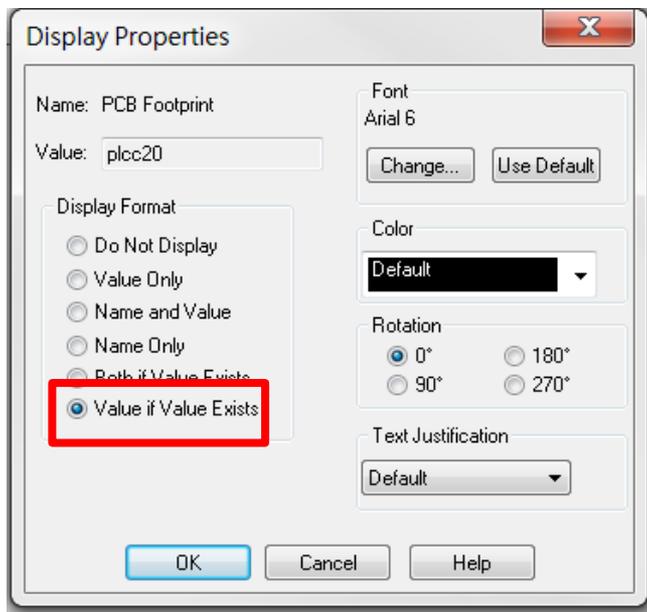
# Mechanical Parts in Capture-Allegro Flow

- Capture supports zero pin mechanical part, mechanical holes, and fiducials in Capture - Allegro flow.
- Parts should have the property of **CLASS=MECHANICAL**.



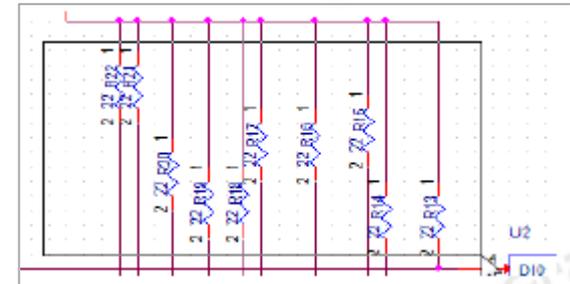
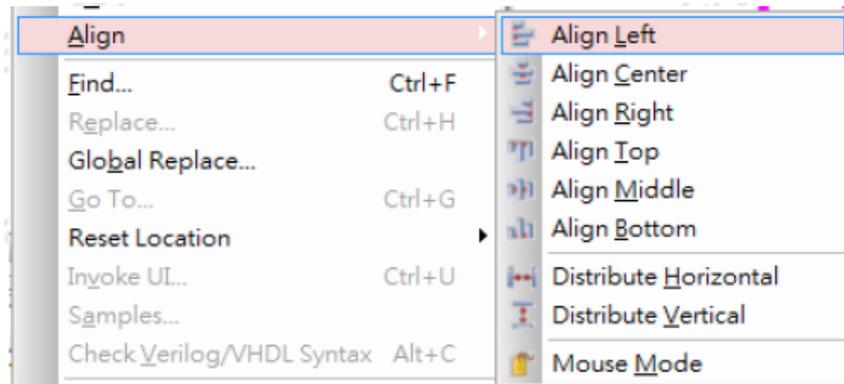
# Part Properties Display

- New Display format in Display Properties dialog box
  - Value if Value Exists



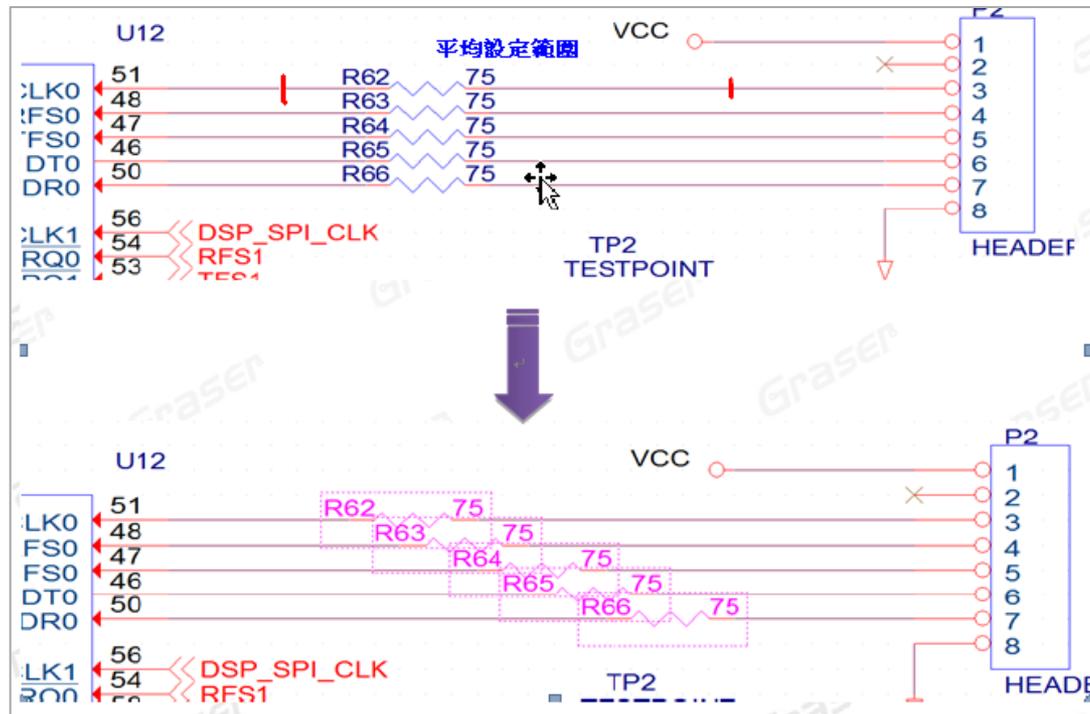
# Object Alignment in Capture

- Alignment objects
  - Vertically (Top, Middle, and Bottom)
  - Horizontally (Left, Center, and Right)



# Object Distribution in Capture

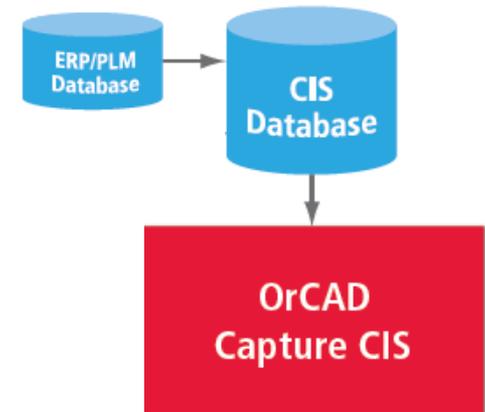
- Distribute objects
  - Horizontally
  - Vertically



# OrCAD Component Information Portal

# Download Distributor Part Data

- Distributor integrations enable access to parametric data for millions of parts
- Get costing and availability data along with electrical characteristics
- Easily define multiple sources for your parts to avoid supply issues



# Integrated in OrCAD Capture

- CIP allows you to access and update component data without leaving Capture

The screenshot displays the OrCAD Capture CIS - [CIP] interface. The main window shows the Component Information Portal (CIP) with a search for 'FPGA' in the distributor search section. The search results table is as follows:

