



ON Semiconductor™

Solutions For LCD Monitor

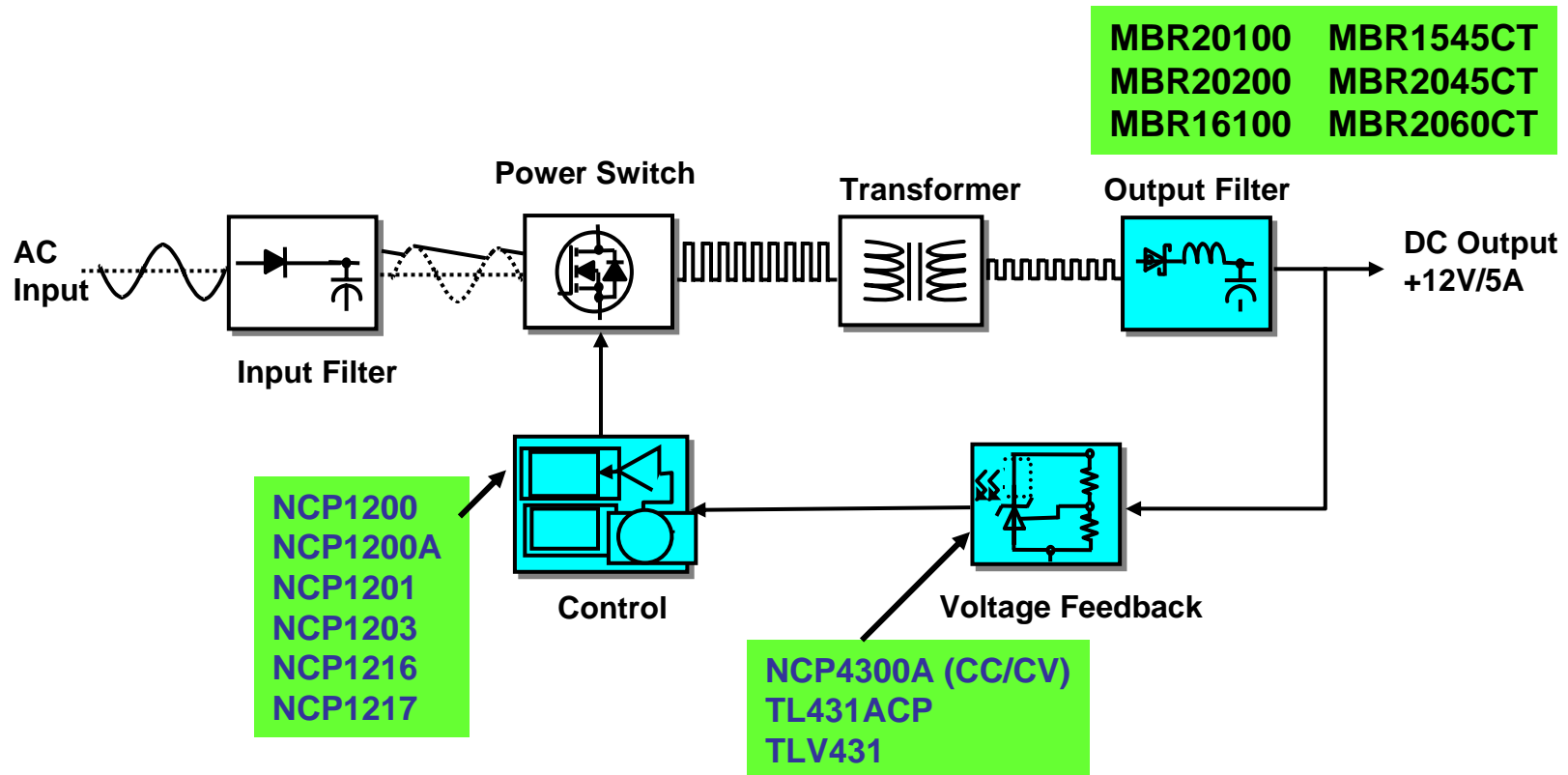


Solutions by application
Ivan Tang / M.T. Chen
Feb 1, 2005

ON Semiconductor®

LCD Monitor Adapter

For < 20" or Power input < 75W



Solutions by application
Ivan Tang / M.T. Chen
Feb 1, 2005

ON Semiconductor®

Adaptor for LCD monitor

<u>Socket</u>	<u>Description</u>	70---90W		20---60W	
		<u>ON'S P/N</u>	<u>QTY</u>	<u>ON'S P/N</u>	<u>QTY</u>
I/P Rect	4 in 1 bridge	N.A.		N.A.	
PFC controller	L6561	MC33260	1	N.A.	
PFC O/P MosFET	N CH, 10A/500V	N.A.		N.A.	
PFC boost rectifier	2A/600V	MUR460	1	N.A.	
PWM controller	with pwr saving	NCP1203	1	NCP1200A	1
Snaber Rect	1A/1000V	1N4007	2	1N4007	2
O/P SW MosFET	N CH, 10A/600V	N.A.		N.A.	
Rect +12V	20A/100V	MBR20100	2	MBR10100	1
CCCV	LM358+TL431	NCP4300	1	TL431	1
General purpose Rect	1A/400V	1N4936	1	1N4936	2
General purpose diode	1N4148	N.A.		N.A.	
General purpose TR	MMBT3904/06	MMBT3904/06	2	MMBT3904/06	3
General purpose zener	depend on design	depend on design		depend on design	
Photocoupler	SFH6156	N.A.		N.A.	

