



SYNC POWER CORP. >>>

<http://www.syncpower.com>

SYNC POWER CORP.

擎力科技股份有限公司

(<http://www.syncpower.com>)





MILESTONES

Date	Description
2004 / 02	🌐 SYNC POWER founded in Nan Kang Software Park (ITRI's Incumbent Center)
2004 / 03	🌐 Initial capital of NT\$ 35M
2004 / 08	🌐 Trench Power MOSFET Launch for Portable Equipment
2004 / 12	🌐 Fly Back Synchronous Rectifier Controller Launch (For Switching Mode Power Supply)
2005 / 04	🌐 Paid-In Capital Increased to NT\$ 48M
2005 / 08	🌐 Forward Synchronous Rectifier Controller Launch (For Switching Mode Power Supply)
2005 / 09	🌐 AFQA System Certification (ISO 9000 : 2001)
2005 / 10	🌐 TVS ESD Protection Array Launch for Portable Equipment



MILESTONES

Date	Description
2006 / 03	🌐 Voltage Shunt Regulators Launch (For Cyber Communication)
2006 / 07	🌐 Linear Voltage Regulator (LDO) Launch (For Cyber Communication)
2006 / 09	🌐 Bi-Direction TVS ESD Protection Array Launch (For Portable Equipment)
2006 / 11	🌐 AC-DC Green Mode PWM Controller Launch (For Switching Mode Power Supply)
2007 / 01	🌐 Paid-In Capital Increased to NT\$ 115M
2007 / 04	🌐 White LED Driver Launch (For Back Light Control)



SYNC POWER PATENTS & ISO

Patent Numbers & Patent Titles about Synchronous Rectifier	
US Patent (5,736,890)	Method and Apparatus for Controlling Transistors as Rectifiers
US Patent (6,038,150)	Transistorized Rectifier for A Multiple Output Converter
US Patent (6,055,170)	Prediction Methods and Circuits for Operating A Transistor as A Rectifier
US Patent (6,456,106)	Method and Circuit for Detection of Primary Switches Status in Isolated DC/DC Converters

C E R T I F I C A T I O N



6633

CERTIFICATE OF REGISTRATION

SYNC POWER CORP.

Design and Sales of Integrated Circuit (IC).

9F-5, No. 3-2, Park Street, Nankang District, Taipei, Taiwan, 115, R. O. C.

AFAQ-EAQA Ltd certifies that all the arrangements covering the above-mentioned activities and locations established to meet the requirements of the international standard:

ISO 9001:2000

have been examined and found conform.

ORIGINAL DATE OF CERTIFICATION	DATE OF ISSUE	DATE OF EXPIRY
25-Nov-2005	25-Nov-2005	24-Nov-2008





APPROVED BY



ON BEHALF OF AFAQ-EAQA LTD

Certificate issued by AFAQ-EAQA Ltd.
Part of the AFNOR Group of Companies
This certificate is the property of AFAQ-EAQA Ltd and issued subject to the conditions overleaf.
The use of the UKAS Accreditation Mark indicates accreditation in respect of those activities covered by the Certificate Number 022.



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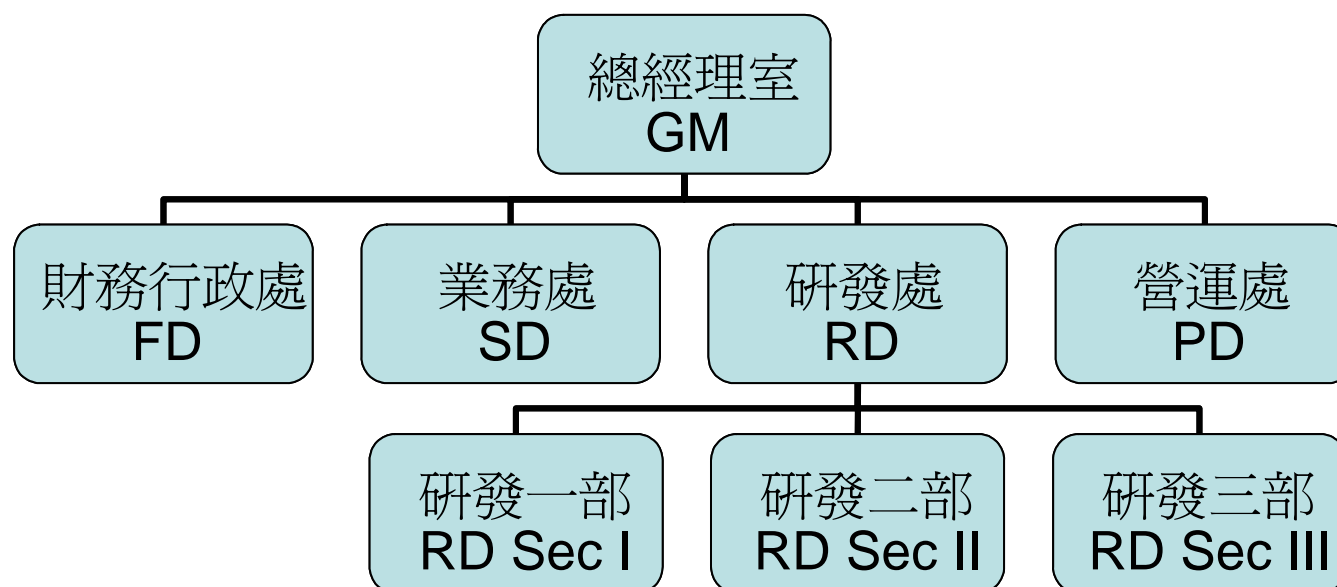
<http://www.syncpower.com>

HEADQUARTER





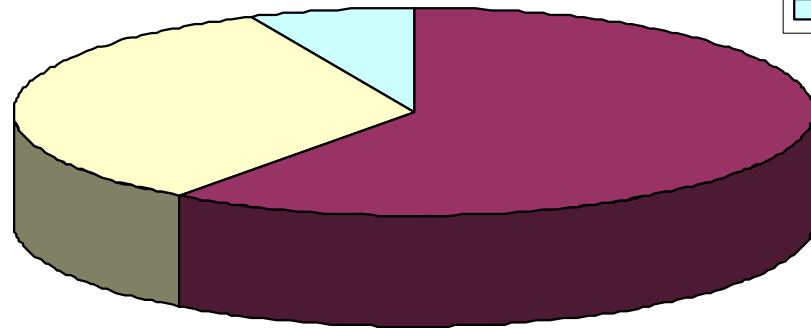
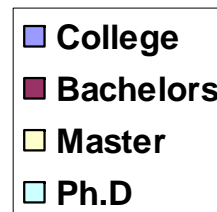
ORGANIZATION



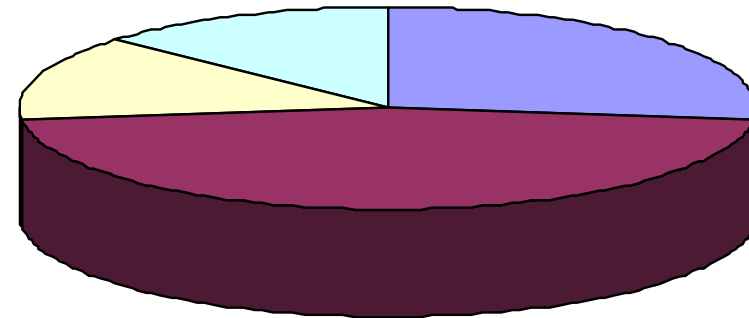
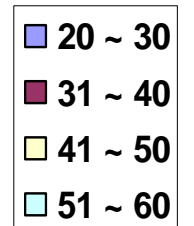