Distributor	Distributor PN	Manufacturer	Manufacturer PN	Description	Category	Quantity On Hand	Price
Arrow	0KFFhOdnYRQwDtzdAYOhaAhrUXA17k065zkKq6WemWw	Altera	EPC16QJ100	FPGA 3.3V 100-Pin PQFP		0	USD80
Arrow	iBdFvZpCX1LH_U5_jjXAsw9QOgRQ9h4SMWxd/mbYfXs	Altera	EPC5128S116N	FPGA 3.3V 16-Pin SOIC		1210	USD55.2
Arrow	OT1ctbjXWrkmunyhk2ATrCLFzk2rk9DhtxSEVJUyKs	Altera	EPC16UC88	FPGA 3.3V 88-Pin UFBGA		19	USD87
Arrow	1N0xcpu1EsLteQdkX21nnCXgK08K2526qg80l-nvcKrA	Altera	EPCQ16S18N	FPGA 3.3V 8-Pin SOIC		0	USD7
Arrow	DXq6FfIH2eLfc1Q7xafufMCP6A23MCSq2mvLHBUuFY	Altera	EPC8QJ100	FPGA 3.3V 100-Pin PQFP		1	USD61
Arrow	hhoOlc5q_TLjc-n-CcmQZ33IGZhdcp0rHEFDZq6Yn0	Altera	EPC1064PC8	FPGA 5V 8-Pin PDIP		159	USD6.32
Arrow	oXJ_hkIS4XE_p1gP-92xmMGBZpuMPEm7gt_bI0R12w	Altera	EPC1441P18	FPGA 5V 8-Pin PDIP		488	USD5.63
Arrow	OuxLhFV1ZBklctUUFtG2Q4yrdzcdkdw11WmW5GTemc	Altera	EPC4QJ100	FPGA 3.3V 100-Pin PQFP		21	USD55.5
Arrow	85jfxmqP1DZZbBdrDZZZaTF58Xaqq_P5yQSHqj0gNpM	Altera	EPC1441TC32	FPGA 5V 32-Pin TQFP		35	USD4.54
Arrow	Sv8xcKM5xkzqj-jOVFVGI5KK2sOmPInPdAItFNey	Altera	EPC4QC100N	FPGA 3.3V 100-Pin PQFP		57	USD41
Arrow	97ooC3P2_PXD8Mta9vYTq_Glf7zgdN_9QD-mI2wN8c	Altera	EPC16QC100	FPGA 3.3V 100-Pin PQFP		69	USD59
Arrow	cZAceVdzamanWkh5Gp6Lyifrc-QbThq9G2JXL3uxyrg	Altera	EPC2LJ20N	FPGA 5V 20-Pin PLCC		255	USD45
Arrow	OuxLhFV1ZBklctUUFtG2eY8TeND_9JlqGZmzdd3ZA	Altera	EPC4QJ100N	FPGA 3.3V 100-Pin PQFP		18	USD55.5
Arrow	-Y8Jpta1VNGFhyOOr6FwM11h021PT4N006W9NpBvA	Altera	EPCQ128S116N	FPGA 3.3V 16-Pin SOIC		7	USD30
Arrow	Z3Zi2iOHU5hDD_1b02_5NWX45YVYvOevNewTl8ZvM	Altera	EPC2132N	FPGA 5V 32-Pin TOFP		211	USD52.5

# New Part Introduction (NPI) Flow

- Add new parts in a controlled fashion
- CIP will flag the part and will send notifications to defined users who need to review and approve the part
- Engineers can use the part as a temp part in their design
- When the part is approved/rejected, part status will updated in engineers' view as well

PART_NUMBER	TMP-2
Description	CAP, Ceramic, SMD, 0.01 uF, 10 %, 5C
PCB Footprint	CAPC1608X87N
Number of Pins	2
Operating Temperature Minimum	-55 C
Package Height	0.87 mm
Company Part Status	Not Yet Approved
Equivalent Series Resistance	
Tolerance	10%
Implementation	
PSPiceTemplate	C^@REFDES %1 %2 C^@REFDES 0.01uF
CLASS	DISCRETE

# New Part Introduction (NPI) Flow

- Temporary Part Flow promoting concurrency

Component Information Portal

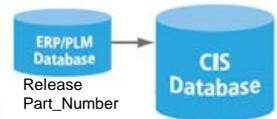
Admin Components CIS DB Search Distributor Search **Temp. Parts** Advanced Export search GO

### Temporary Parts

Parts Configure Display

Include Assigned Parts

Table	Original TMP Number	Assigned PART_NUMBER	Creation Time	Username
ICs	TMP-2		八月 31, 2015, 17:03:18	addi
Capacitors	TMP-1	EMA-00000124V22	八月 27, 2015, 12:25:21	admin
ICs	TMP-4		九月 08, 2015, 19:04:31	Addi
Resistors	TMP-3		九月 04, 2015, 10:07:14	admin



All - Resistors

Part Information History

Part Number: EMA-00002733051

Part Type: EMA\SMD,Thick Film\0201

Description: RES SMD 1M OHM 1% 1/16W 0402

Value: 1M

PCB Footprint: R0201

Schematic Part: RESISTORS\RES

Number of Pins:

Operating Temperature Maximum: -55C - 155C

Package Size: 0402 (1005 Metric)

Operating Temperature Minimum: -55C - 155C

Package Height: 0.016" (0.40mm)

Package Type:

Company Part Status:

Temperature Coefficient: 100ppm/C

Tolerance: 1%

Rated Voltage:

Rated Power: 0.063W, 1/16W

Material: Thick Film

# New Part Introduction (NPI) Flow

- Capture CIS updates part status to synchronize Part\_Number.

	PART_NUMBER	PCB Footprint	Part Type	Description
DB Props	EMA-00002733051	R0201	EMA(SMD)Thick Fil	RES SMD 1M OHM 1M
Sch Props R1	TMP-3	UNASSIGNED		RES SMD 1M OHM 1M

20	SCHEMATIC1 : P...	J1	32K141-40M	EMA-00007533...	Approved: C...	C:\CADENCE\CL...	BNC_5P
21	SCHEMATIC1 : P...	J2	32K141-40MLS	EMA-00007533...	Approved: C...	C:\CADENCE\CL...	BNC_5P
22	SCHEMATIC1 : P...	J3	1-188275-0	EMA-00006342...	Approved: C...	C:\CADENCE\CL...	RECPT_2X5_F
23	SCHEMATIC1 : P...	J4	1-188275-0	EMA-00006342...	Approved: C...	C:\CADENCE\CL...	RECPT_2X5_F
24	SCHEMATIC1 : P...	P1	26-60-4030	EMA-00006020...	Approved: C...	C:\CADENCE\CL...	HDR_1X3_M
25	SCHEMATIC1 : P...	P2	26-60-4030	EMA-00006020...	Approved: C...	C:\CADENCE\CL...	HDR_1X3_M
26	SCHEMATIC1 : P...	P3	26-60-4030	EMA-00006020...	Approved: C...	C:\CADENCE\CL...	HDR_1X3_M
27	SCHEMATIC1 : P...	R1	1M	EMA-00002733...	Approved: C...	C:\CADENCE\CL...	RES
28	SCHEMATIC1 : P...	R2	270kOhm	EMA-00002709...	Approved: C...	C:\CADENCE\CL...	RES
29	SCHEMATIC1 : P...	R3	270kOhm	EMA-00002709...	Approved: C...	C:\CADENCE\CL...	RES
30	SCHEMATIC1 : P...	R4	330Ohm	EMA-00002798...	Approved: C...	C:\CADENCE\CL...	RES
31	SCHEMATIC1 : P...	R5	330Ohm	EMA-00002798...	Approved: C...	C:\CADENCE\CL...	RES
32	SCHEMATIC1 : P...	R6	270Ohm	EMA-00003252	Approved: C...	C:\CADENCE\CL...	RES

# Circuit Design Challenges

# Circuit Design Challenges

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- How to Know
  - Circuit design parts with library pin difference?
  - Part status with database?
  - Capacitor de-rating of net voltage?

