



Empower The World

InPower Semiconductor

Mar 2013

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A large, stylized world map graphic composed of numerous small, light-colored dots, positioned at the bottom of the slide. The map is centered horizontally and spans most of the width of the slide.



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InPower Semiconductor

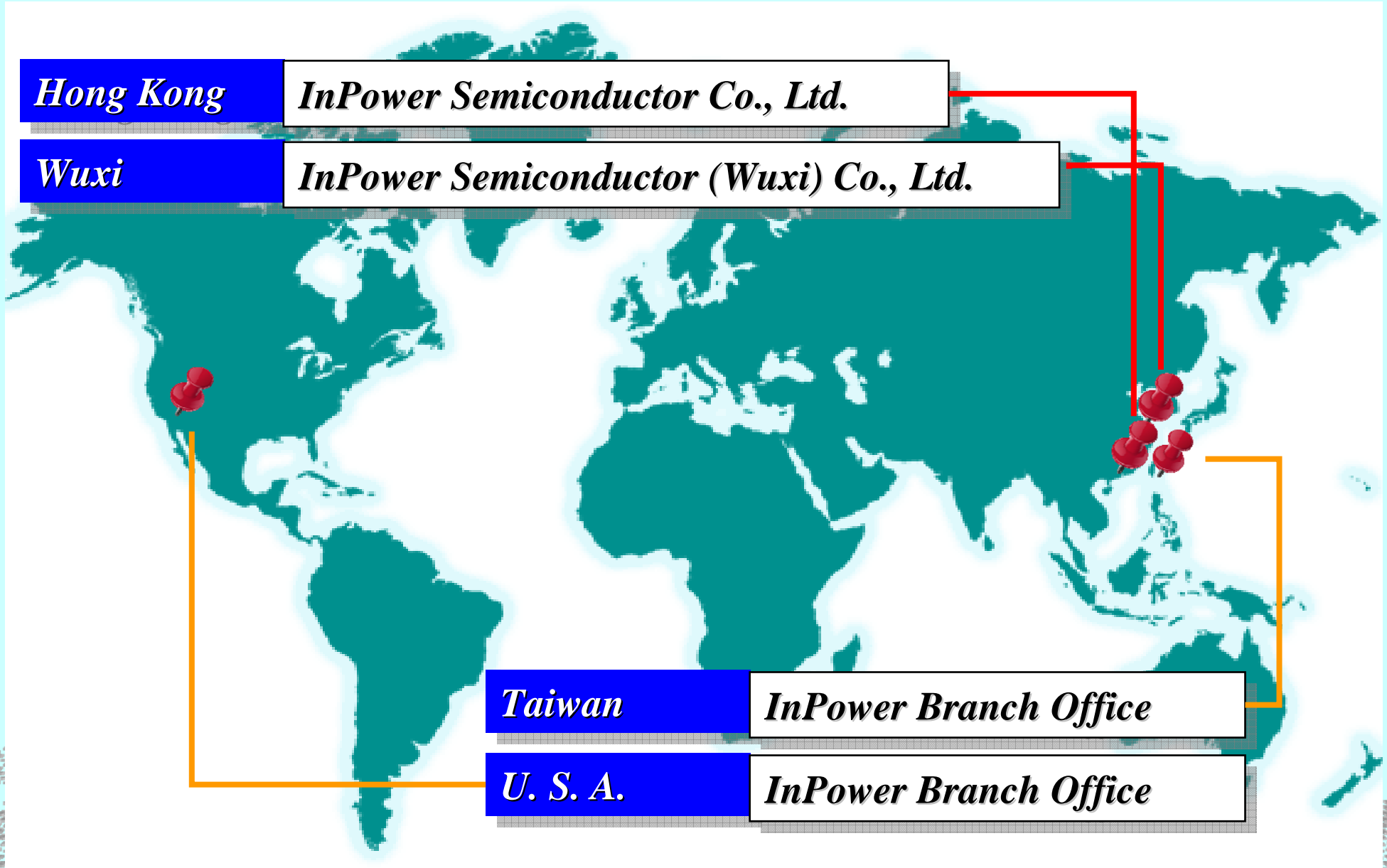
- **Contents**

- *InPower Contact Information*
- *Company Mission & Background*
- *Power Semiconductor Market*
- *InPower Product Lines*
- *Product Roadmap*
- *Applications & Benchmarking*
- *Quality Assurance and Reliability*



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Headquarter and Branch Offices





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Contact Information

- **InPower Semiconductor Co., Ltd.**
 - RM4609-4610 China Resources Building 26 Harbour Road Wanchai HK
 - Web: www.inpowersemi.com
- **InPower Semiconductor (Wuxi) Co., Ltd.**
 - No. 14, Liangxi Road, Wuxi, Jiangsu, China
 - Tel: +86-510-8811-1011, Fax: +86-510-8811-1010
- **Branch offices:**
 - Taiwan: 2F., No. 488, Guociang 1 st St., Taoyuan City, Taoyuan County 33057, Taiwan (R.O.C.)
 - Tel: +886-3-3699-669, Fax: +886-3-3699-619
 - U.S.A.: Los Angeles, California, U.S.A



Innovation

Profession

Success



InPower Semiconductor founded in 2006

Initial registered capital of US\$ 5 Million

Tech team from Fairchild, IR

Focused on MOS, IGBT, FRD and BCD IC

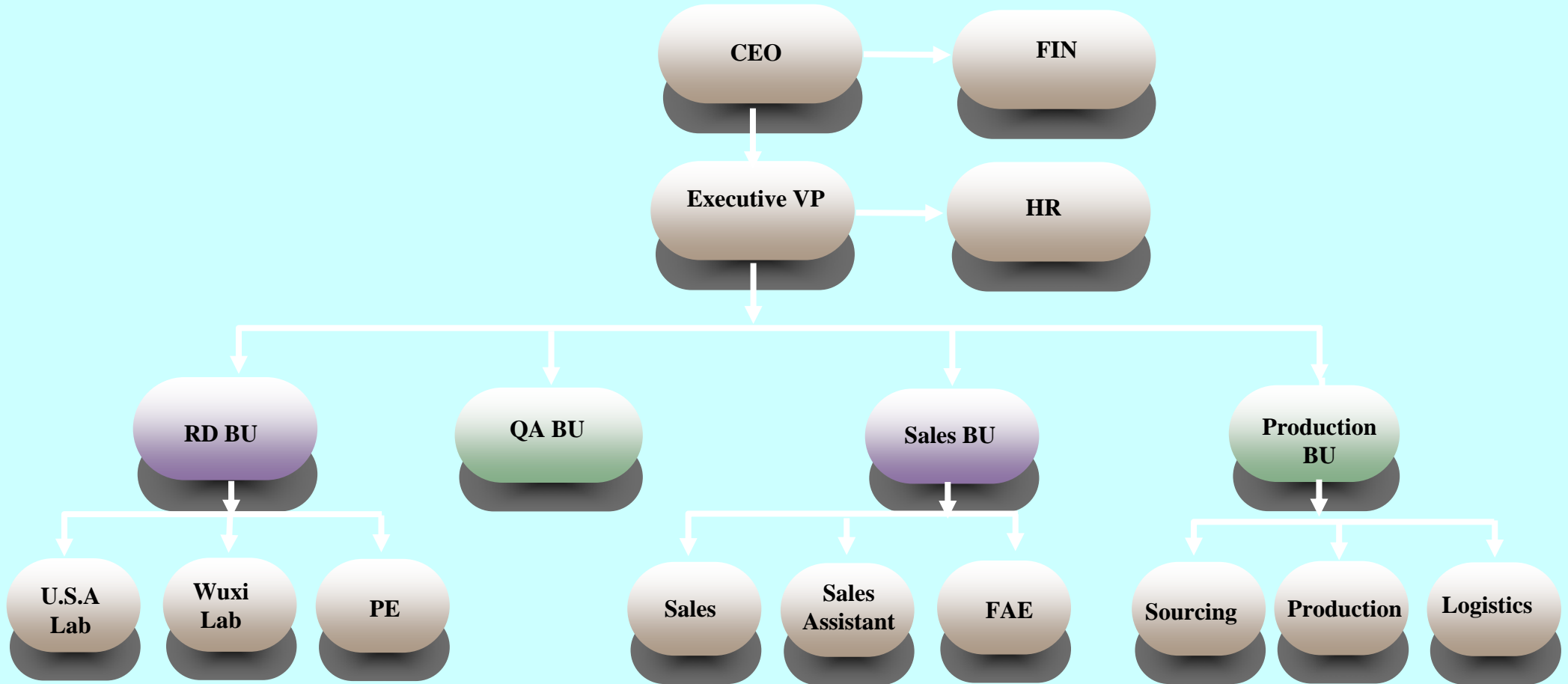
Investors from Hong Kong and U.S.

Design process patent of 8 inch at U.S.