EMPLOYEE

Education Degree of Employee
教育程度

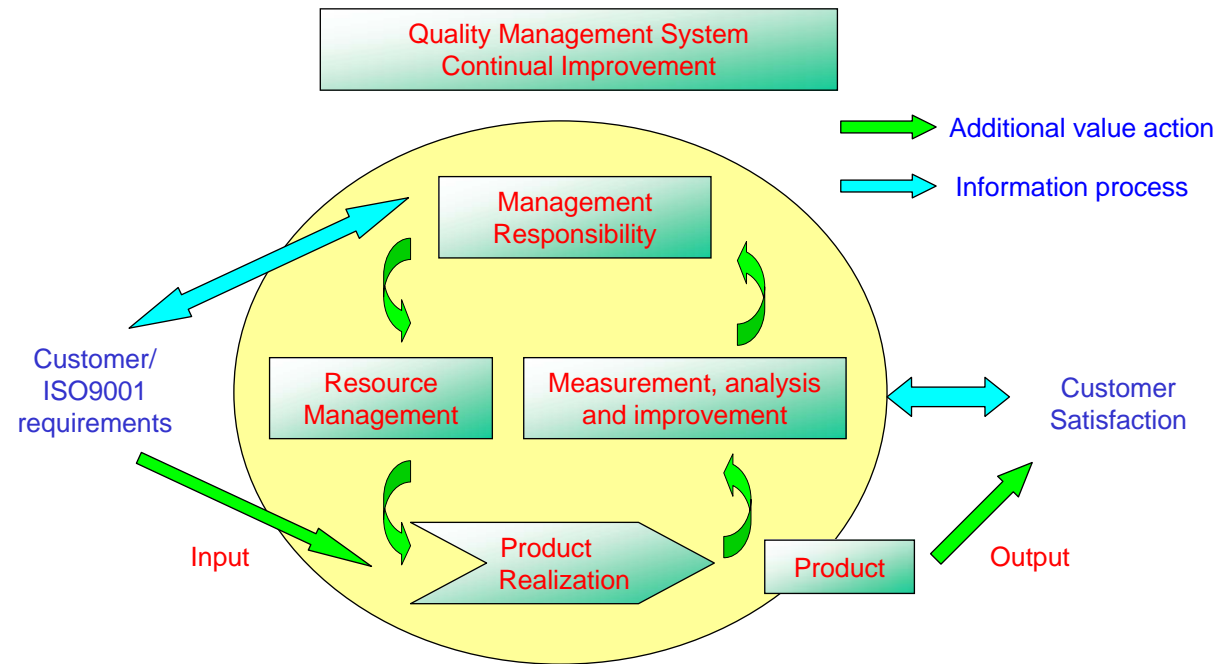


Average Age of Employee
平均年齡





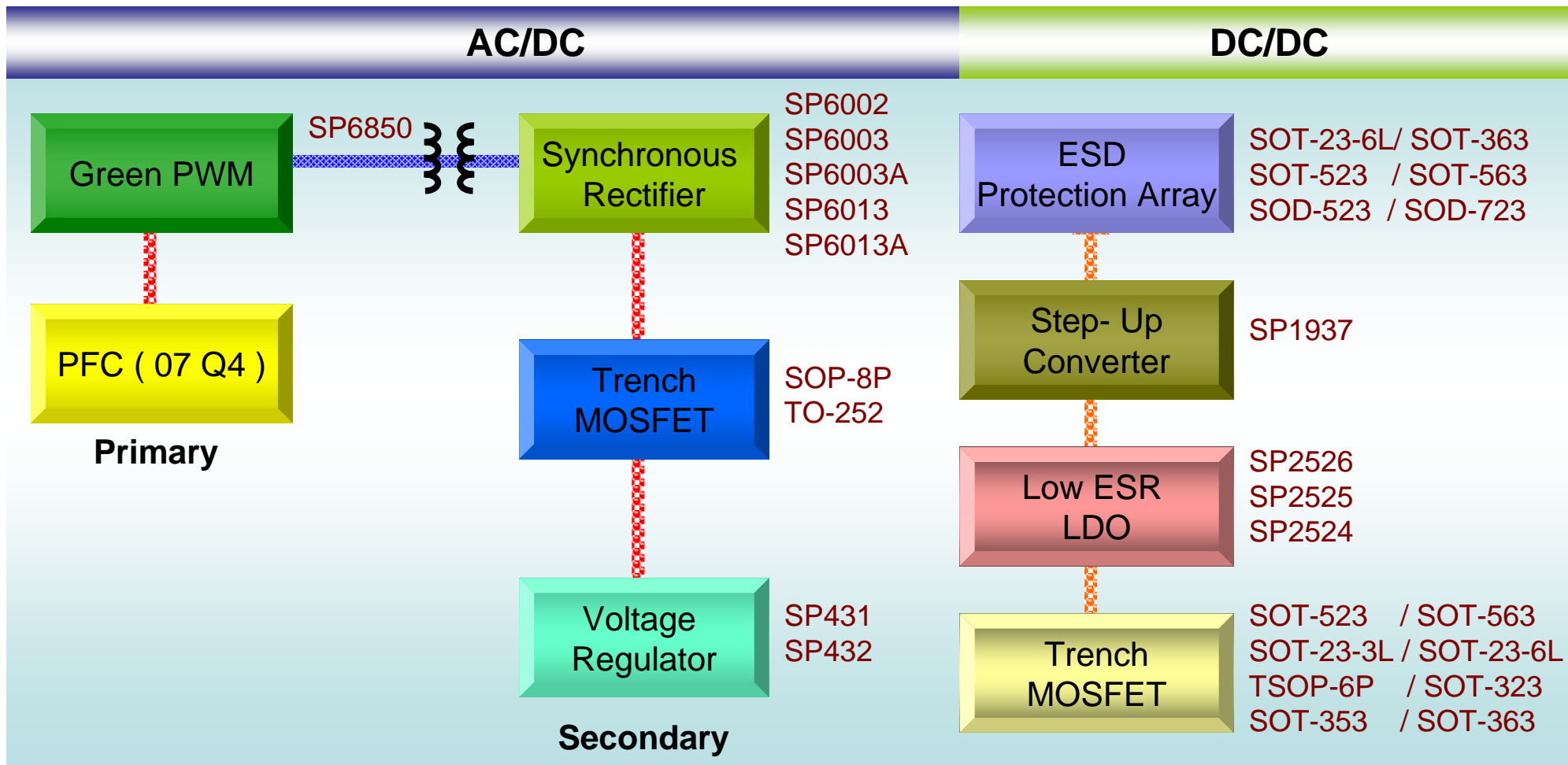
QUALITY



- **Do it right first time**
- **Provide customer needed products and services**
- **Continue improvement to upgrade quality**