# OrCAD Tcl / Tk Utilities

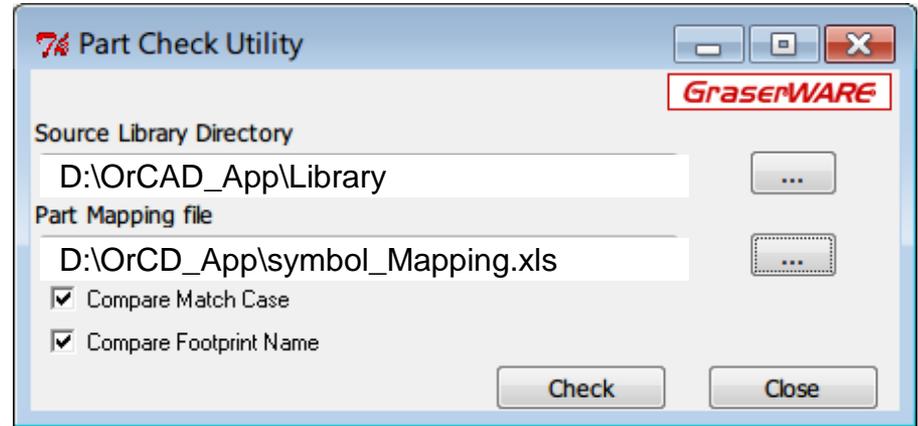
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- Part Library Check Utility
- Design Part Check Utility
- Capacitor De-rating Check Utility

# Part Library Check Utility

- Schematic Symbol & Footprint Check With Library (Database)

- Library Symbol Pin Check
- Footprint Name Check



1	2	3	4	5	
1	Part Number(SCH)	Part Reference(SCH)	Pcb FootPrint(SCH)	Pcb FootPrint(DB)	Check
30	80-00042	XT2	SCRY2_4D1X1D5XD85	SCRY2_4D1X1D5XD9	Failed
31	80-00043	Q25,Q6	SOT23	SOT23_1	SOT23
32	80-00044	U57	SOP8_1D27X6X1D75	SOP8_1D27X6X1D75_AO4413	SOP8_1D27X6X1D75
33	70-00002	U9,U60,U95	SO8_MOS_1	DFN6_5D15X6D15X1D2_2	SO8_MOS_1
34	70-00003	G1	ESDSTRIP		Failed
35	70-00004	TP237,TP238	STP_RT30x50	STP_RT30x50	Pass
36	70-00005	H1,H10,H11,H12,H13			
37	70-00006	GCAP1			
38	70-00007	TP100,TP101,TP102	1	2	3
39	80-00043	CPU1	1	2	3
40	60-00006	LED10,LED9	1	2	3
41	40-00007	CN8	1	2	3
42	40-00008	CN4	1	2	3
43	40-00009	J1,J4	1	2	3
44	40-00010	CN12,CN13	1	2	3
398	80-00043	U59,U60,U95	BSC042N03LSG_2	5 N_MOS_SP_GSDZ_0	Failed
399	80-00044	PQ359,PQ509,Q400,Q404	3 N_MOS_0_A	3 N_MOS_0_A	Match
400	70-00002	Q1,Q20,Q21,Q22	2N7002	3 2N7002	Match
401	70-00003	Q10,Q11,Q12,Q124,Q13	2N7002	3 2N7002	Match
402	70-00004	Q16	MOS_P0	3 P_MOS_SOT-23_0_A	Match
403	70-00005	PQ210,PQ230,PQ250,PC	MOS_SON-8-N2_DUA	8 MOS_SON-8-N2_DUAL-N	Match
404	70-00006	G1	CPCI-ESD-STRIP	3 CPCI-ESD-STRIP	Match
405	70-00007	TP237,TP238	TP-2	1 TP-2	Match
406	80-00043	H1,H10,H11,H12,H13,H	HOLE_B	1 HOLE_B	Failed
407	60-00006	GCAP1	EECEN0F204AK	2 EECEN0F204AK	Match
408	40-00007	TP100,TP101,TP102,TP	TP-2	1 TP-2	Match
409	40-00008	TP31,TP32,TP33,TP34,TP	TP-2	1 TP-2	Match
410	40-00009	CPU1	HASWELL_BGA_EL	1364 HASWELL_BGA_EL_15	Match
411	40-00010	PCH1	HASWELL_BGA_EL	695	Failed
412	40-00011	PJP210,PJP211,PJP230,1	HASWELL_BGA_EL	2	Failed
413		TP1,TP10,TP11,TP12,TP	HASWELL_BGA_EL	1	Failed

# Design Part Check Utility

- How to know Design Part
  - Life cycle
  - End of life

**Part Utility V1.2**

**Parts Information**

St.	Referenc	Part Number	Value	Description	Voltage	Tolerance	Source Package	PCB Footprint	Part Approve	Schematic Part	Power
1	C1	PCC100CQTR-ND	10PF	CAP 10PF 50V CER	50V		SMALL CAP	smdcap	YES		
2	C2	PCC100CQTR-ND	10PF	CAP 10PF 50V CER	50V		SMALL CAP	smdcap	YES		
3	C3	PCC220CNTR-ND	22PF	22PF 50V CERAMIC	50V		SMALL CAP	smdcap	EOL		
4	C4	PCC220CNTR-ND	22PF	22PF 50V CERAMIC	50V		SMALL CAP	smdcap	EOL		
5	C5	ECE-V1HA100SP	10UF	CAP 10UF 50V VS	50V		CP		YES		
6	C6	ECG-C03B100R	10UF	CAP 10UF 6.3V CB	6.3V		CAP		YES		
7	C7	PCC151CGTR-ND	150PF	150PF 50V CERAMI	50V		C	smdcap	EOD		
8	C8	PCC391BNTR-ND	390PF	390PF 50V CERAMI	50V		CAPACITOR NON-P	smdcap	YES		
9	C9	PCC821CGTR-ND	820PF	820PF 50V CERAMI	50V		CAP NP	smdcap			
10	C10	ECE-V1HA100SP	10UF	CAP 10UF 50V VS	50V		CP		YES		
11	C11	ECE-B1HGEOR1	0.1UF	CAP 50V .1UF NHE	50V		CAP	smdcap	NO		
12	C12	PCC151CGTR-ND	150PF	150PF 50V CERAMI	50V		CAPACITOR NON-P	smdcap	EOD		
13	C13	PCC391BNTR-ND	390PF	390PF 50V CERAMI	50V		CAPACITOR NON-P	smdcap	YES		
14	C14	PCC821CGTR-ND	820PF	820PF 50V CERAMI	50V		CAP NP	smdcap			
15	C15	ECE-V1HA100SP	10UF	CAP 10UF 50V VS	50V		CP		YES		
16	C16	ECE-A50ZR1	0.1UF	.1UFD @ 50VDC PA	50V		CAP	smdcap	YES		
17	C17	PCC151CGTR-ND	150PF	150PF 50V CERAMI	50V		CAPACITOR NON-P	smdcap	EOD		
18	C18	PCC391BNTR-ND	390PF	390PF 50V CERAMI	50V		CAPACITOR NON-P	smdcap	YES		
19	C19	PCC821CGTR-ND	820PF	820PF 50V CERAMI	50V		CAP NP	smdcap			
20	C20	PCC100CQTR-ND	10PF	CAP 10PF 50V CER	50V		SMALL CAP	smdcap	YES		
21	C21	PCC100CQTR-ND	10PF	CAP 10PF 50V CER	50V		SMALL CAP	smdcap	YES		
22	C22	PCC100CQTR-ND	10PF	CAP 10PF 50V CER	50V		SMALL CAP	smdcap	YES		