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Organization Chart





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The Best Experienced Team

• **Dr. Jun Zeng, Consultant**

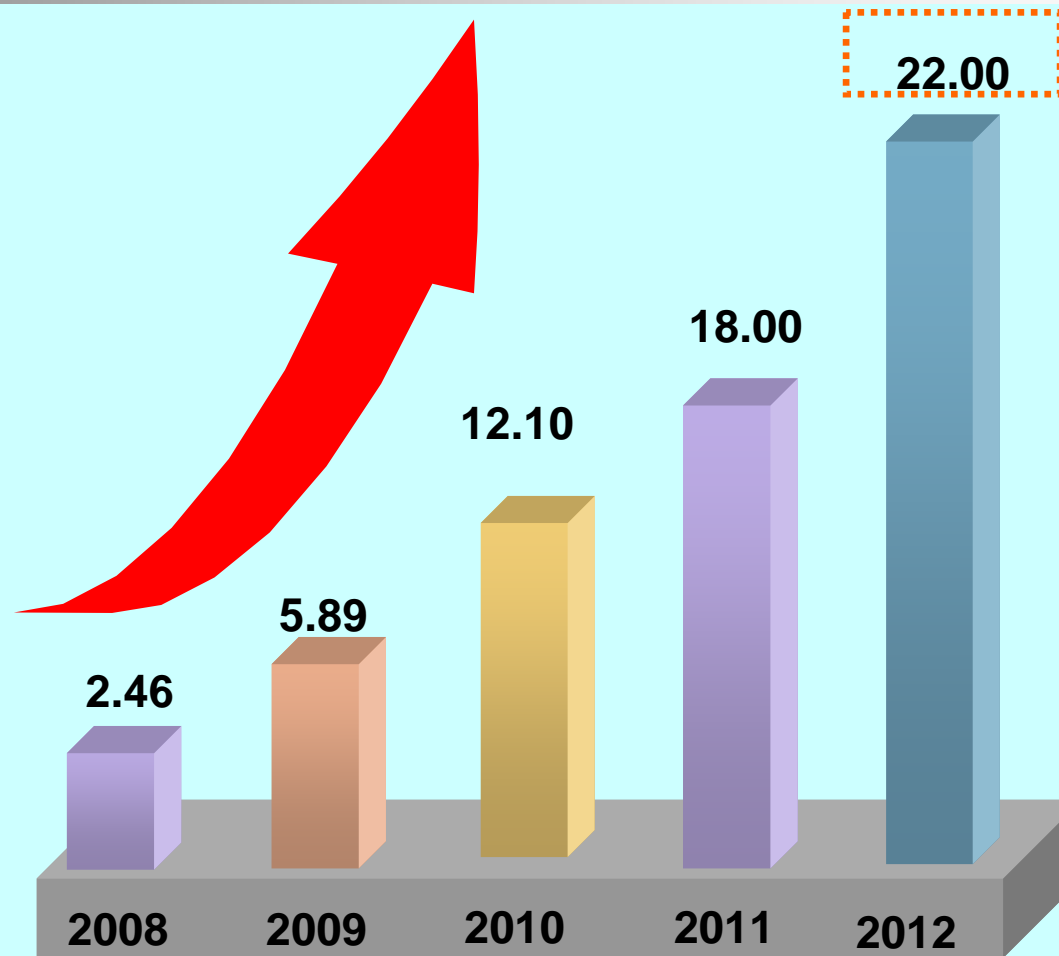
- **CP Clare (now a IXYS subsidiary) Chip Design Scientist**
 - **High voltage DI-BCD technology based SLIC chip**
 - **High voltage enhancement and depletion MOSFET products**
- **Fairchild/Intersil/Harris Senior Staff Design Engineer**
 - **Low voltage Planar/Trench MOSFET products**
 - **High voltage IGBT and MOSFET products**
 - **Diode & input/output rectifier designs**
 - **Smart Power IC process development (BCD with tri-resurf)**
- **30 US Patents, 4 patent pending**
- **More than 40 technical publications**
- **Proven process development records at Epasil, Mosel, Antek, VHK, SMIC, and Huajing**



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Revenue Growth Rate

**IPS KEPT
RAPID AND STABLE
GROWTH RATE
IN THE
PAST FOUR YEARS**



Unit: million dollar



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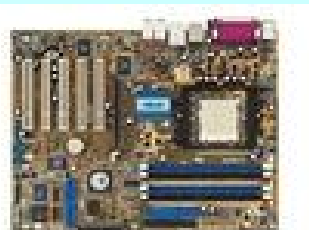
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Consumer Electronics



Information Technology



Home Appliance



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Automotive /Power Tool/ Forklift/E bike/Lawnmower



Welder / UPS / Solar Inverter /LED street lamp

Telecom





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Major customers

NVC 雷士照明

Huntkey 航嘉

OSRAM



HEP *ower for light*

PHILIPS

sense and simplicity*

万利达



Empower The World

Major customers





Empower The World

Major customers

BOURNS®



GE 梦想启动未来
中国

FOXCONN®

Ktec®

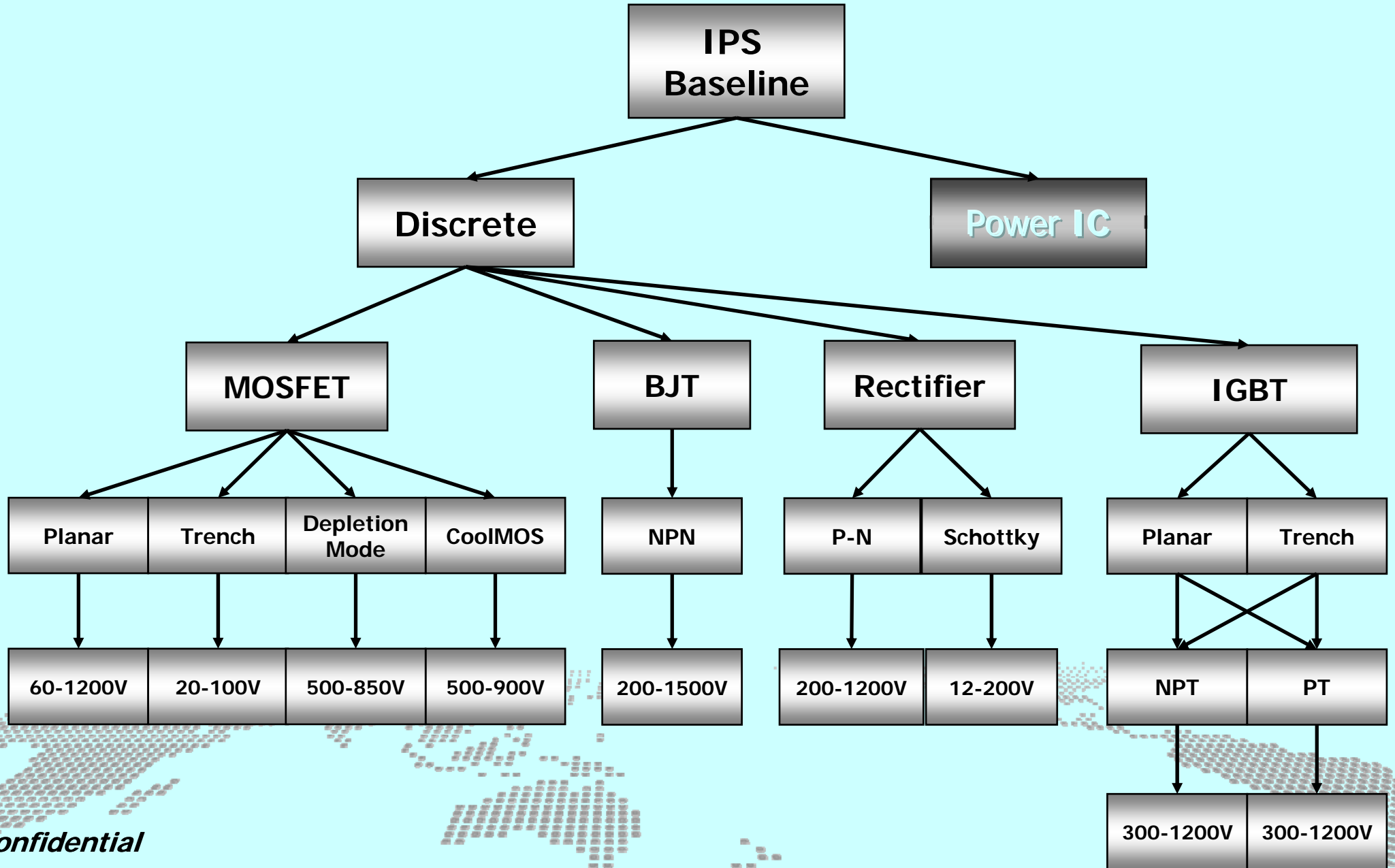
Bestec





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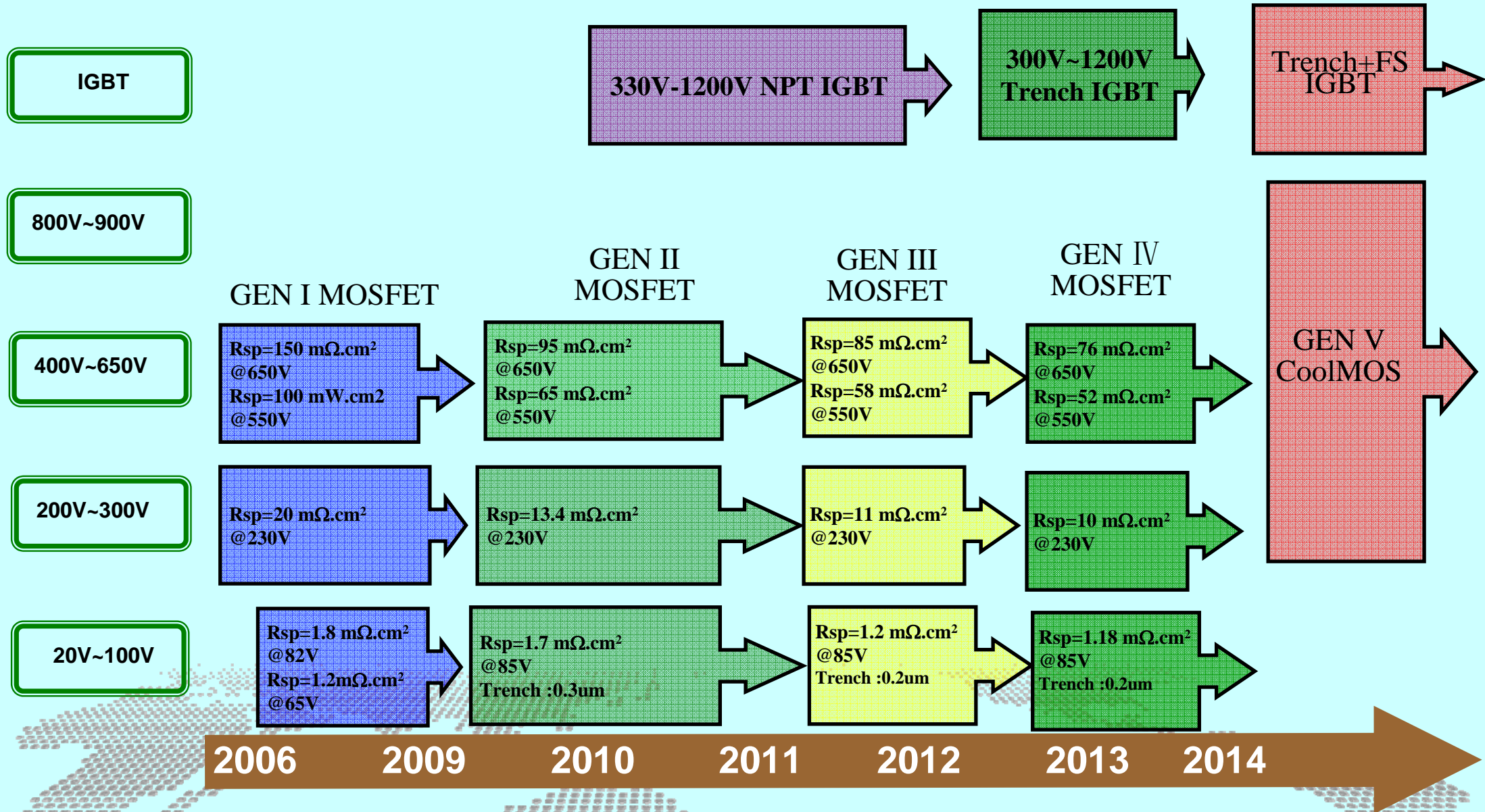
Discrete Power Products