PRODUCT



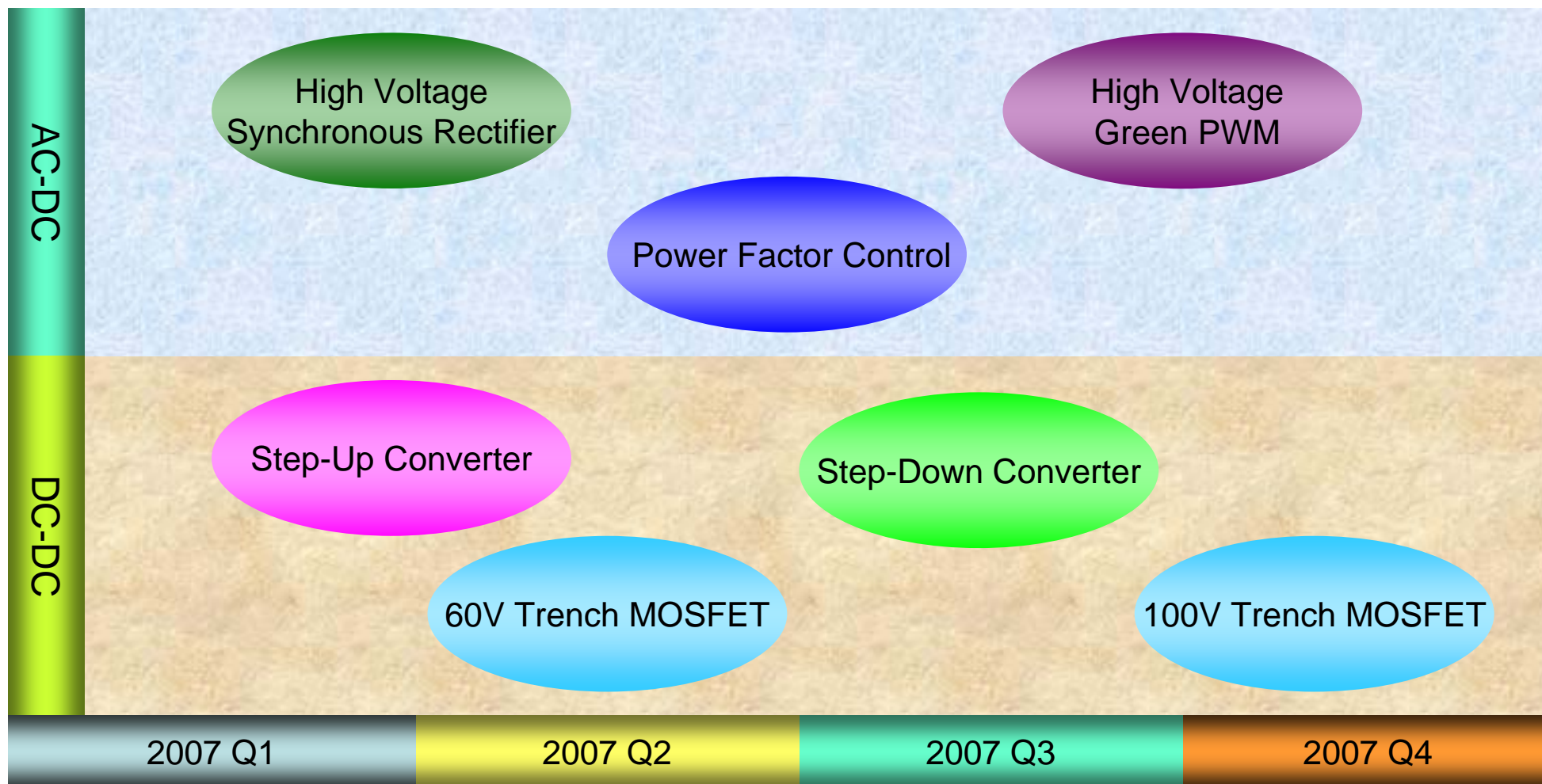


APPLICATIONS

- **Synchronous Rectifier MOSFET Driver**
 - AC/DC Switching Power Supply System
- **AC-DC Green PWM**
 - AC/DC Switching Power Supply System
- **DC-DC Step Up Converter**
 - DSC Motor Driver / White LED Driver
- **Trench Power MOSFET / Voltage Regulator**
 - MB / NB / MP3 / DSC / Battery / Cell Phone / Adaptor
- **ESD Protection Array**
 - NB / DV / STB / LCM / DSC / Cell Phone / Wireless Phone



2007 ROADMAP





SUBCONTRACTOR

● Foundry

- Vanguard International Semiconductor Corp.
- MOSEL Vitelic Inc.
- SinoMOS Semiconductor Inc.
- BCD Semiconductor Inc.

● Wafer Testing

- Micro Silicon Elecs. Corp.

● Assembly & FT

- Jiangsu Changjian Electronics Technology Co. LTD.
- Taiwan Micropaq Corporation
- GTM Corporation
- Fujiter Semiconductor Co. LTD

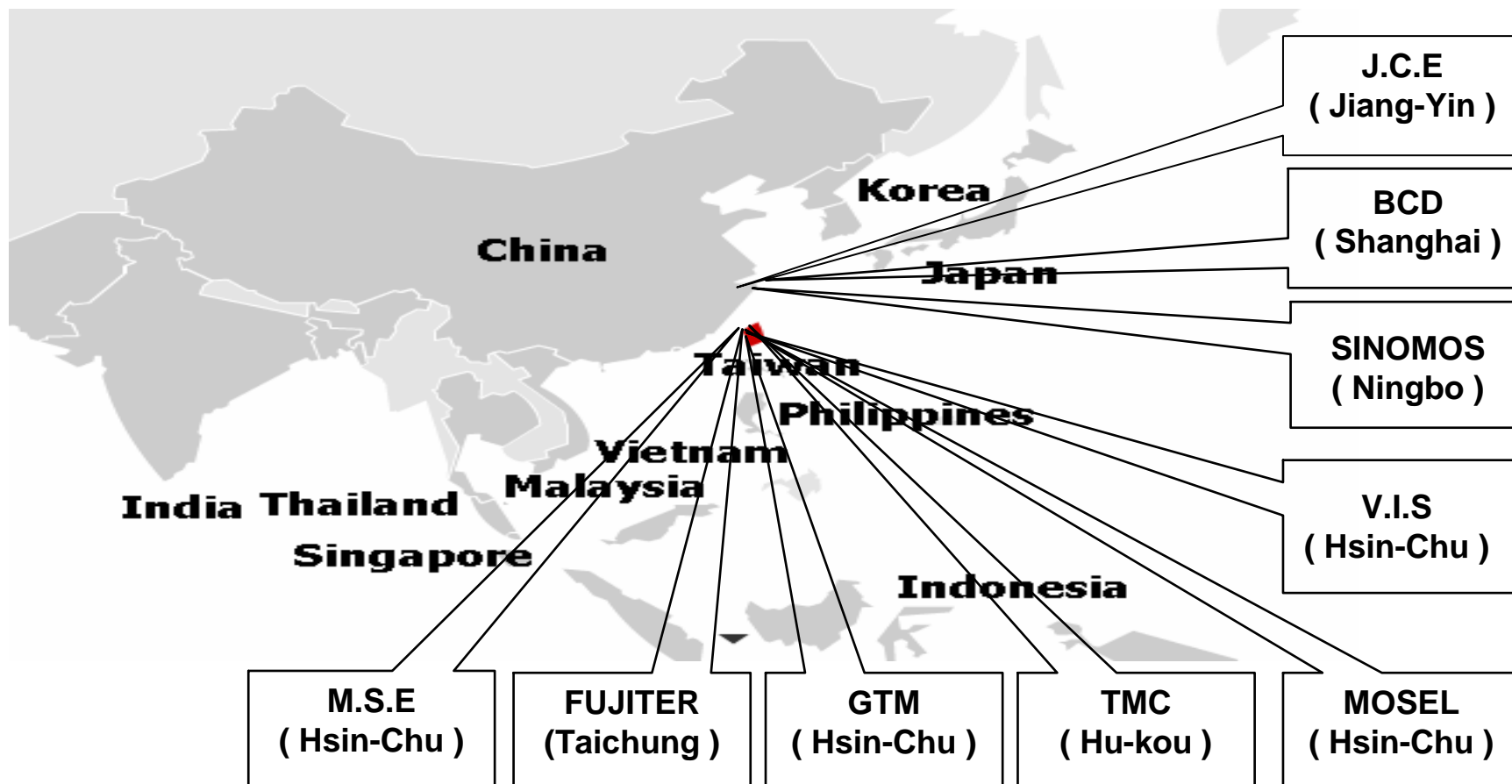


SUBCON WEBSITE

FACTORY	WEBSITE
Vanguard International Semiconductor Corp. (V.I.S)	http://www.vis.com.tw/
MOSEL Vitelic Inc. (MOSEL)	http://www.mosel.com.tw/
SinoMOS Semiconductor Inc. (SINOMOS)	http://www.sinomos.com/
BCD Semiconductor Inc. (BCD)	http://www.bcdsemi.com/
Micro Silicon Elecs. Corp. (M.S.E)	http://www.msec.com.tw/
Jiangsu Changjian Electronics Technology Co. LTD. (J.C.E)	http://www.cj-elec.com/
GTM Corporation (GTM)	http://www.gtm.com.tw/
Taiwan Micropaq Corporation (TMC)	http://www.tmc.com.tw/
Fujiter Semiconductor Co. LTD (FUJITER)	http://www.fujiter.com.tw/