Compare With DB    2nd Source Information

Selected Part Compare With DB

<No data to display>

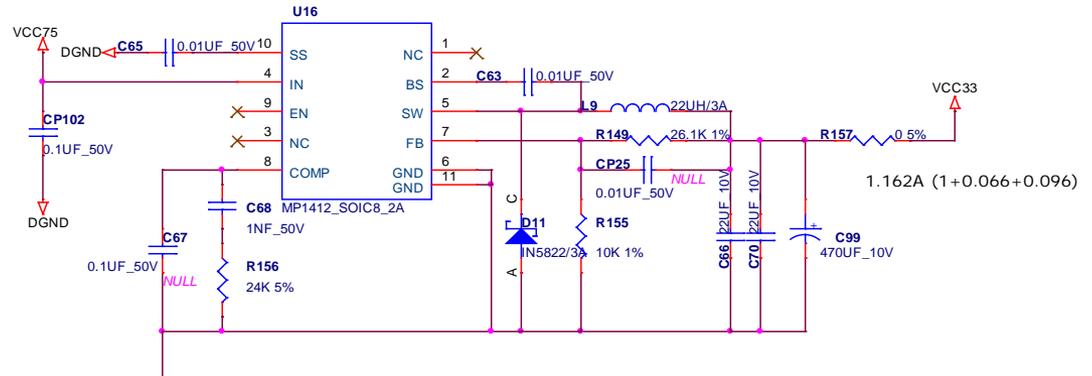
Load Dsn Data    Check

\*Ctrl + Click\* to locate the part in page

# Components De-rating Check Utility

- Design Component De-Rating Check

- Capacitor
- Resistor
- Inductor



1	2	3	4	5	6	7	8	9
Item	Part Number	Reference Part	Description	Component Specification(Watt, A, V)	Application(Watt,A,V)	De-rating(%)	Judge(C<=50%,L<=80%,R<=50)	Remark
1	26-401-928102	C1	Wire Wound	2KV	0V	0.00%	Pass	
3	26-401-121106	C169	Wire Wound	50V	21V	42.00%	Pass	
4	25-502-907477	C18	Wire Wound	35V	23.6V	67.43%	Failed	
5	25-502-907477	C19	Wire Wound	35V	23.6V	67.43%	Failed	
6	26-401-928102	C2	Wire Wound	2KV	25V	1.25%	Pass	
7	25-502-907477	C20	Wire Wound	35V	23.6V	67.43%	Failed	
8	26-400-121332	C206	Wire Wound	50V	1.5V	3.00%	Pass	
9	26-401-121106	C207	Wire Wound	50V	21V	42.00%	Pass	
10	25-502-907477	C21	Wire Wound	35V	23.6V	67.43%	Failed	
11	26-401-928102	C5	Wire Wound	2KV	25V	1.25%	Pass	
12	25-502-907477	C6	Wire Wound	35V	23.6V	67.43%	Failed	
13	26-400-121103	C63	Wire Wound	50V	0V	0.00%	Pass	
14	26-400-121103	C65	Wire Wound	50V	0V	0.00%	Pass	
15	26-403-404226	C66	Wire Wound	10V	3.3V	33.00%	Pass	
16	26-400-021102	C68	Wire Wound	50V	0V	0.00%	Pass	
17	25-502-907477	C7	Wire Wound	35V	23.6V	67.43%	Failed	
18	26-403-404226	C70	Wire Wound	10V	3.3V	33.00%	Pass	

# Circuit Simulation Requirement & PSpice Simulation Solution

# Circuit Simulation Requirement & PSpice Simulation Solution

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- Why PSpice
  - The Circuit Design Verification Challenge
- PSpice Solution
  - Cadence OrCAD Design Solution Integration
  - Mixed-Signal, Mixed Language and Mixed Domain Integrative Simulator
  - PSpice Modeling Application
  - Quality & Speed Performance

# Why PSpice

# The Circuit Design Verification Challenge

---

- Design Trends
  - Miniaturization
  - Complexity
  - Visualization Interfaces
  - Interconnected Systems



Automotive



Medical



Computing



IOT



Consumer  
Electronics

# The Circuit Design Verification Challenge

- Design Verification Challenges

- Power Management
- Embedded Software
- Digital Control Systems
- Mixed Signal Designs
- Use red when emphasizing words
- High Speed & Performance
- Quality

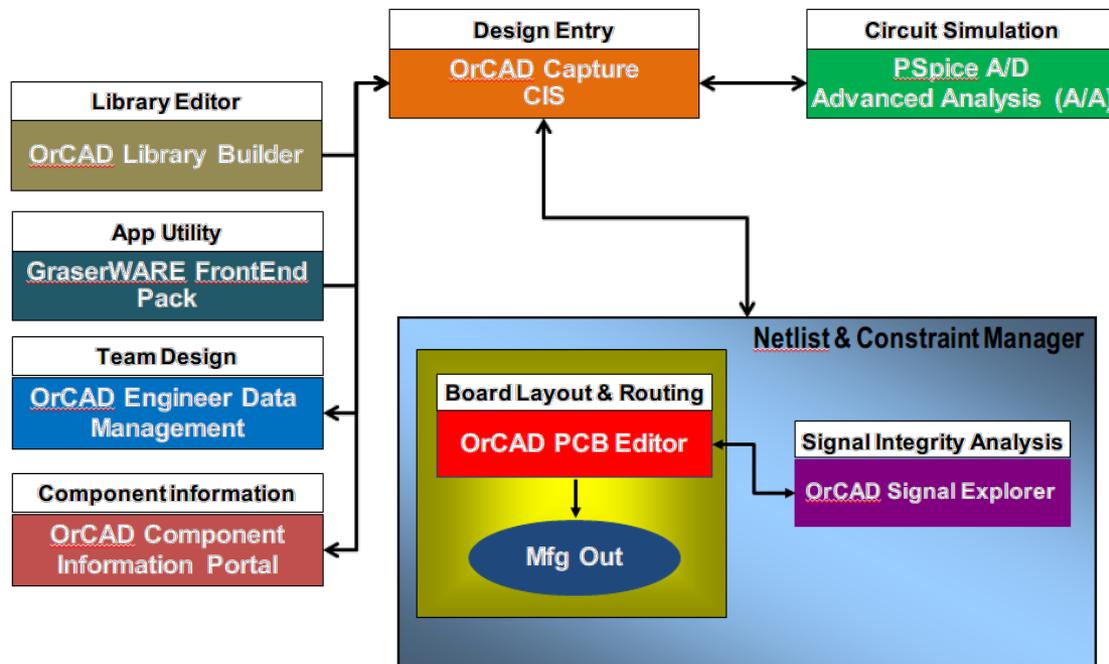
What's EDA TOOL supporting it ?