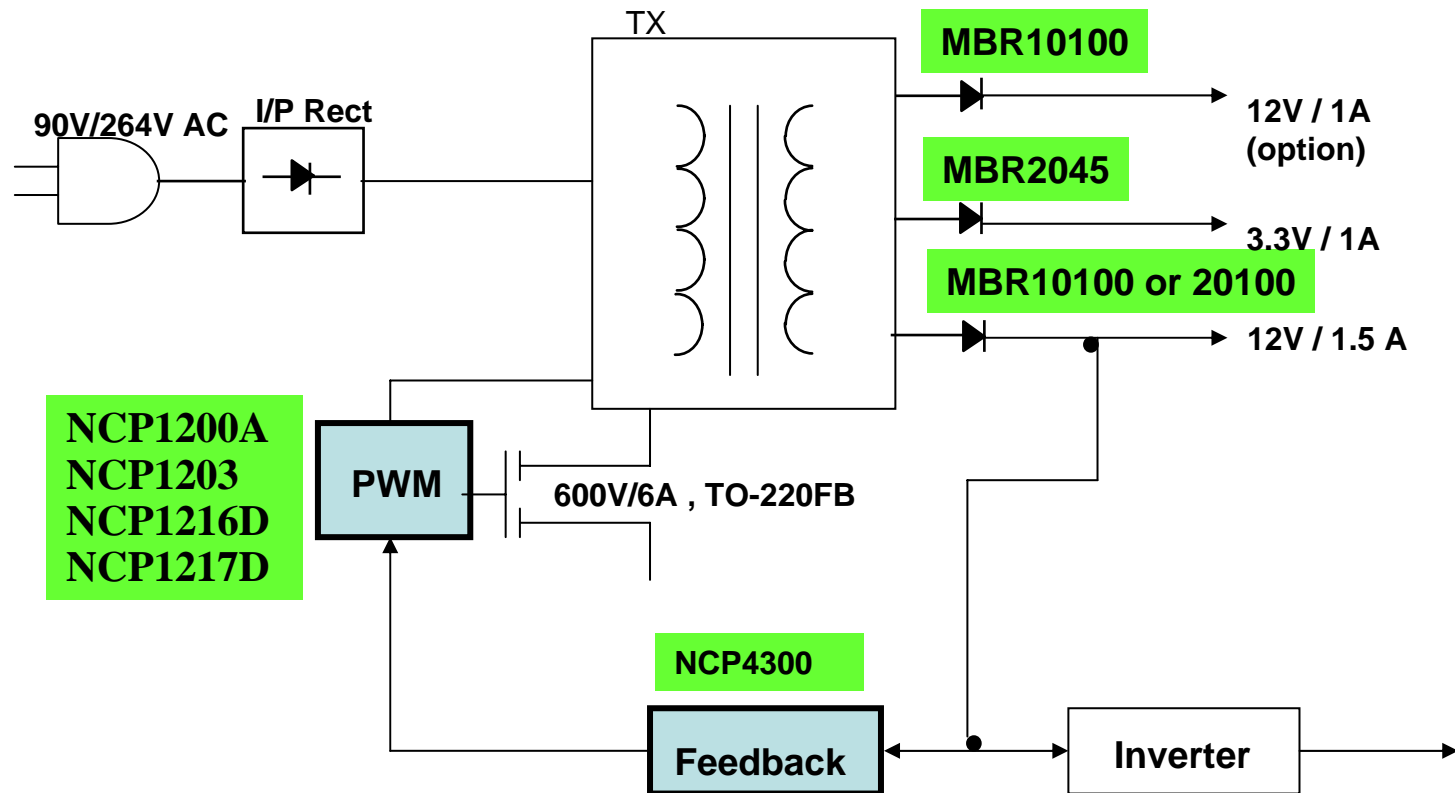


Solutions by application
Ivan Tang / M.T. Chen
Feb 1, 2005

ON Semiconductor®

LCD Monitor Power Supply

---Open frame type---



Solutions by application
Ivan Tang / M.T. Chen
Feb 1, 2005

ON Semiconductor®

LCD Monitor Power Supply

---Open frame type---

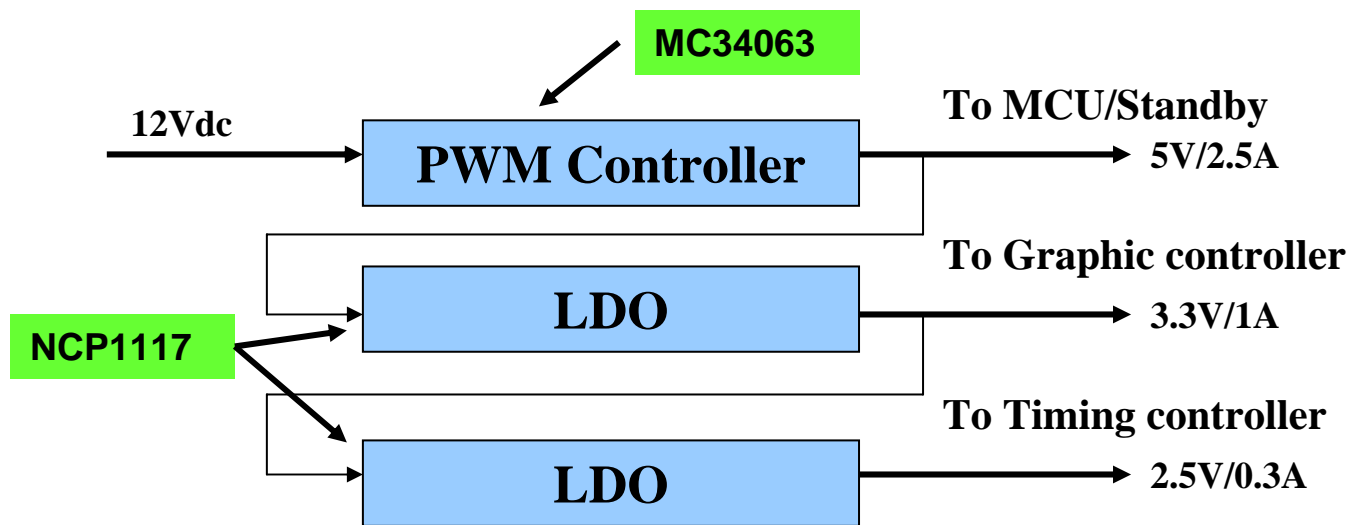
<u>Socket</u>	<u>Description</u>	<u>ON'S P/N</u>	<u>QTY</u>
I/P Rect	4 in 1 bridge	N.A.	
PWM controller	PWM/pwr saving	NCP1200A	1
Snubber Rect	1A/1000V	1N4007	1
O/P SW MosFET	N CH, 6A/600V	N.A.	
Output rectifier +12V	10A/100V	MBR10100/20100	1
Output rectifier +3.3V	20A/45V	MBR2045	1
Voltage sensor	TL431	TL431	1
General purpose TR	MMBT3904/06	MMBT3904/06	3
General purpose zener	1/2W	N.A.	