SUBCON LOCATION



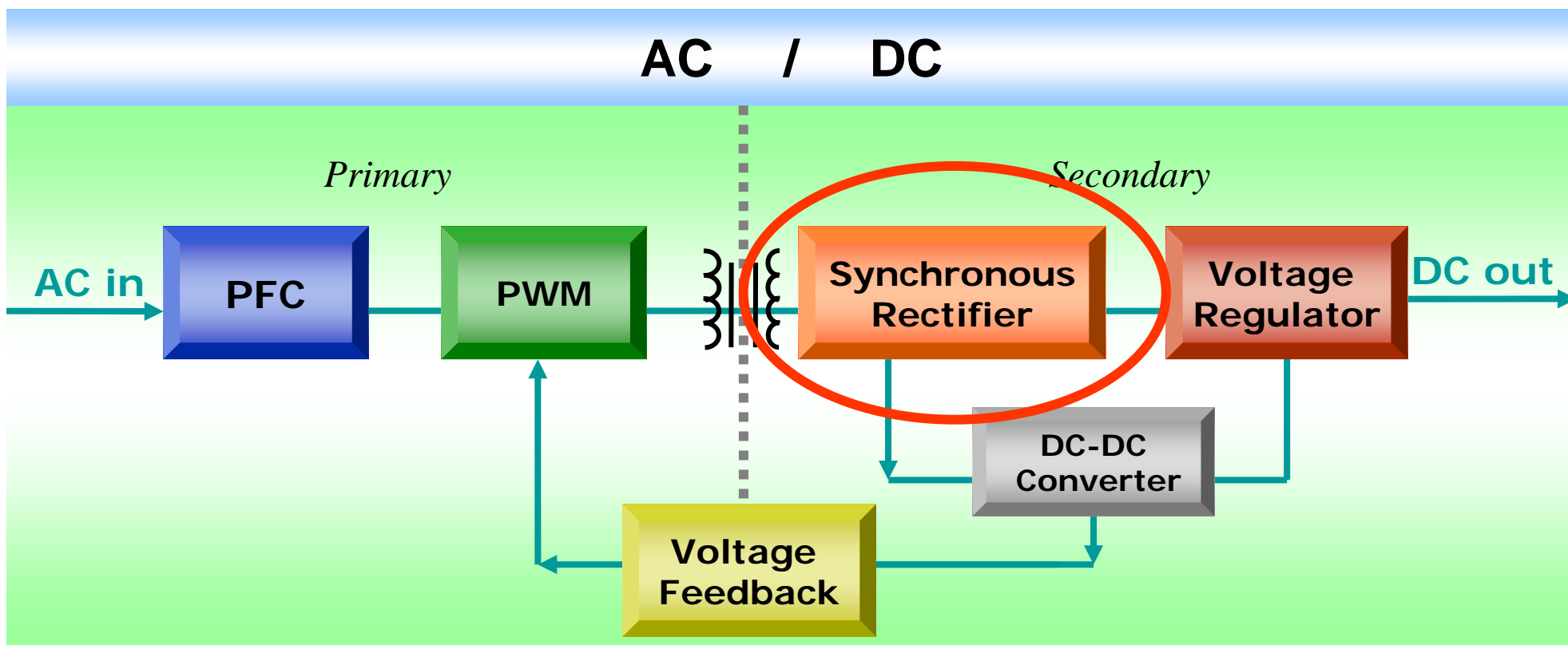


SYNC POWER Synchronous Rectifier Driver





Synchronous Rectifier Driver in Switching Mode Power Supply





Synchronous Rectifier Driver Technology Feature

- CCM and DCM Tracking
- Prediction Technology Detects inductor core energy
- Immune to noises
- ON-Delay Time Adjustment
- Prediction method is self-adjusting
- Independent of the MOSFET and Transformer
- No need to set Max. ON time
- MOSFET to carry current without Schottky Rectifier parallel
- Higher Efficiency (Input 90V ~ 260V available)