# PSpice Solution

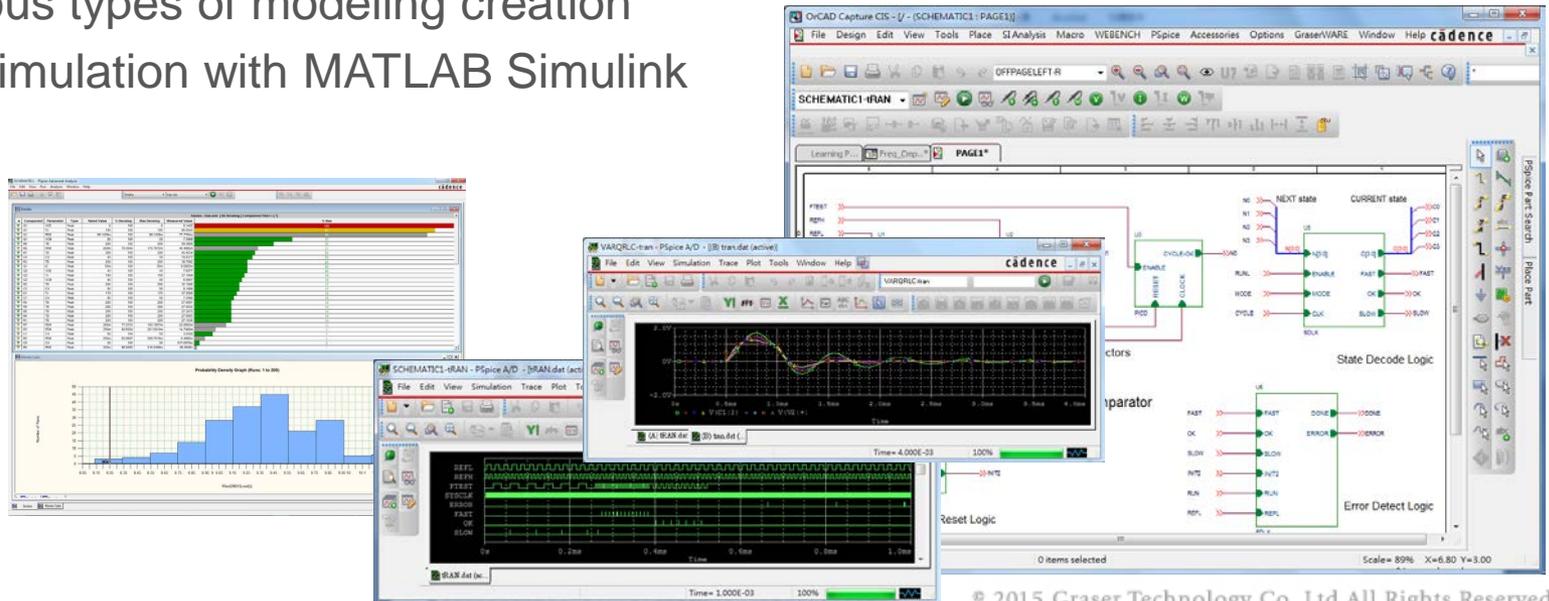
# Cadence OrCAD Design Solution Integration

- Powerful and Widely Used Design Solution
  - Fast and intuitive schematic design entry, OrCAD Capture
  - Powerful component data management, OrCAD Capture CIS
  - Full-featured Mixed-Mode simulator, PSpice
  - Comprehensive PCB solution, OrCAD PCB Designer



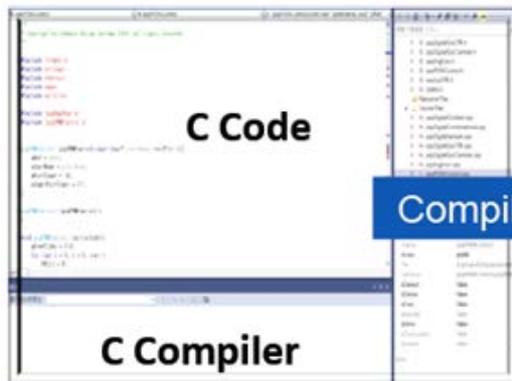
# Mixed-Signal, Mixed Language and Mixed Domain Integrative Simulator

- PSpice
  - Integrates seamlessly with OrCAD Capture/ OrCAD Capture CIS
  - Fast, accurate analysis of analog and mixed-signal designs
  - Advanced analysis to increase performance and productive yield
  - Numerous PSpice model libraries
  - Supports C/C++, SystemC and Verilog-A
  - Various types of modeling creation
  - Co-simulation with MATLAB Simulink



# Mixed-Signal, Mixed Language and Mixed Domain Integrative Simulator

- PSpice Mixed Language Circuit Simulation
  - Hardware/Software Co-Simulation
  - Supports C/C++, SystemC and Verilog-A



Compile



```
include "discipline.h"
//include "constants.h"

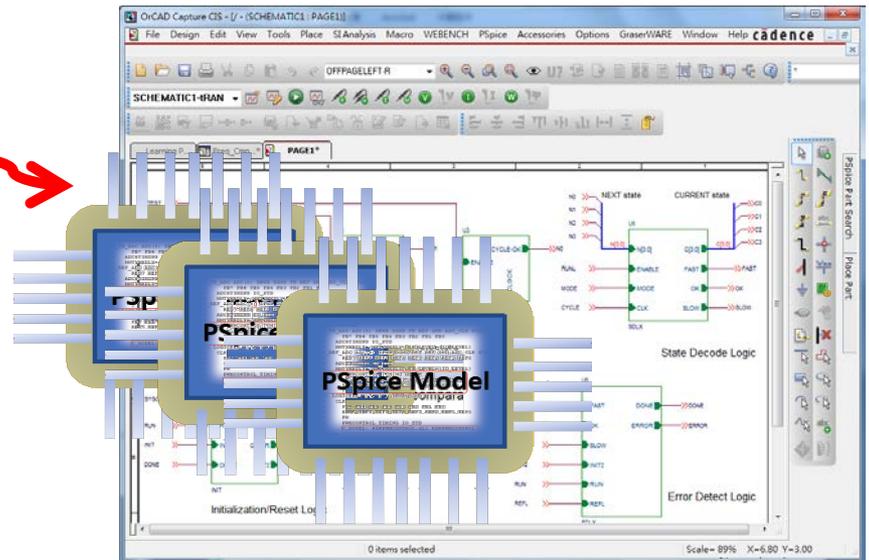
module res_va(plus,minus);
inout plus, minus;
electrical plus,minus,vpa;
real tempC,tfac,ReffV,Reff;
parameter real r=1;
parameter real w=10;
parameter real l=10;
parameter real d1=0.0u;
parameter real dww=0.0u;

analog begin
tempC = ($temperature-273)-25;
tfac=1+(tc1*tempC)+(tc2*tempC*tempC);
V(vpa) <= V(plus, minus);
Reff=r*(1-d1)/((v-dww))*(1+(vc1*abs(V(vpa)))+(vc2*V(vpa)*V(vpa))*tfac;
V(plus,minus) <= Reff*I(plus,minus)+white_noise(4*1.38E-23*$temperature*Reff);
end
endmodule
```