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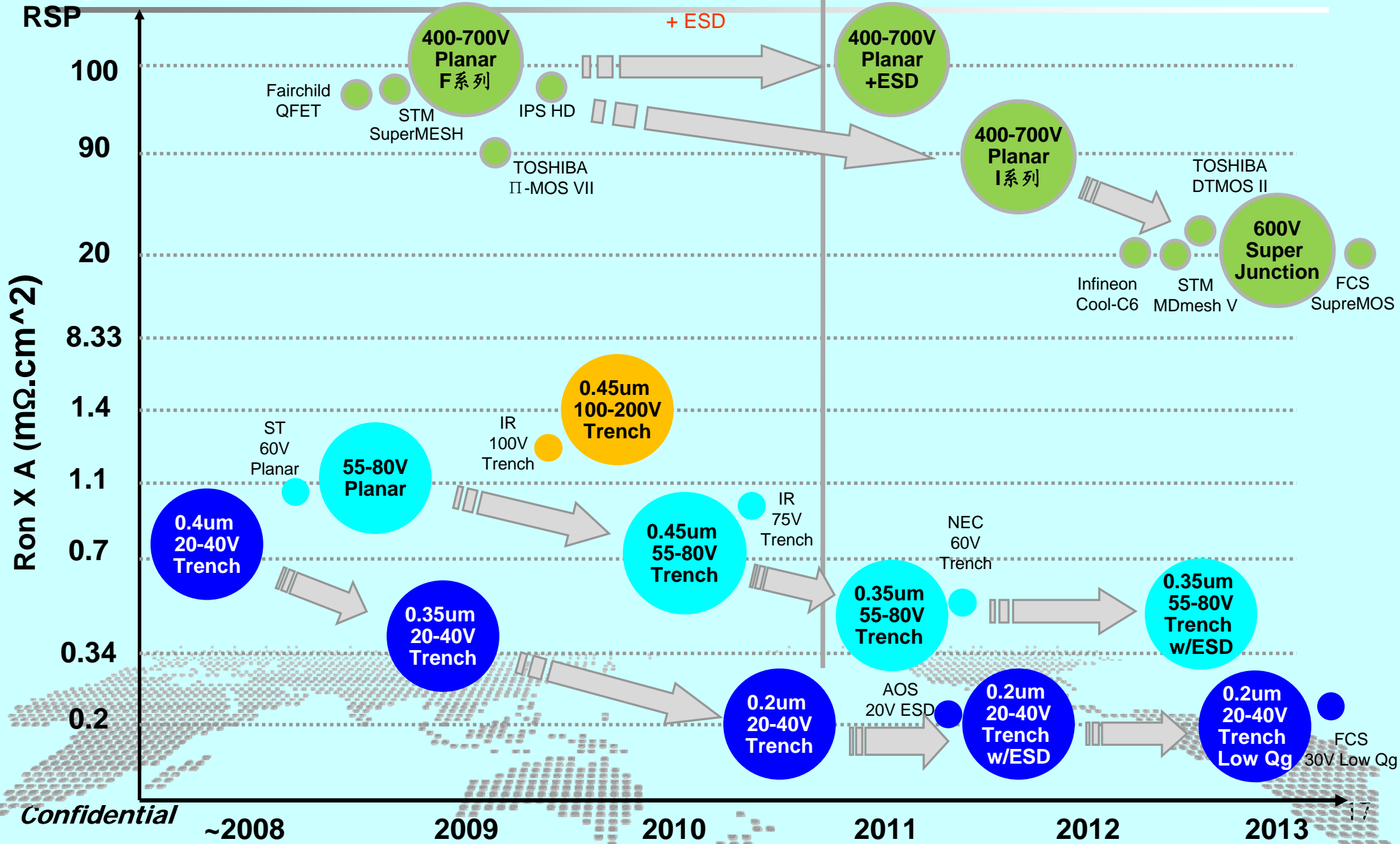
Technology Roadmap





IPS MOSFET Development

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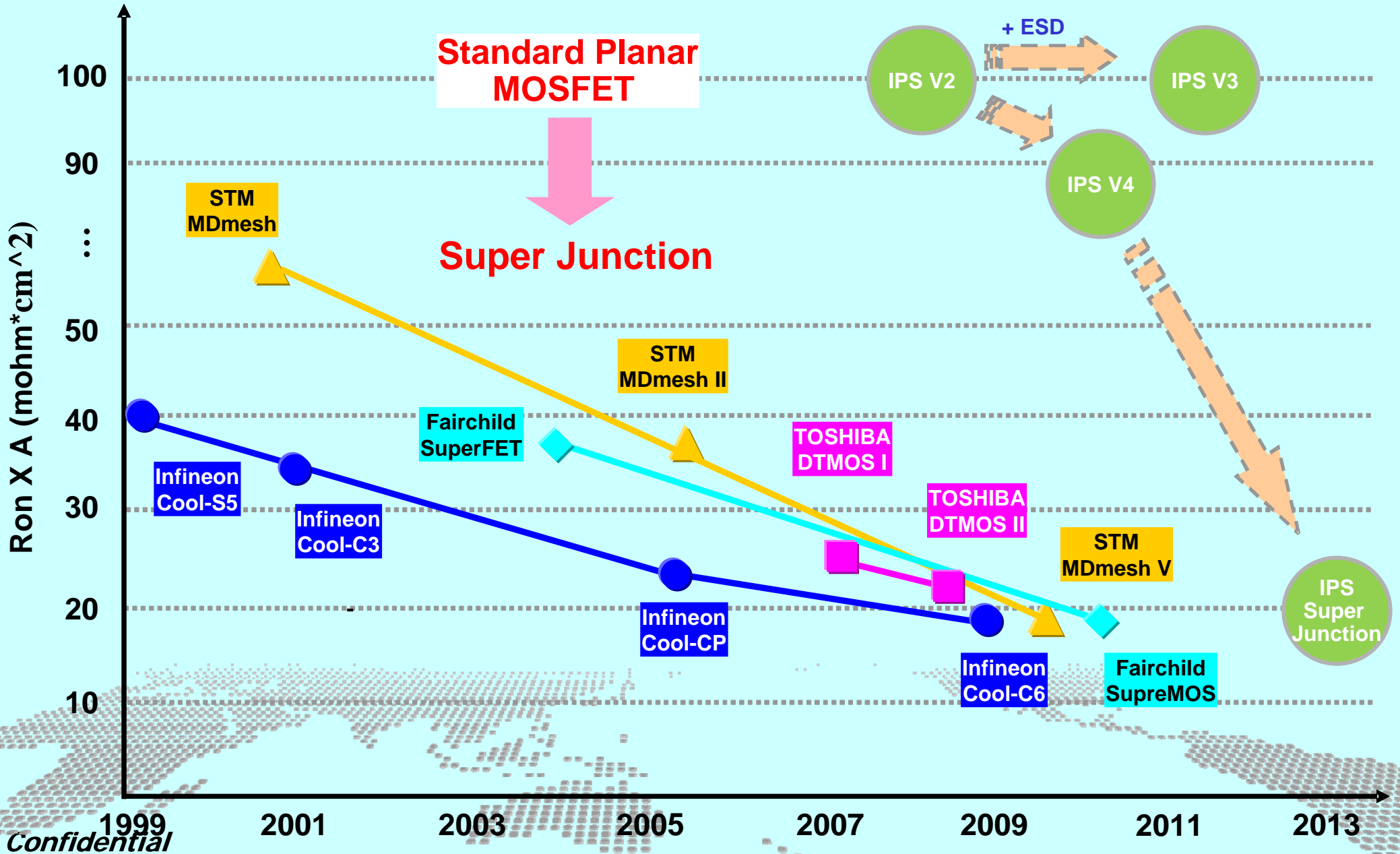


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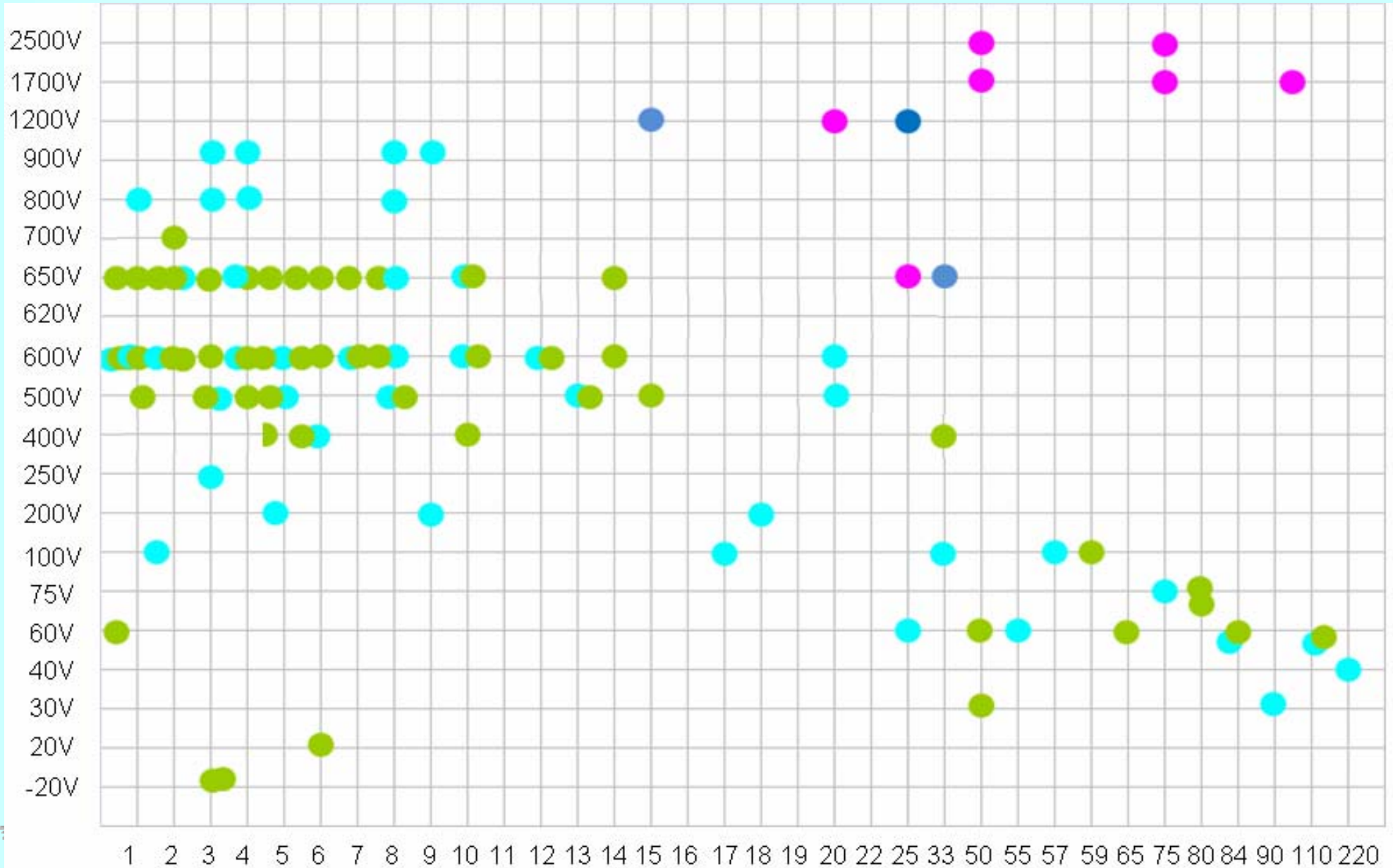
IPS CoolMOS Target