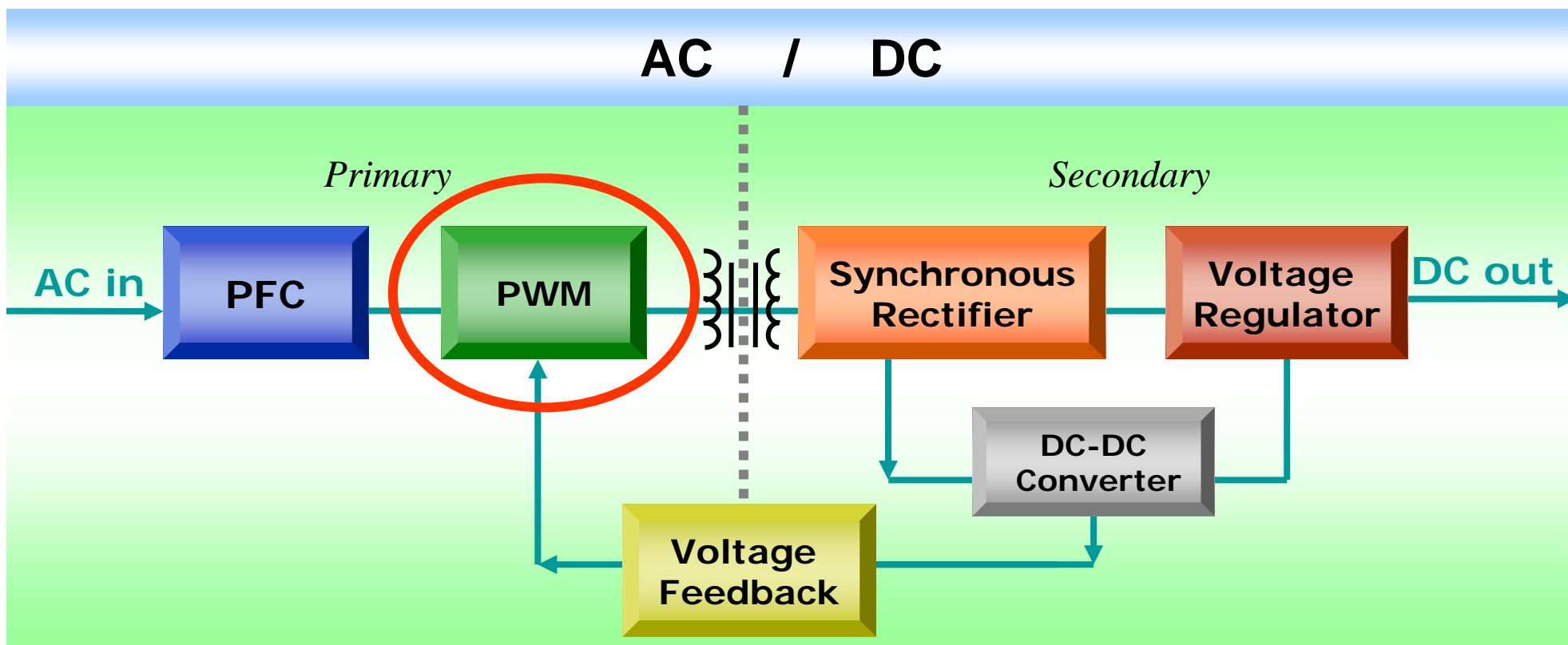


SYNC POWER Green Mode PWM



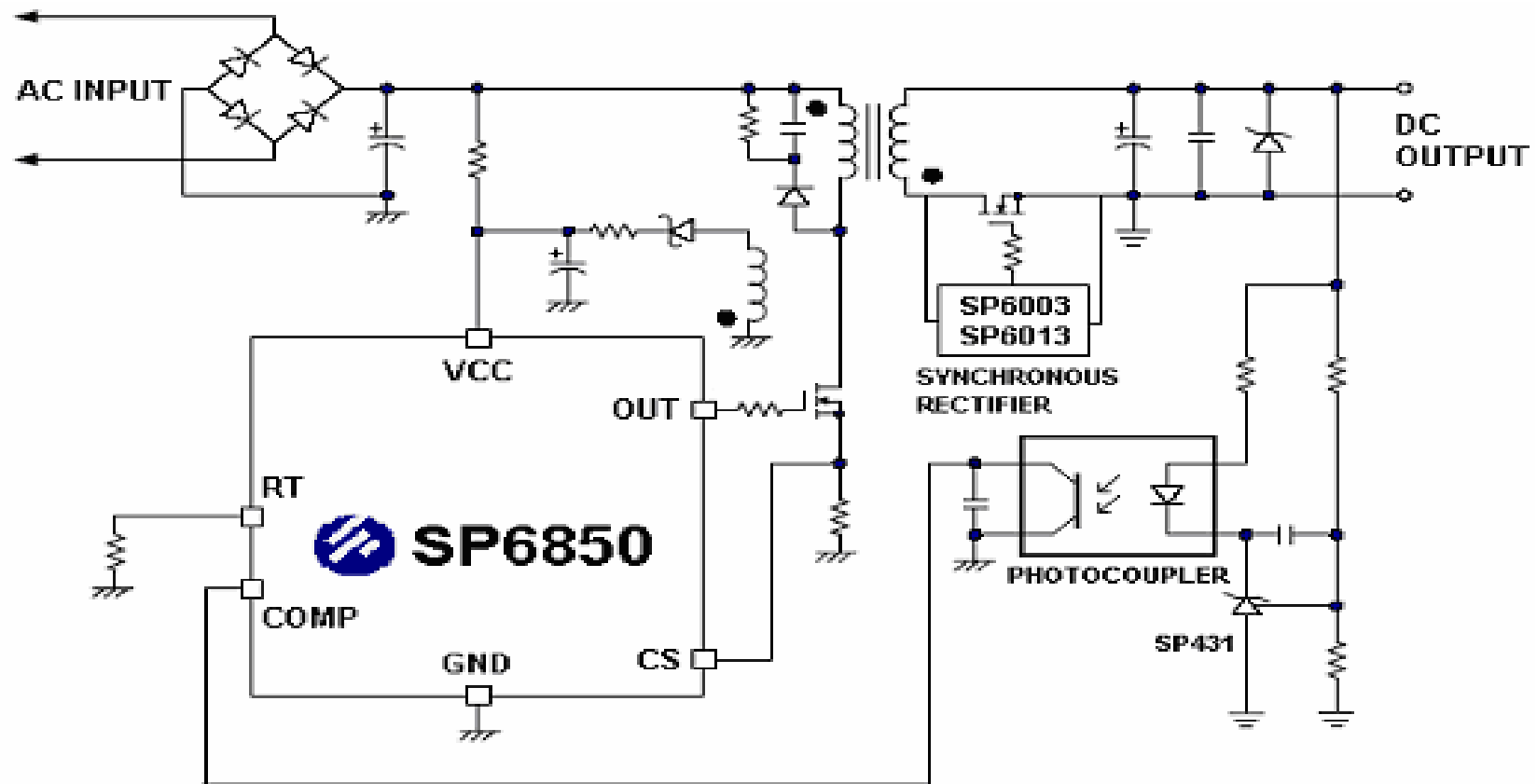


SYNC POWER Green Mode PWM in Switching Mode Power Supply



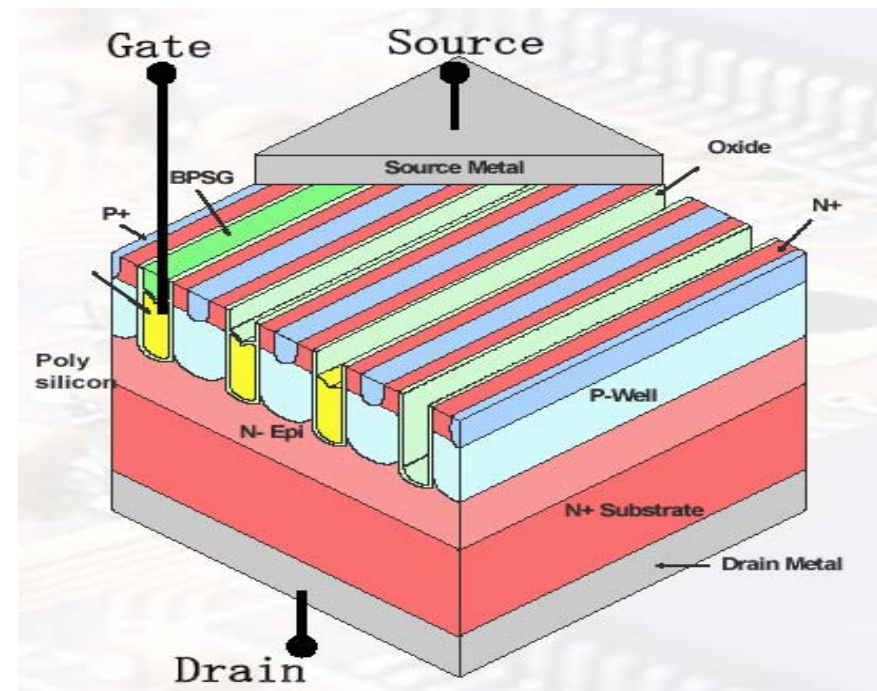
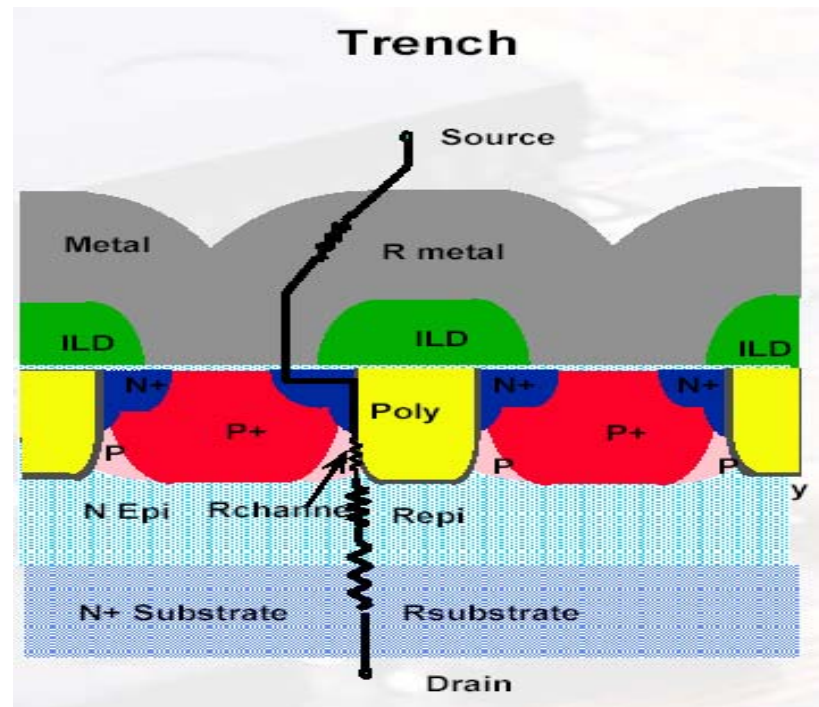


SYNC POWER Green Mode PWM High Efficiency SMPS (SR Design In)