Verilog-A

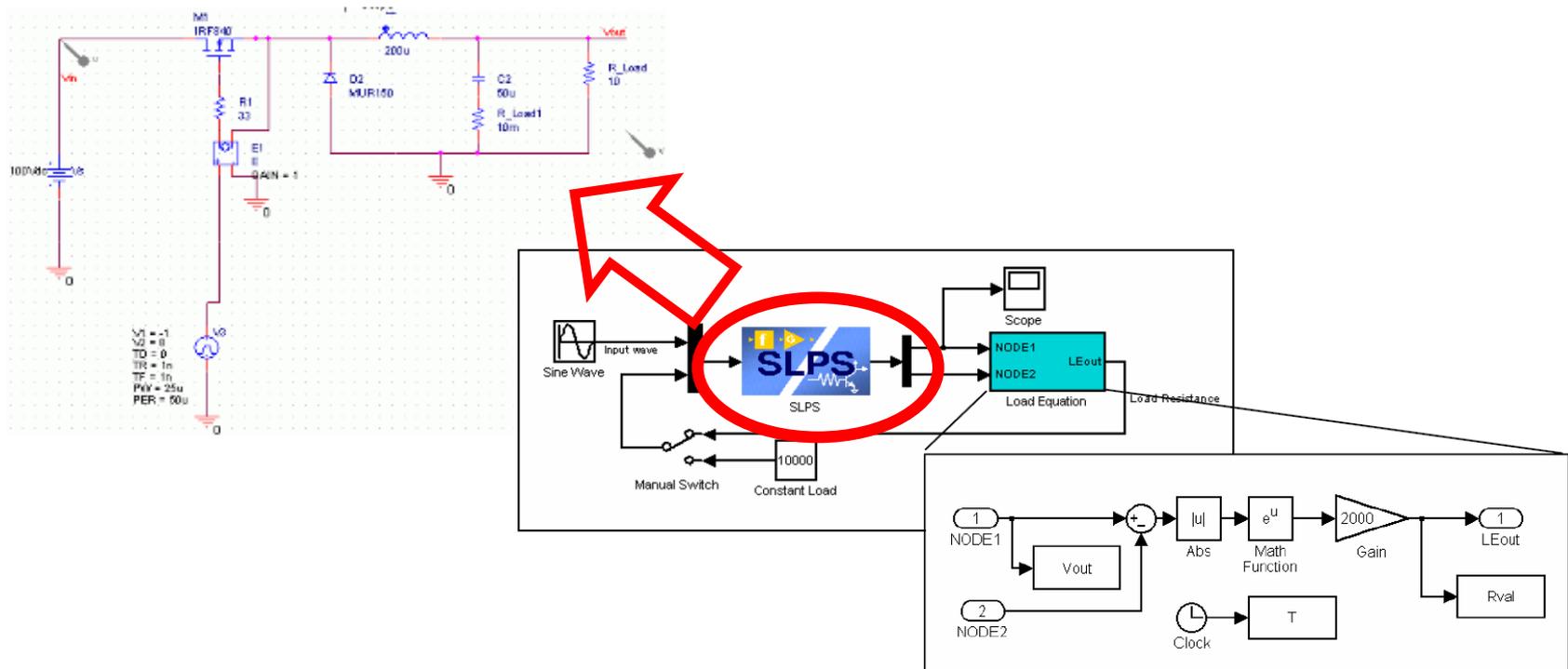
ADMS

Compile



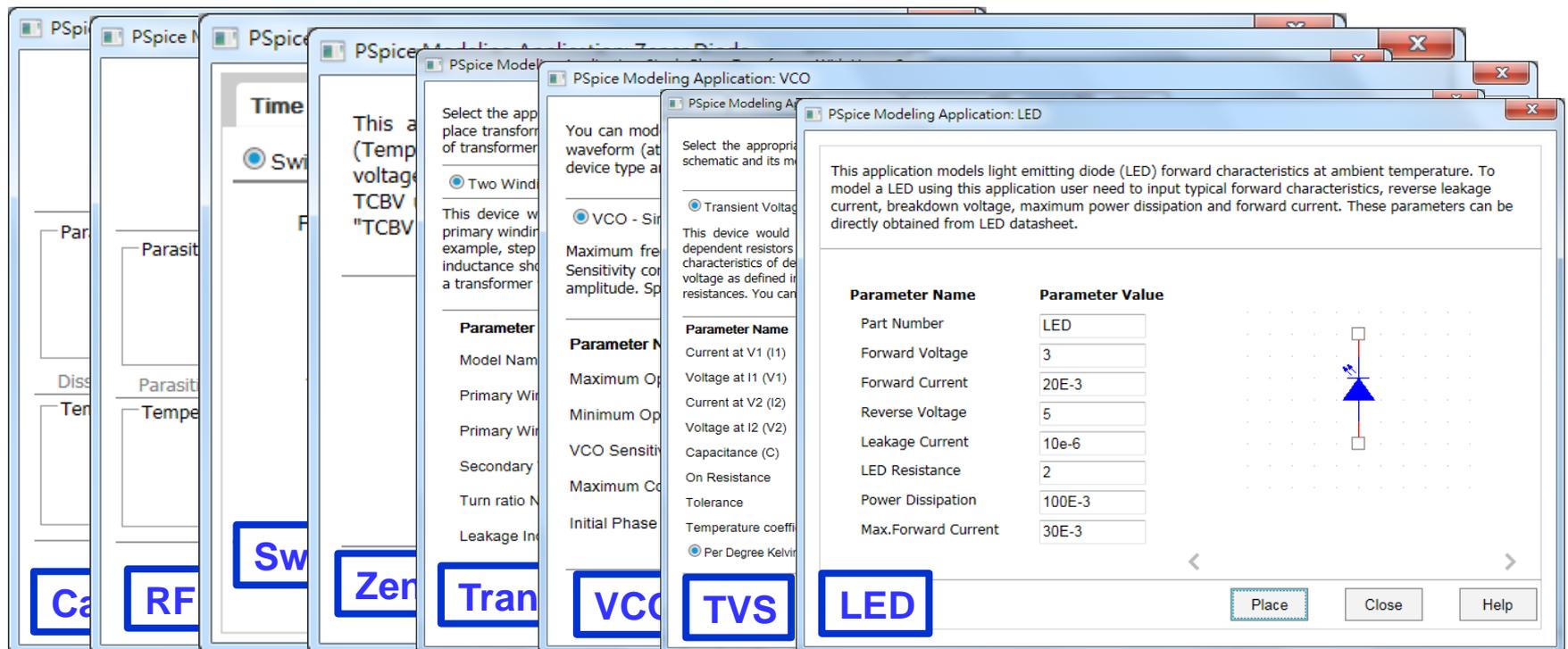
# Mixed-Signal, Mixed Language and Mixed Domain Integrative Simulator

- PSpice Mixed Domain Integration
  - Systems Simulation
  - Integration with MATLAB Simulink brings two industry-leading simulation tools, electromechanical & electrical systems in a co-simulation environment.



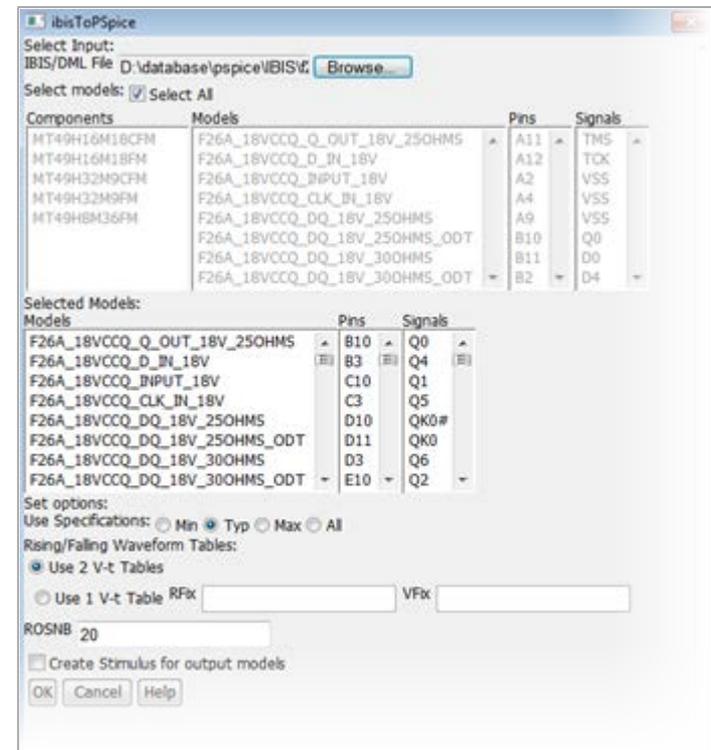
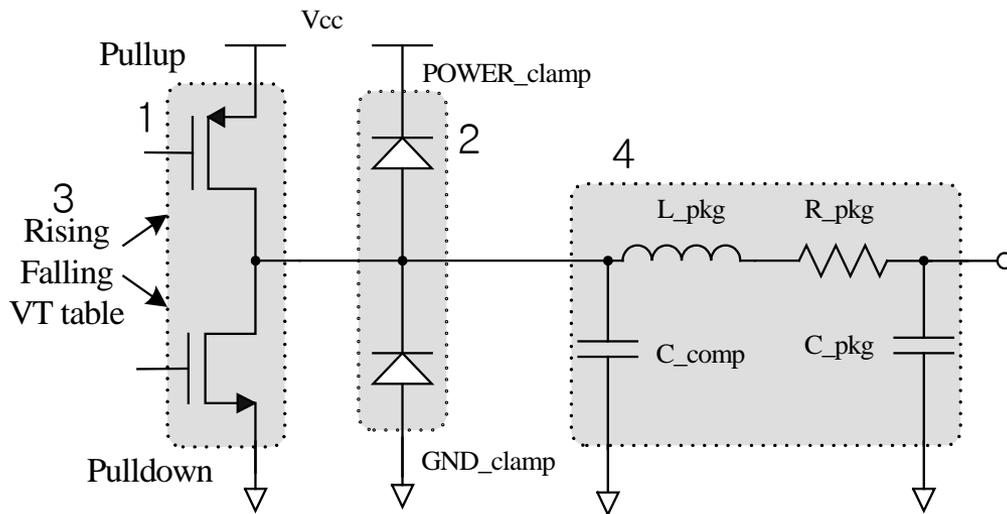
# PSpice Modeling Application