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IPS Products Distribution



(A)



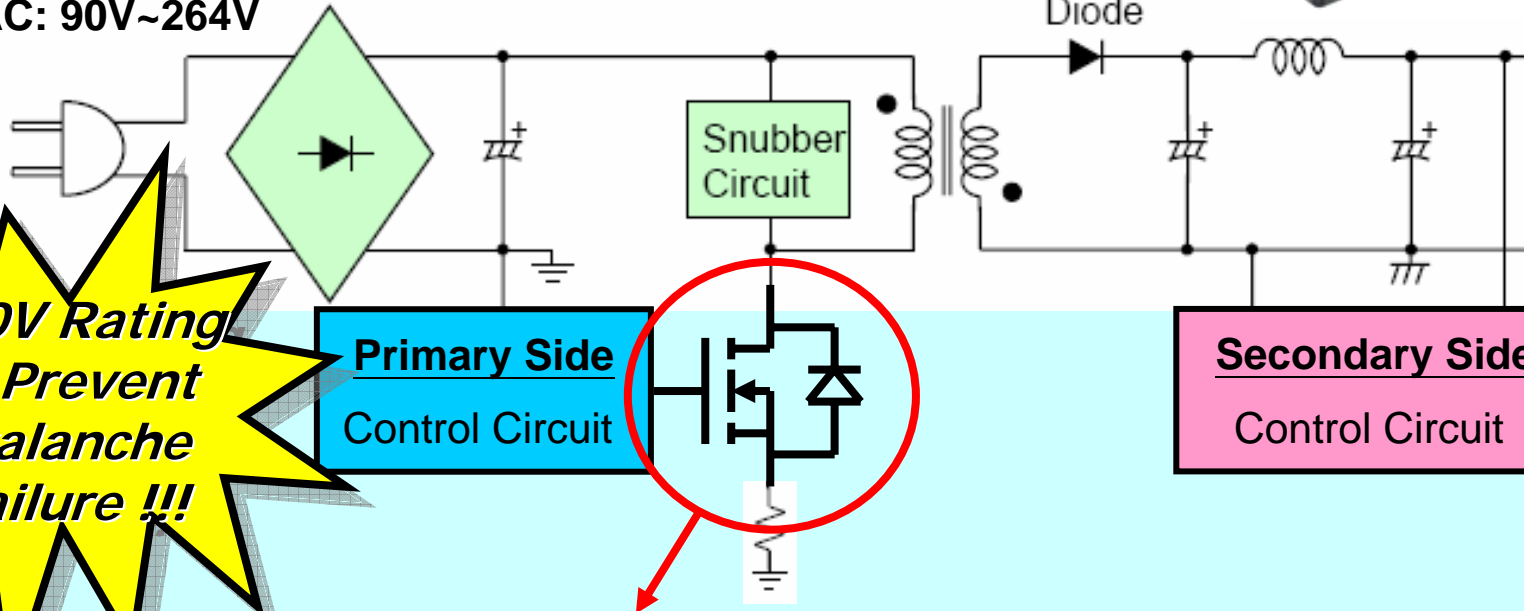
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Applications & Benchmarking

Adapter/Charger Applications

Input

AC: 90V~264V



**Primary Side
Control Circuit**

**Secondary Side
Control Circuit**

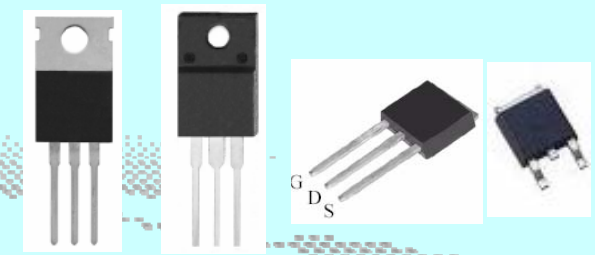
**650V Rating
To Prevent
Avalanche
Failure !!!**



Output:

DC: 3.3V or 5V
or 6V or 9V or
12V or 19V

- FTU01N65C ;FTU01N60C ;ITU01N60A(<3W)
- FTU02N65C ;FTU02N60C; ITU02N60A(<6W)
- FTA/P02N65C ;FTA/P02N60C (<10W)
- FTA/P04N60D ;FSA/P/U04N60A ; ITA04N60A; ISA/U/D04N60A(<20W)
- FTA/P04N65 ;FSA/P/U04N65 ;ISA04N60A;ITA04N60A; (<20W)
- FTA/P06N65 ;FTA/P06N60C ;FSA07N60A; ITA08N60A;(<40W)
- FTA10N65;FTA10N60C(<60W)
- FSA/P/10N65A; (<60W)
- ITA/U/D02N70A; (<10W)



TO-220 TO-220F TO-251 TO-252



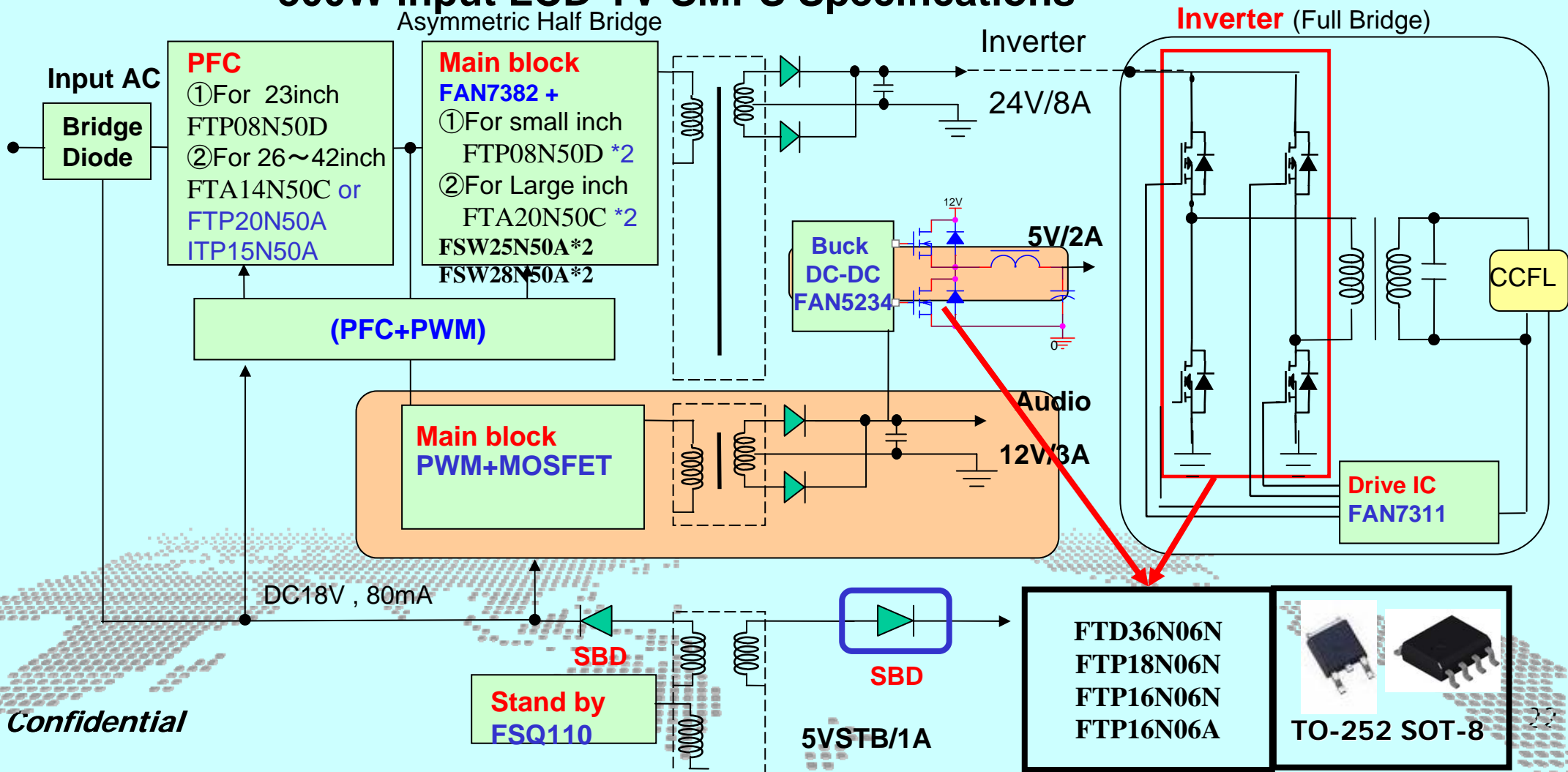
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LCD-TV Power SMPS + LV Inverter Solutions