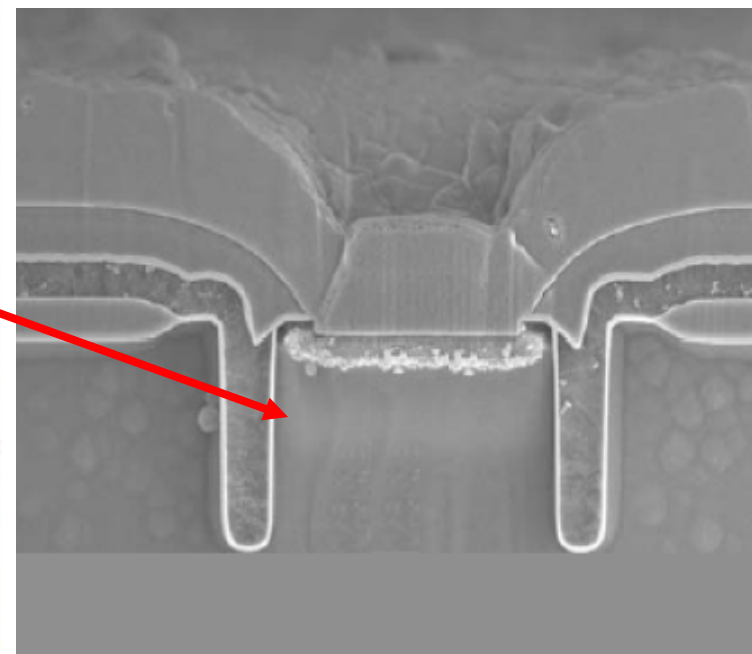
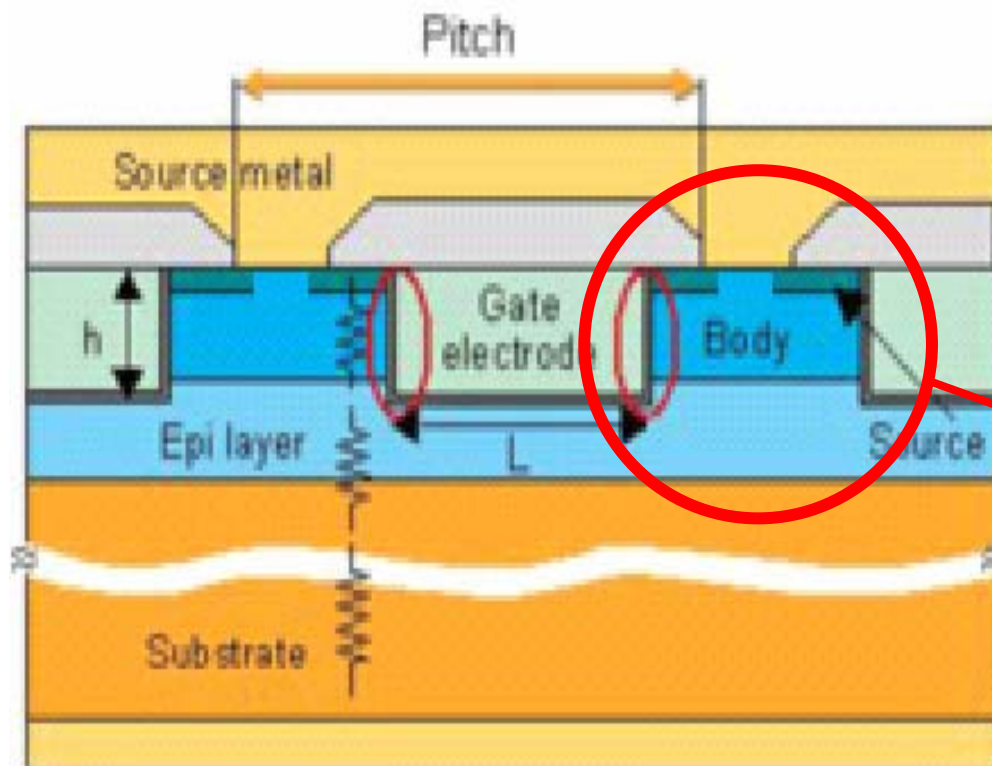


SYNC POWER Trench Power MOSFET



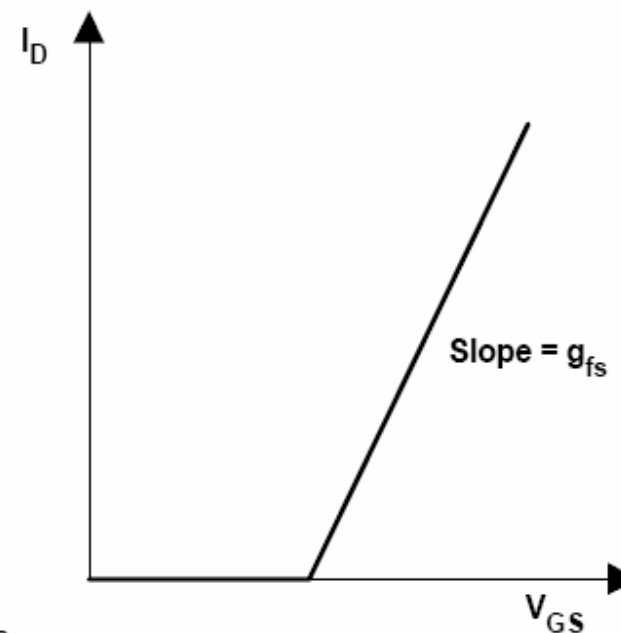
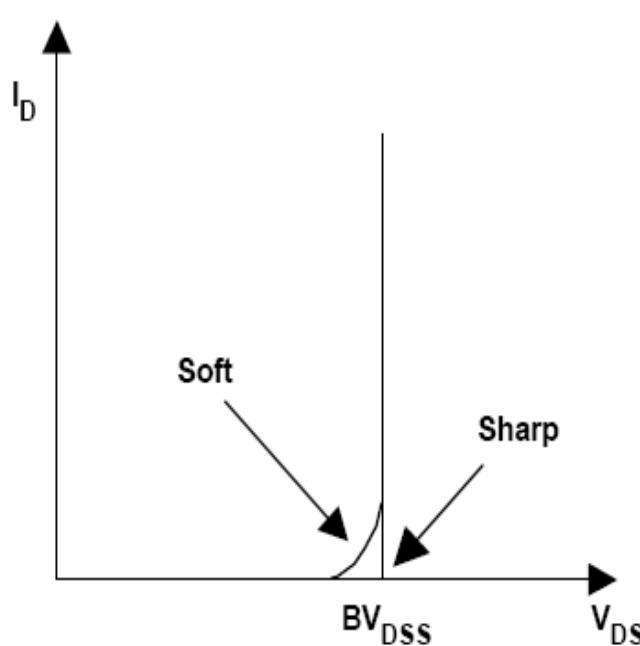
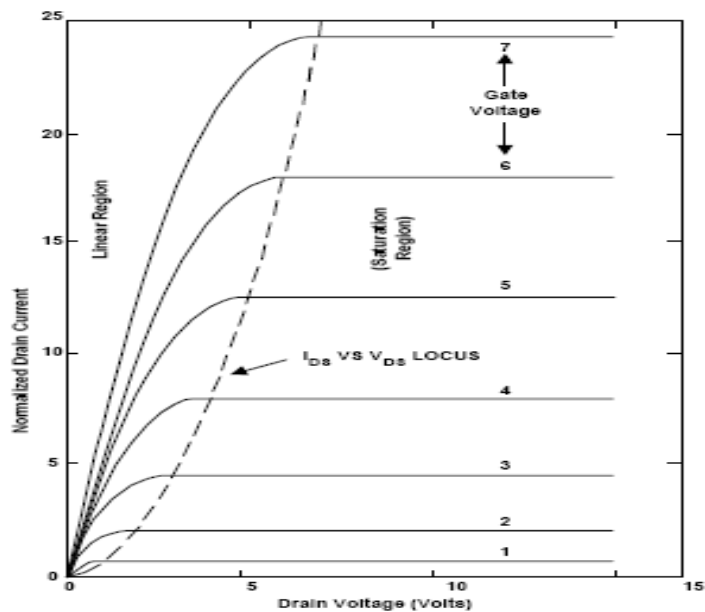