- Quick & Easy methods to create and edit PSpice models
  - No Library Setup required in OrCAD Capture/Capture CIS schematic
  - Using parametric extraction algorithms
  - Edit existing PSpice instance properties
  - Device Type, Capacitor/Inductor/Transformer/Zener/Switch/TVS/VCO/LED



# PSpice Modeling Application

- PSpice Sub-circuit Generation from IBIS Models
  - New IBIS Import supports for V-I curves and V-T curves.



# PSpice Modeling Application

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- PSpice existing model library models
  - Offers more than 30,000 analog and mixed-signal models.
  - PSpice library includes parameterized models such as BJTs, JFETs, MOSFETs, IGBTs, SCRs, discrettes, operational amplifiers, optocouplers, regulators, PWM controllers, and multipliers.

# PSpice Modeling Application

- Get PSpice Models from device vendors / manufacturers

## OrCAD Capture Marketplace

TEXAS INSTRUMENTS

Everything ▾ Search

Products Applications & designs Tools & software Support & community Sample & buy About TI

- TI E2E community >
  - Amplifiers
  - Applications
  - ARM® Processors
  - Clock and Timing
  - Data Converters
  - Development Tools
  - Digital Signal Processors (DSP)
  - DLP+ & MEMS
  - Embedded Software
- Interface
  - Logic
  - Low Power RF & Wireless Connectivity
  - Microcontrollers
  - OMAP™ Applications Processors
  - Power Management
  - RF & Digital Radio
  - Other Analog & Touch
- Customer support centers
  - Americas: North, South & Central
  - Asia
  - Europe, Middle East, Africa
  - Japan
  - Contact us
- Technical resources >
  - Quality | Packaging | Eco-info
  - Technical documents
  - TI Design Network
  - TI technical articles
  - TI university program
  - TI Videos
  - Business Continuity
- TI training >
  - 2015 Tech Days
  - Online training
  - Live events

TI Home > WEBENCH® Design Center > SPICE Model Resources

Home Component Search **Models** Multimedia PCB Services OrCAD

### PSpice & IBIS Models

Find the right simulation or signal integrity model to help achieve first-pass success

#### Models

PSpice and IBIS models are used in simulating analog circuits and signal integrity analysis. Significant numbers of publicly available PSpice / IBIS simulation models and library parts are from semiconductor and supplier sources, but are traditionally difficult to locate or know the location of them all. Engineers now have a conduit to help locate needed models and library parts to use in design simulation and analysis.

#### Search

**Find the models you need**  
Our application engineers have scoured the web for vendor models. Do you know of other vendors who supply models via the web? Send us the URL and we'll add it to this list.

Links to the **Downloadable Models** that Can Speed Your Design Process

Model Type	Manufacturer	Device Type	Status	Reset Filters
All	All	All	All	Clear All
Manufacturer	Model Type	Description		
Actel	IBIS	Actel's IBIS models <a href="#">view&gt;</a>		
Altera	IBIS	Altera Device IBIS Model Listing <a href="#">view&gt;</a>		
Arizona Microtek	IBIS	Arizona Microtek IBIS Models <a href="#">view&gt;</a>		
Central Semiconductor	PSpice	Transistors - General purpose, Bipolar power, Low VCE(SAT), RF, High voltage and High current transistors. <a href="#">view&gt;</a>		
Central	PSpice	Current Limiting Diodes - 0.22mA thru 15mA Current limiting diodes <a href="#">view&gt;</a>		

• PSpice Models and Reference Designs  
- PSpice Models Collection (ti\_pspice\_models.zip)

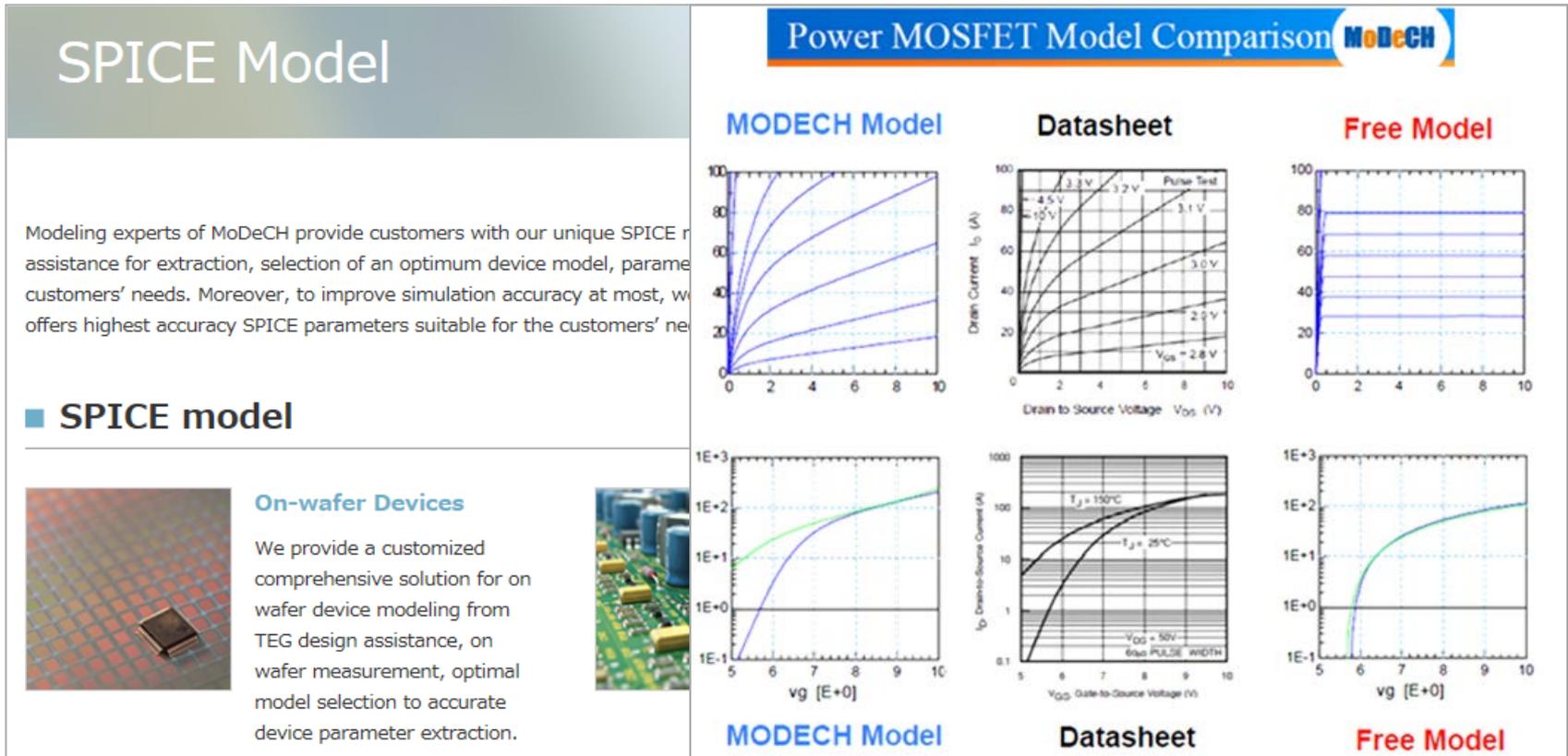
### SPICE Model Downloads

- HSpice Models and Reference Designs
  - HSpice Models Collection (ti\_hspice.zip)
- PSpice Models and Reference Designs
  - PSpice Models Collection (ti\_pspice\_models.zip)