- ◆ Backlight : Asymmetric Half Bridge FAN4800+FAN7382+FAN7311 OR FAN7530+FSFA2100+FAN7311 OR L6562+L6599+TL494
- ◆ Multi Out : Flyback (PWM + MOSFET)
- ◆ Standby : Flyback (PWM + MOSFET)

300W input LCD-TV SMPS Specifications

Asymmetric Half Bridge

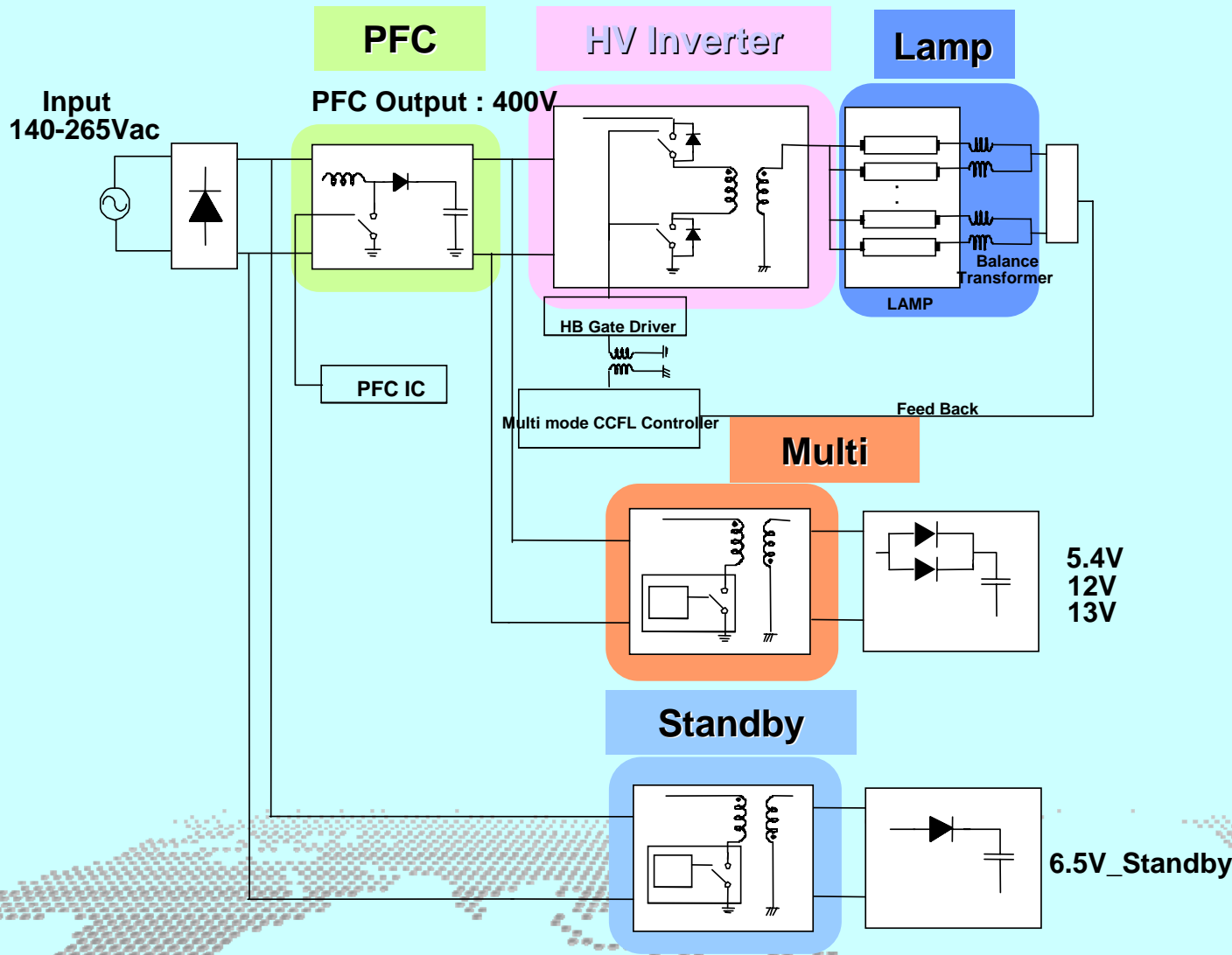


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LCD-TV Power Super IP or High Lips Solutions



PFC MOSFET

PFC DIODE

FTP/A/W14N50C
 FTP/A/W20N50A
 FTP/A/W15N50A;
 ITP/A15N50A
 FTP/W20N50A; FSW25N50A; FSW28N50A
 FTP/A/W20N60A

R&D Planed

HV INVERTER MOSFET

FTP05N50D; FTA04N65; FSA04N65A;
 ISP/A/U05N50A
 FTP/A06N65 ; FTP08N50D; ITP/A09N50A;
 FTP/A/W14N50C; ISP/A15N50A;
 FTP/W20N50A; FSW25N50A; FSW28N50A;
 FTP/W20N60A

MULTI MOSFET

Secondary Side

FTA09N80A
 FTP06D85
 FTU25D85
 FTA09N90A

Schottky Rectifier

2CR202ANLH

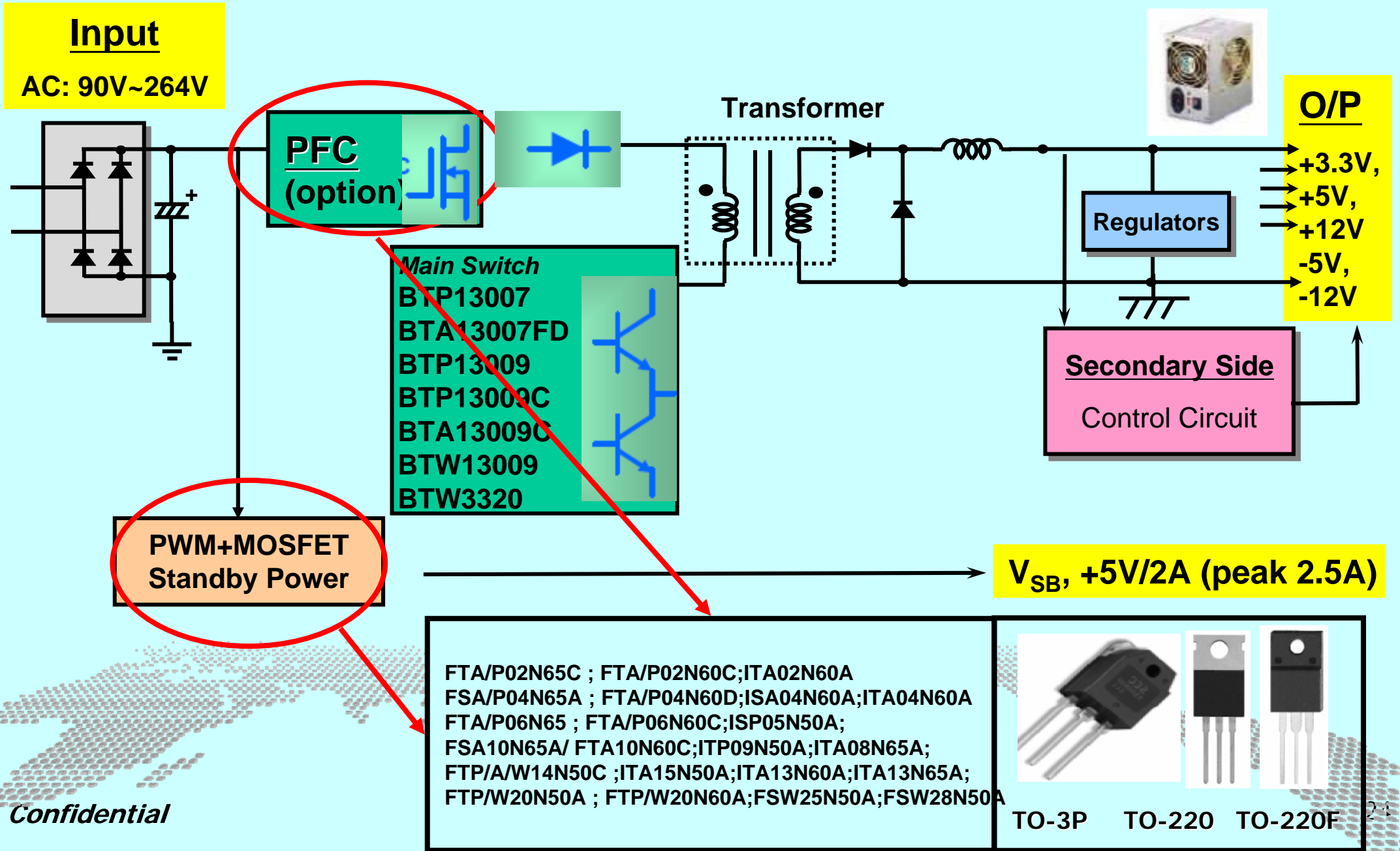
Standby

PWM+MOSFET



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ATX Half Bridge with Power Transistor Applications

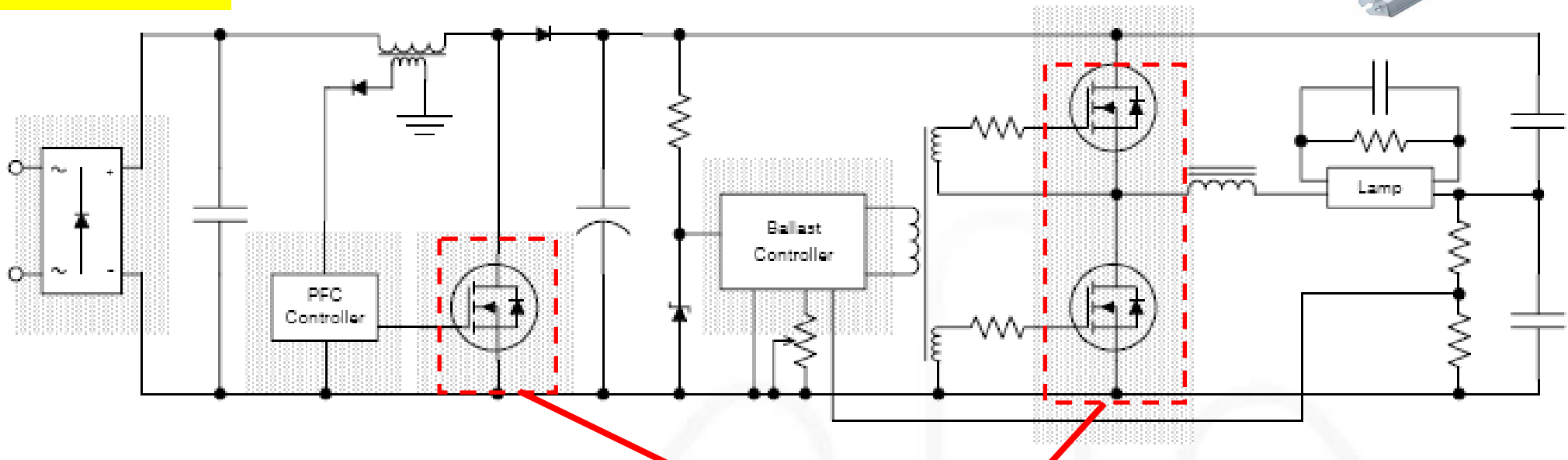


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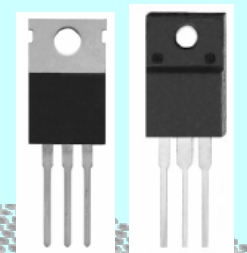
Ballast Applications