Low $R_{DS(on)}$ Trench Power MOSFET Structure



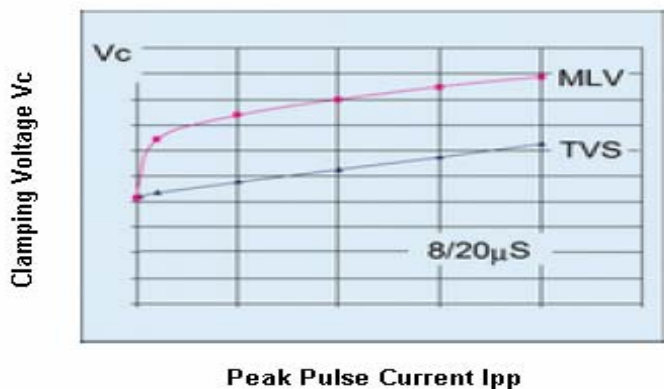
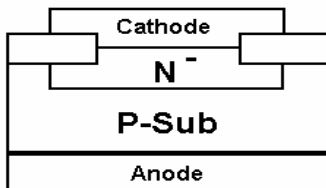


Trench Power MOSFET Characteristics





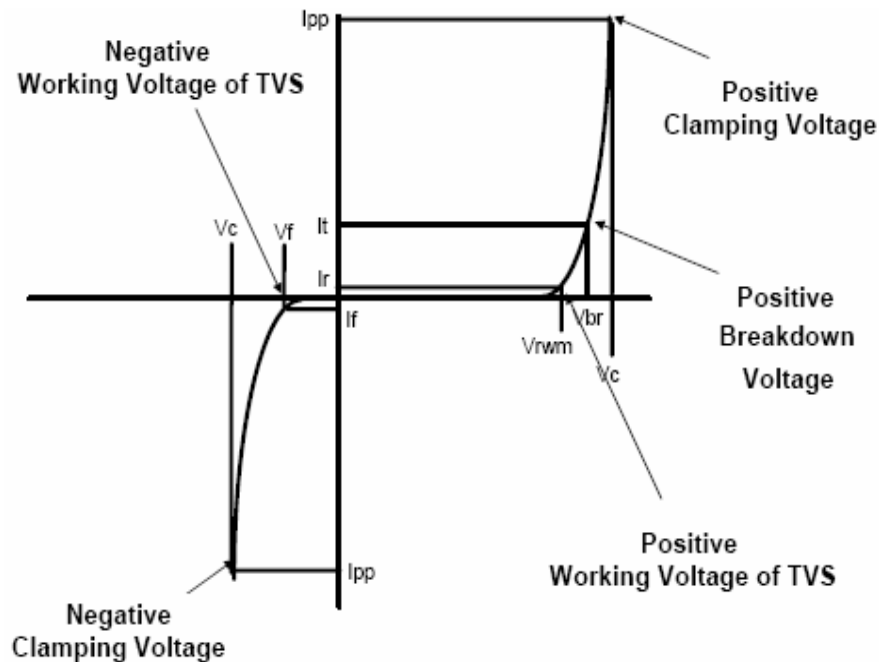
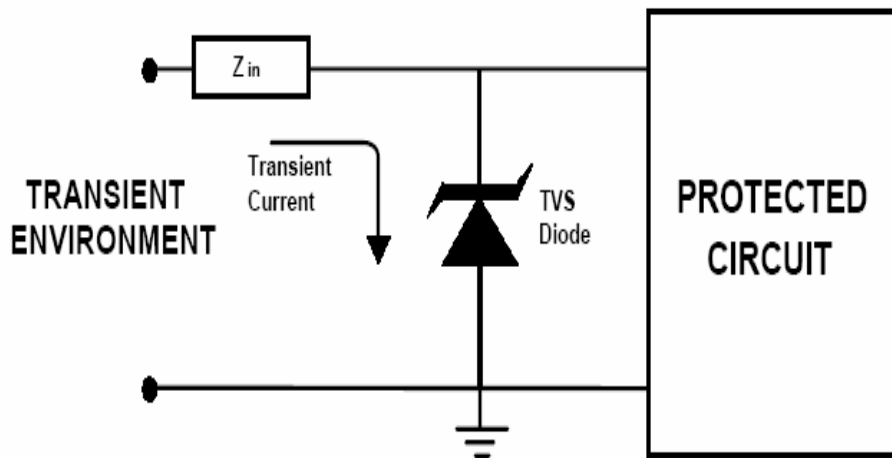
SYCN POWER ESD Protection Array TVS (Transient Voltage Suppressor)



Clamp Voltage	Low
Packaging Outline	Mutil – Channel Small Outline
Surge Repeat	Strong
Capacitor	Low
ESD Protect Voltage	8K ~ 15K / 30KV

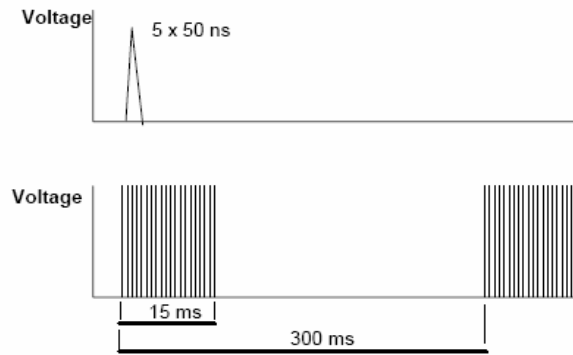
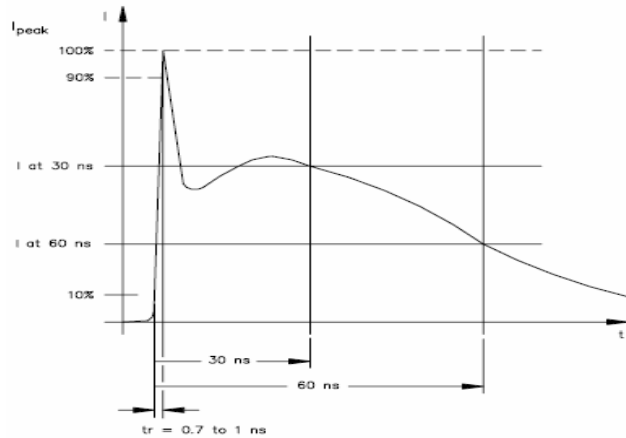


ESD Protection Characteristics

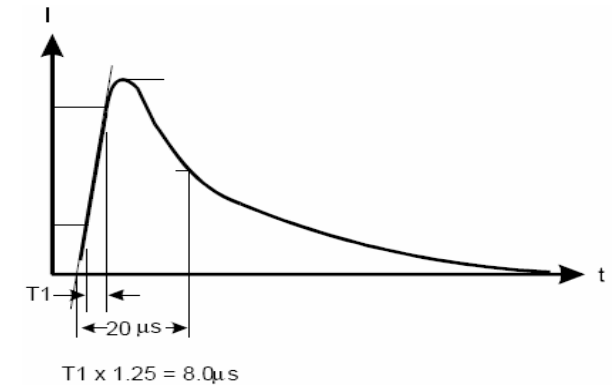




ESD Protection Specification



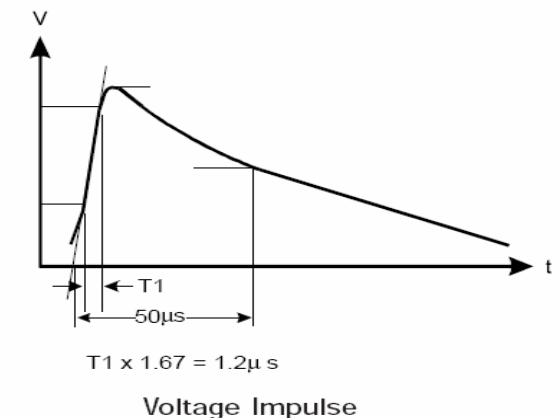
EFT Burst



Current Impulse

LEVEL	Test Voltage Air Discharge (kV)	Test Voltage Contact Discharge (kV)	First Peak Current (A)	Peak Current at 30ns (A)	Peak Current at 60ns (A)
1	2	2	7.5	4	2
2	4	4	15	8	4
3	8	6	22.5	12	6
4	15	8	30	16	8