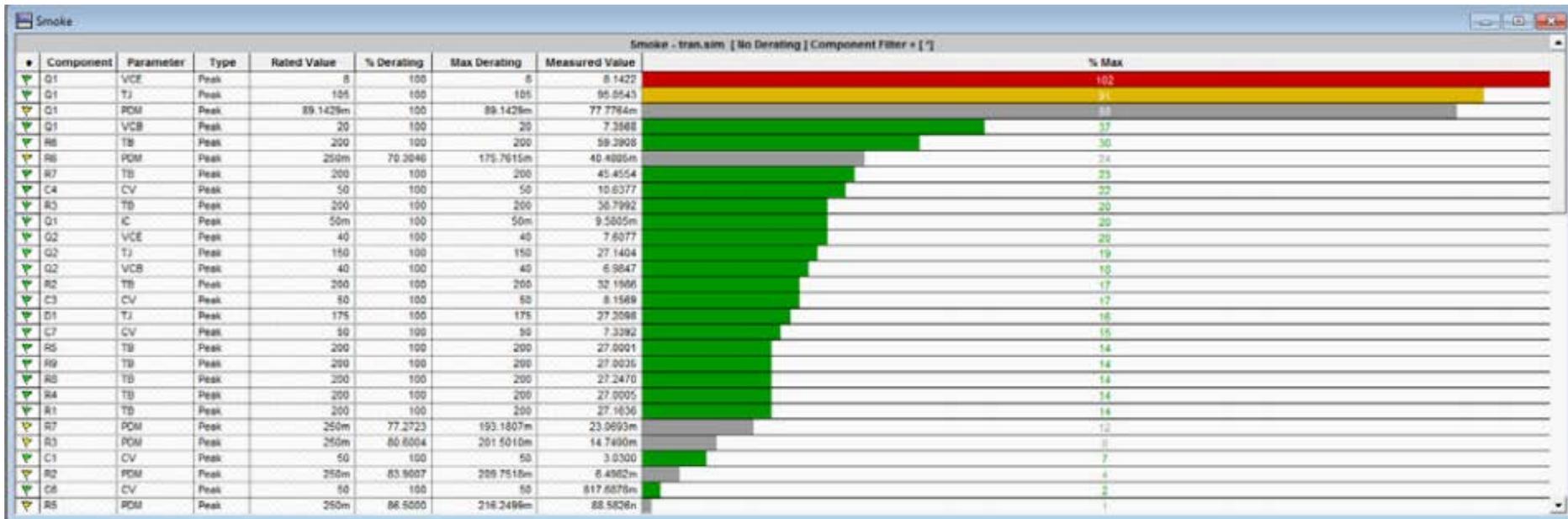
# PSpice Modeling Application

- PSpice modeling service company **MoDeCH**
  - Supply every PSpice model
  - Passive components, capacitor, inductor, resistor, transformer, connector, cable, FPC Line, and so on.



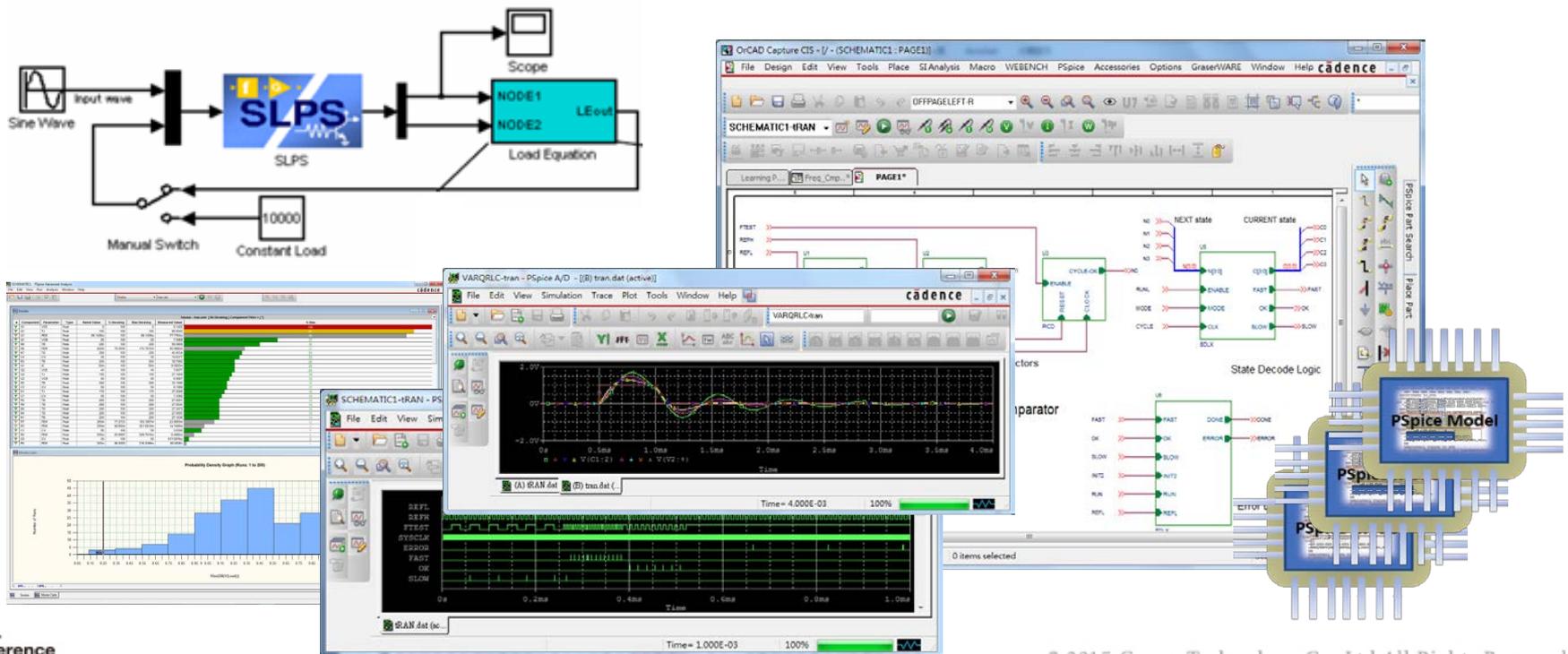
# PSpice Advanced Analysis

- Increase design performance, yield, and reliability
  - Sensitivity identifies critical circuit components.
  - Optimizer optimizes key circuit components.
  - Parametric Plotter examines solution space through nested sweeps.
  - Monte Carlo analyzes statistical circuit behavior and yield .
  - Smoke detects component stress.



# PSpice Summary

- Powerful and Widely Used Simulator
  - Integrates seamlessly with Cadence OrCAD Design Solution.
  - Full-featured mixed-Mode simulator
  - Extensive OrCAD PSpice model libraries & various types of modeling creation.
  - Be aware of pre-layout design risk & improve design performance, yield, and reliability.



# PSpice Hands-On Workshop

- PSpice Hands-on Workshop
  - Date, 20/Nov/2015

## Full-featured Mixed-Mode PSpice simulation