Input

AC: 90V~264V



FTP06N40D;
 FTP10N40C;ITP10N40A;FSW30N40A;
 FTP05N50D;ISP05N50A
 FTP08N50D;FSP09N50A;ITP09N50A
 FSP12N50A;FSW25N50A;FSW28N50A
 ITP15N50A;



TO-220 TO-220F

LED street lamp

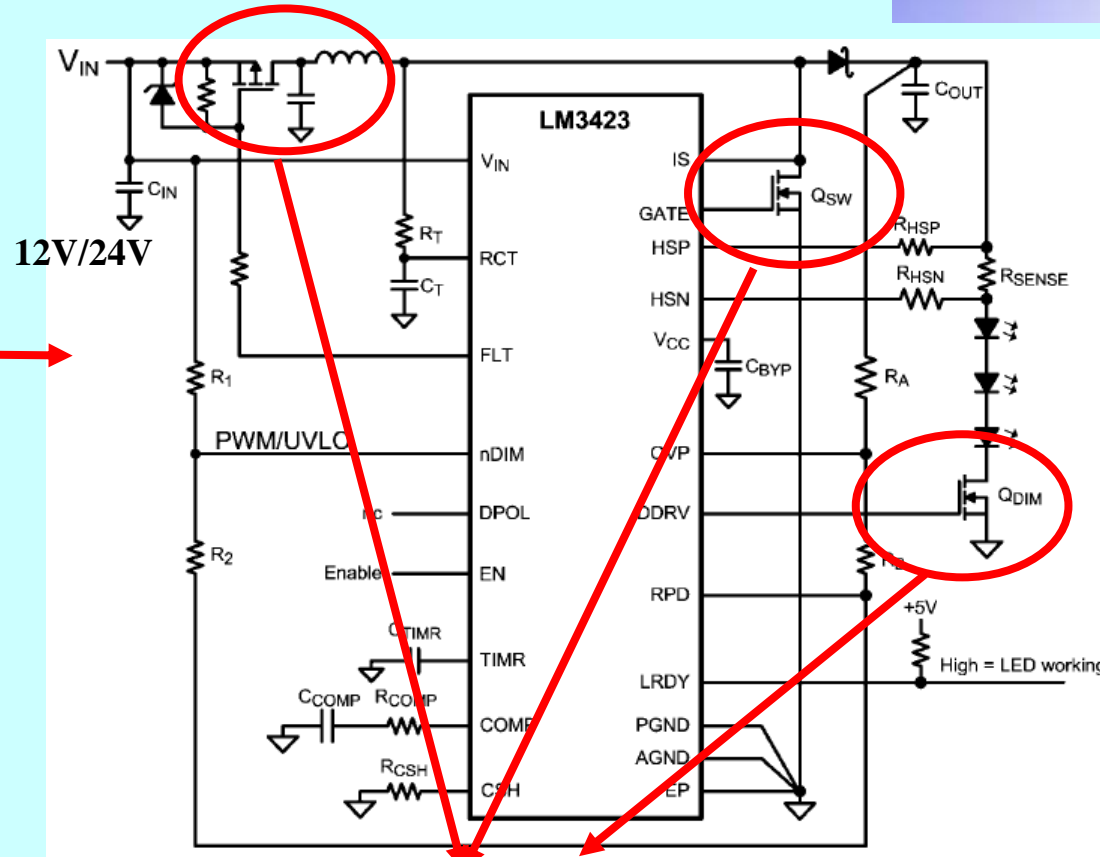


**12V Solar
Charger
Controller**

Solar Panel

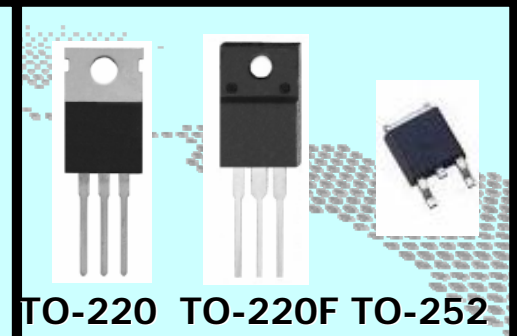


12V/24V Lead-acid
Battery



15 pcs LED
350 mA

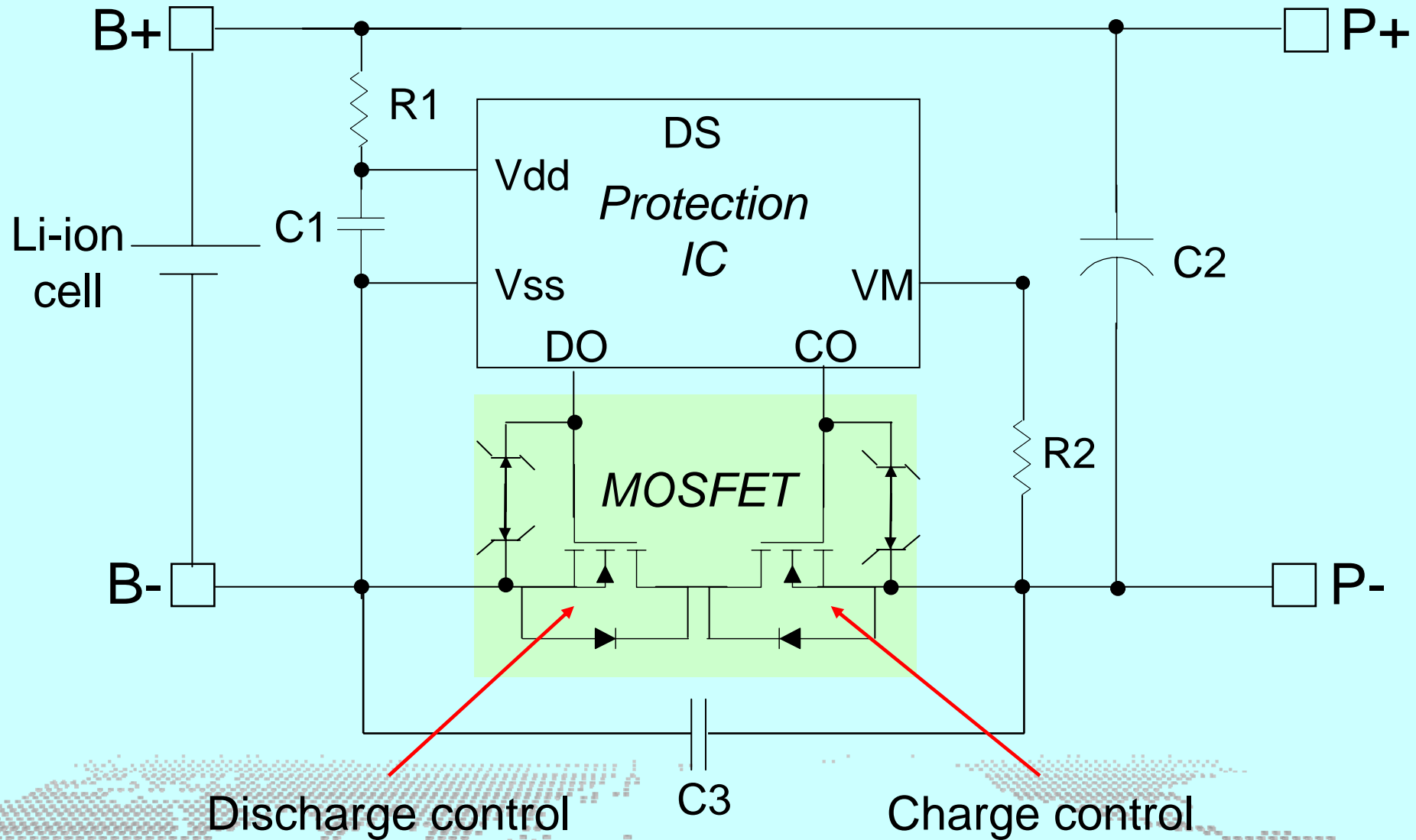
- FTD36N06N
- FTP18N06N
- FTP16N06N/ FTP16N06A
- FTP11N08A
- FTP540
- FTP23N10A





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Typical PCM Schematic Applications