Level	Peak Amplitude			
	Power Supply Port		I/O, Signal, Data & Control Lines	
	V _{oc} (kV)	I _{sc} (A)	V _{oc} (kV)	I _{sc} (A)
1	0.5	10	0.25	5
2	1	20	0.5	10
3	2	40	1	20
4	4	80	2	40

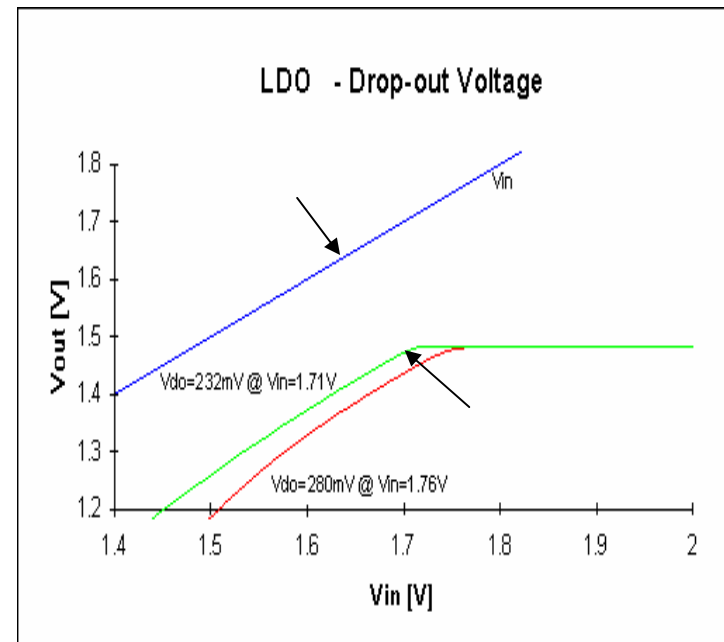
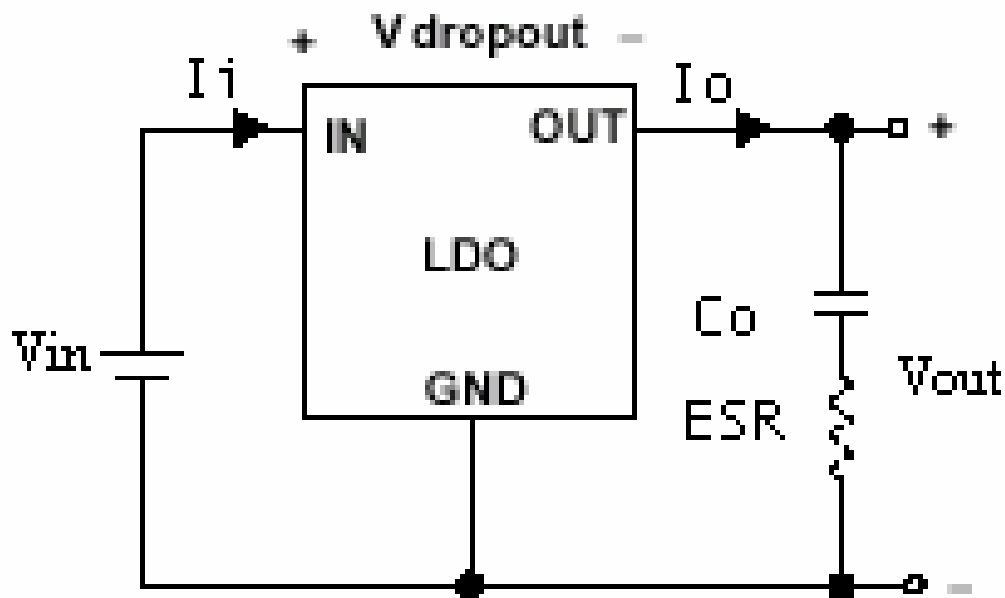


Voltage Impulse

Discharge (ESD) IEC 61000-4-2 Fast Transient (EFT) IEC61000-4-4 Surge immunity (Lighting) IEC 61000-4-5

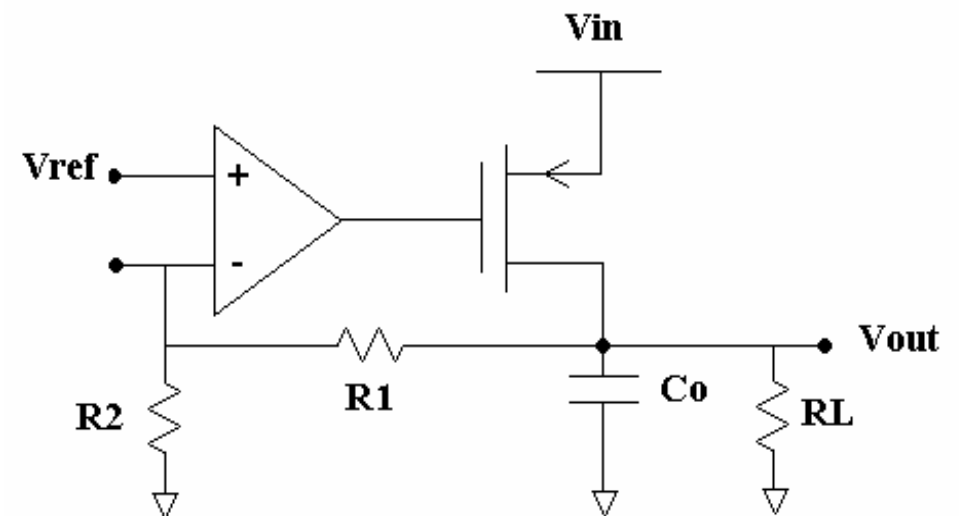
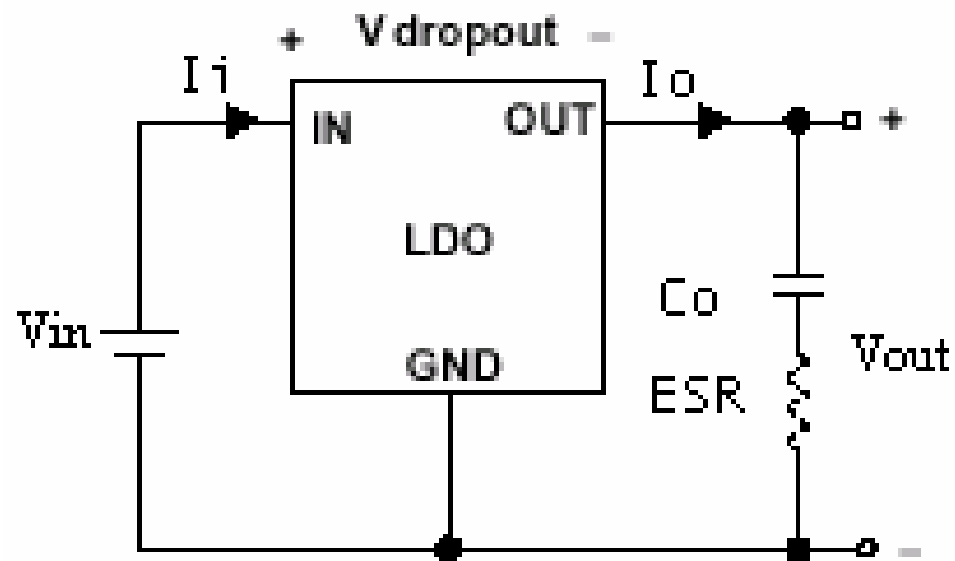


SYCN POWER LDO (Low ESR / Low Dropout)





LDO Block Diagram





LDO Application

- PCMCIA Card
- Cellular Phones
- Camcorders
- Cameras
- DSL/Cable Modems
- MP3/CD Players