FTE9926
FTZ2301

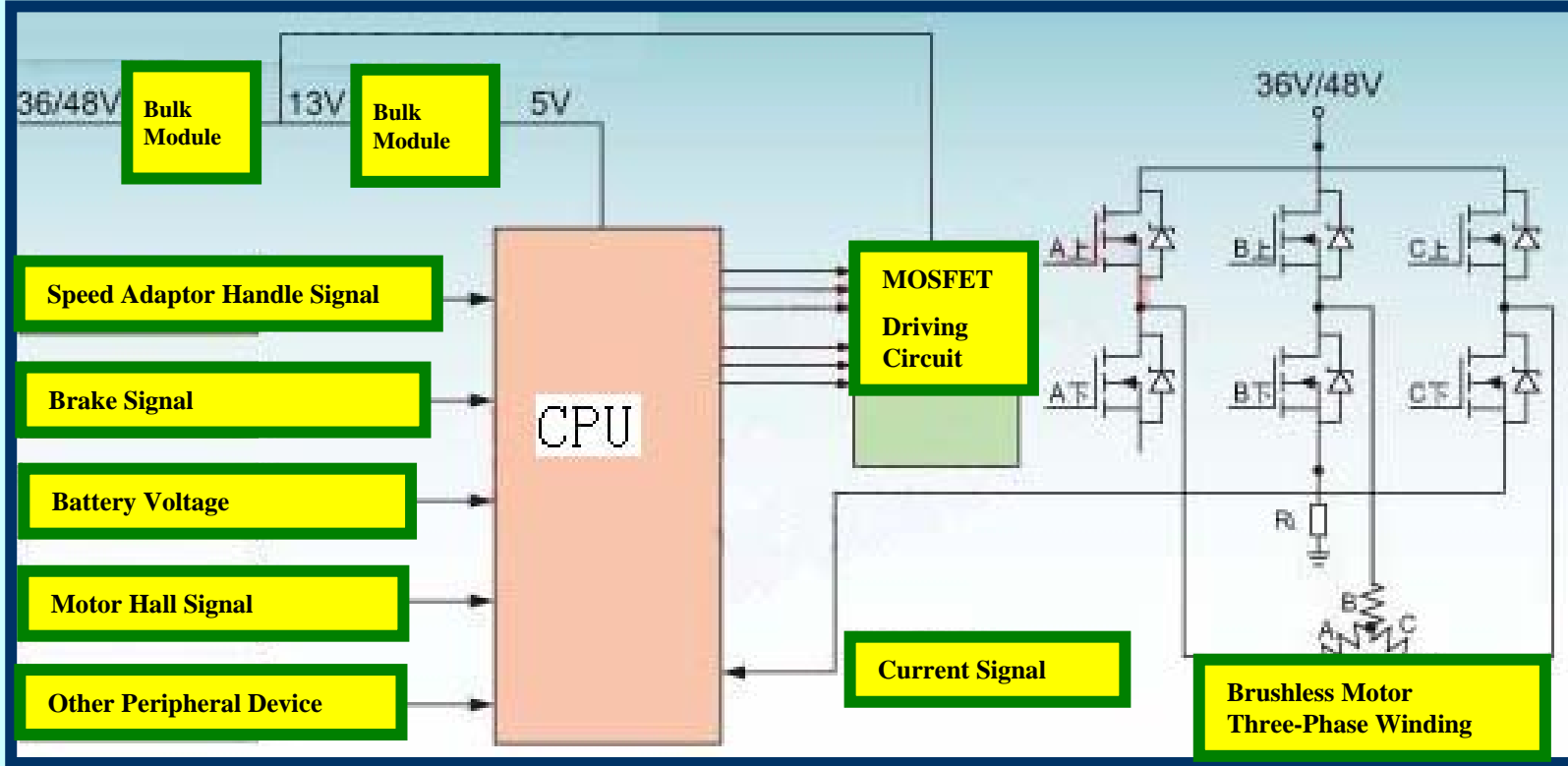


SOT-3 SOT-8



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E-Bike & E-sewing Applications

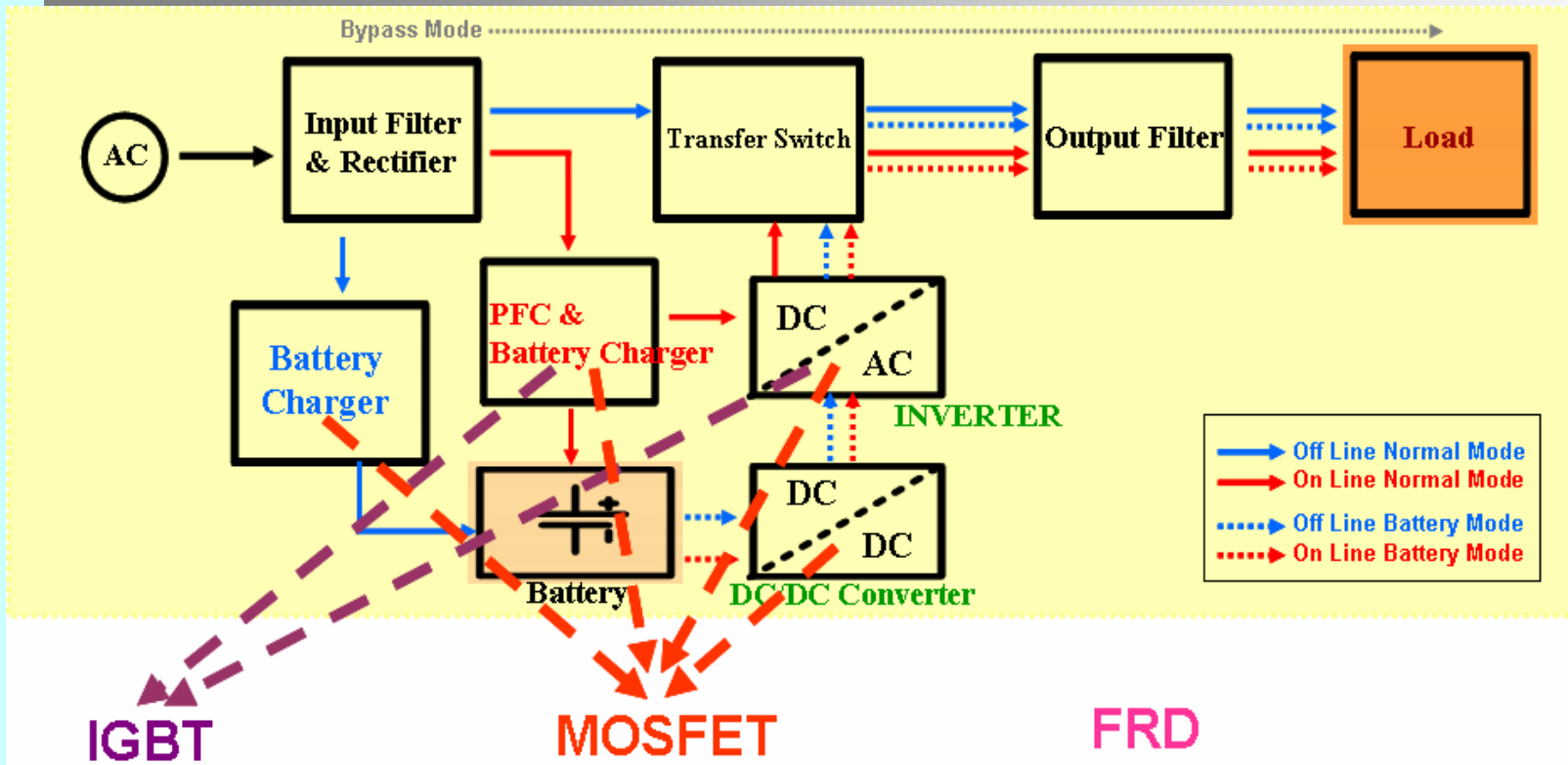


FTP08N06A
FTP11N08A
FTP11N07N



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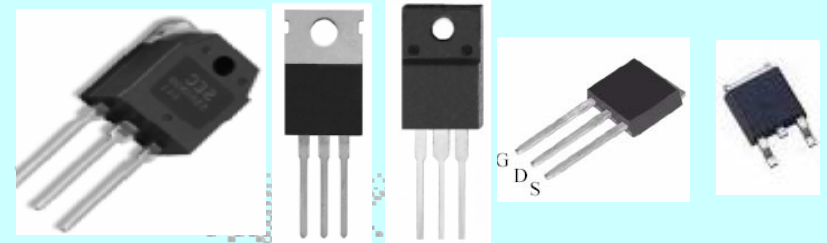
ON/OFF-LINE UPS Applications



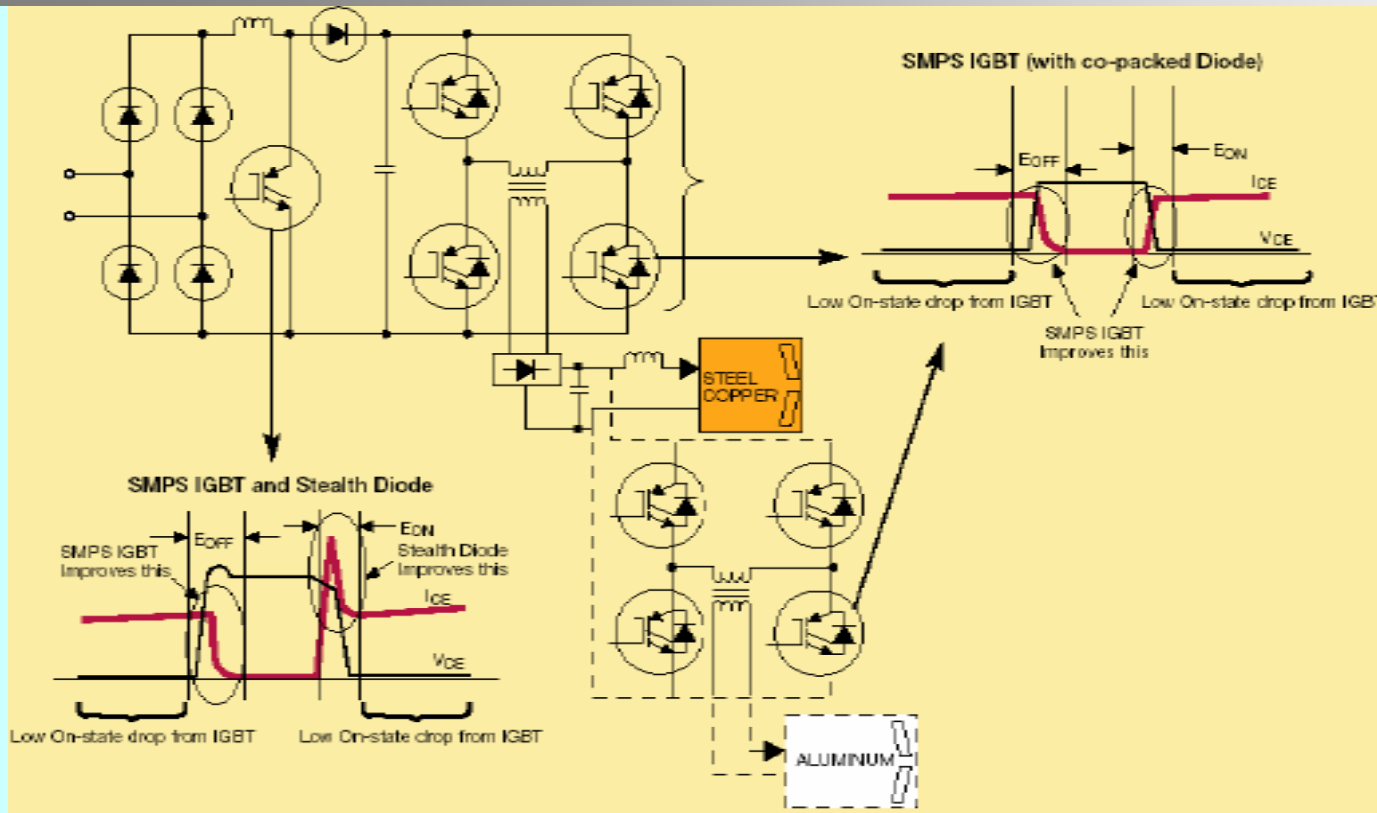
IGW40N60N
IGW15N120
GTW25N120

FTP18N06N ; FTP16N06A ; FTP08N06A
FTP23N10A ; FTP11N08A
FTP/A/W14N50C;
FTP/A/W15N50A; ITP/A15N50A
FTP/W20N50A; FSW25N50A;
FSW28N50A ;
FTP/W09N90A; FSW09N90A
FSW20N90A

2CR202ANLH

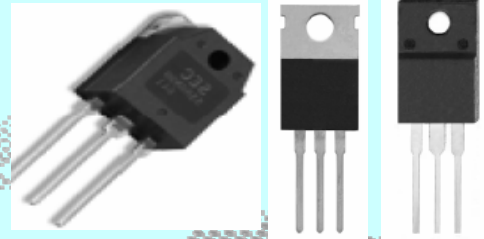


TO-3P TO-220 TO-220F TO-251 TO-252



Four-wheel drive/Damping shaft

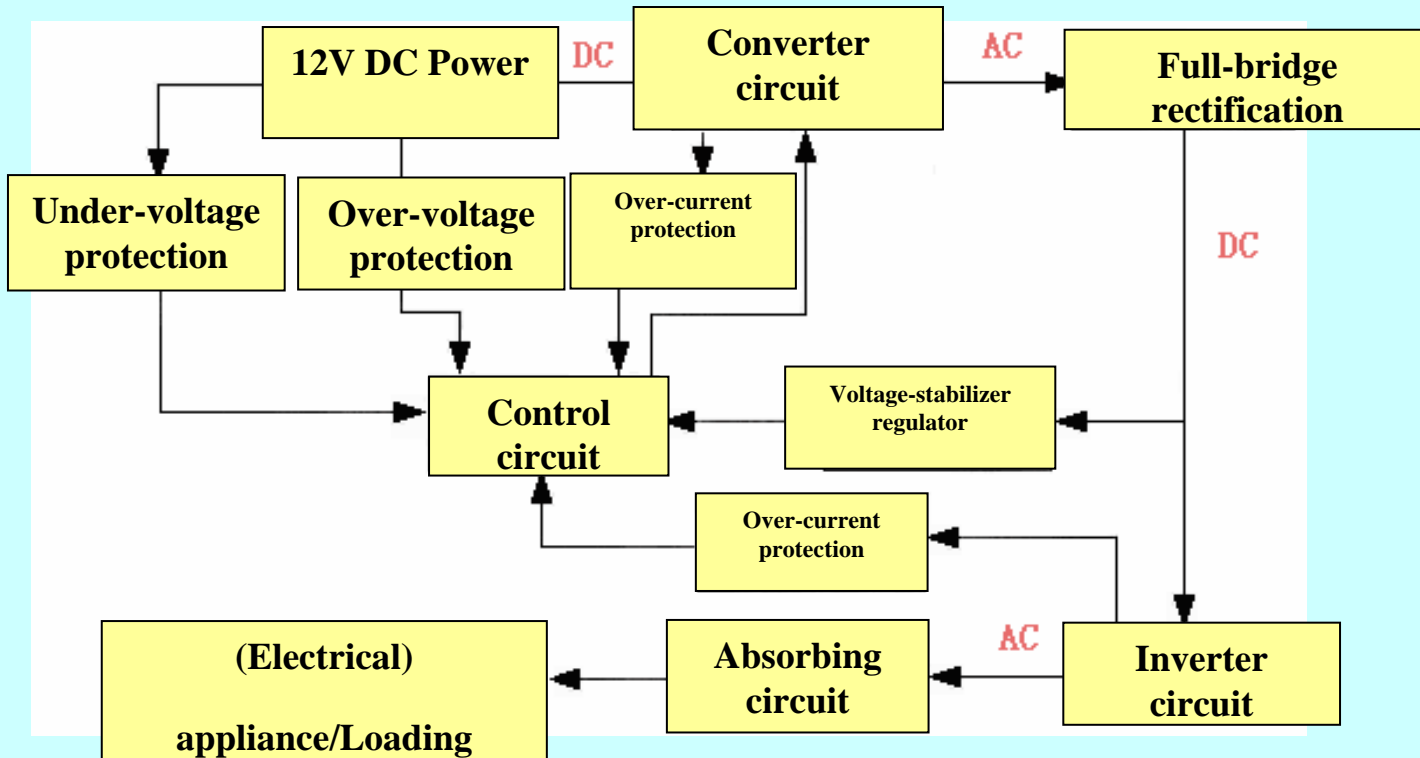


IGBT	MOSFET	FRD	
IGW40N60N IGW15N120 GTW25N120	FTP/A/W14N50C; FTP/A/W15N50A; ITP/A15N50A FTP/W20N50A; FSW25N50A; FSW28N50A ; FTP/W09N90A; FSW09N90A FSW20N90A	2CR202ANLH	 <p>TO-3P TO-220 TO-220F</p>



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Power Inverter



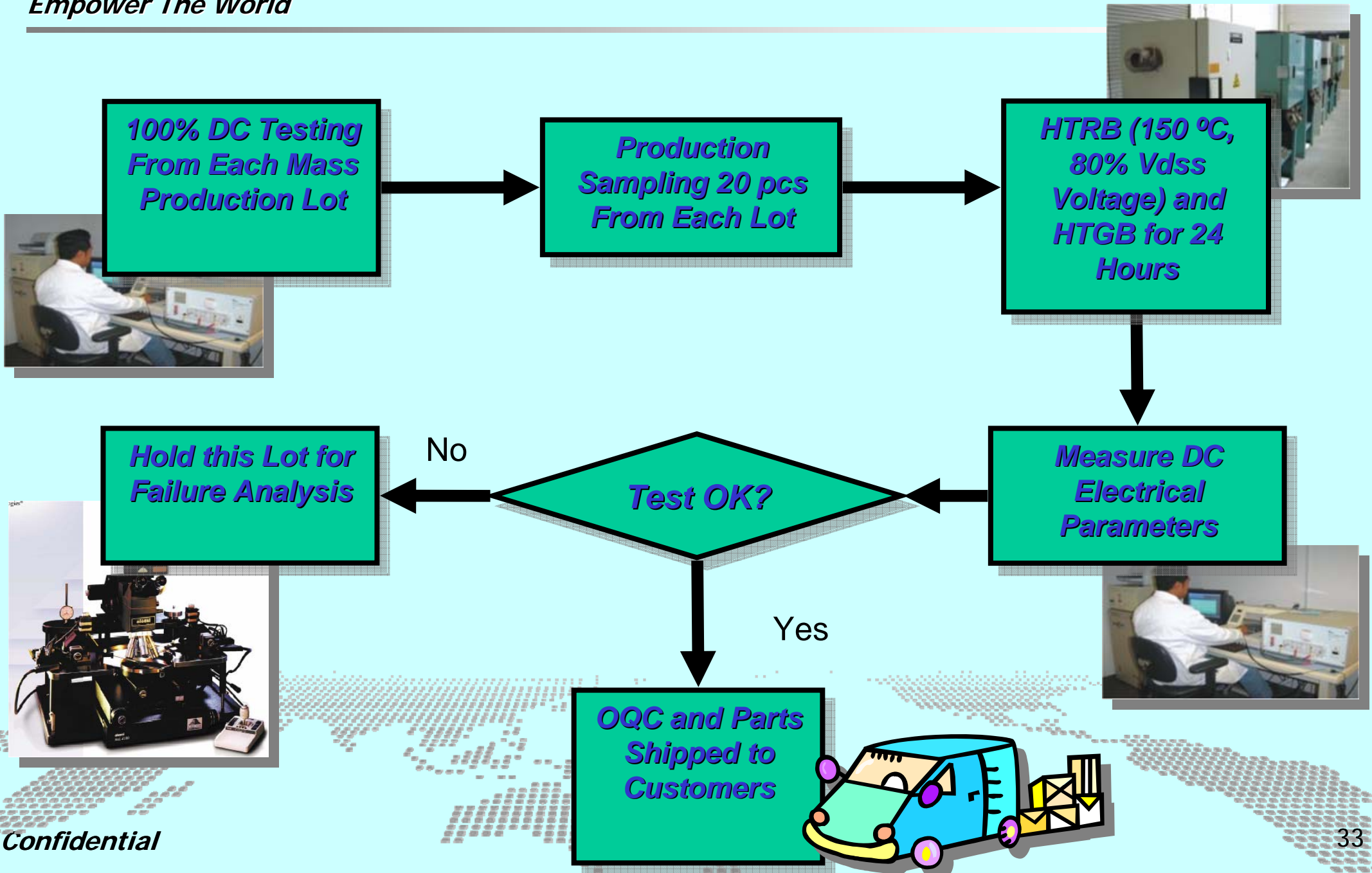
<p>IGBT</p> <p>IGW40N60N IGW15N120 GTW25N120</p>	<p>MOSFET</p> <p>FTP04N04N ; FTP05N03N ; FTP18N06N ; FTP16N06A ; FTP08N06A FTP23N10A ; FTP11N08A ; FTP09N20C ; FTP18N20C ; FTP/A/W14N50C; FTP/A/W15N50A; ITP/A15N50A FTP/W20N50A; FSW25N50A; FSW28N50A FTP/W09N90A; FSW09N90A ; FSW20N90A</p>	<p>FRD</p> <p>2CR202ANLH</p>	<p>TO-3P TO-220 TO-220F</p>
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Quality Assurance & Reliability

Outgoing-Quality Control (OQC)



- **ISO Certified Supply Chains**

Epi Wafer Manufacturer: ISO 9001 Certified ISO 14001 Certified QS 9000 Certified Health and Safety Certified	Wafer Foundry: ISO 9001 Certified TS16949 Certified ISO 14001 Certified ISO Guide 25 Certified
Assembly House: ISO 9002 Certified TS 16949 Certified ISO 14001 Certified QS 9000 Certified	InPower: ISO 9001 Certified ISO 14001 Certified



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End of Presentation

Thank You!