Photocoupler	SFH6156	N.A.	



Solutions by application
Ivan Tang / M.T. Chen
Feb 1, 2005

ON Semiconductor®

Power supply for LCD Monitor system



Solutions by application
Ivan Tang / M.T. Chen
Feb 1, 2005

ON Semiconductor[®]

ON'S Solution for LCD monitor

---for system power, adaptor type ---

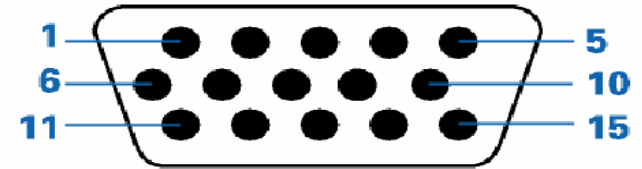
<u>Socket</u>	<u>Device</u>	<u>ON'S P/N</u>	<u>QTY</u>
12V--->5V	PWM	MC34063	1
5V--->3.3V	LDO/1A	NCP1117	1
3.3V--->2.5V	LDO/0.5A	NCP1117	1
G/P, logic gate	74LVC14	74LVC14	1
G/P, SS TR	MMBT3904/06	MMBT3904/06	4
G/P, diode	1N4148	N.A.	
AF amp 1/2W	SG7496	NCP2890	1
AF on/off SW	FET, 0.3A/20V	2N7002	1



Solutions by application
Ivan Tang / M.T. Chen
Feb 1, 2005

ON Semiconductor®

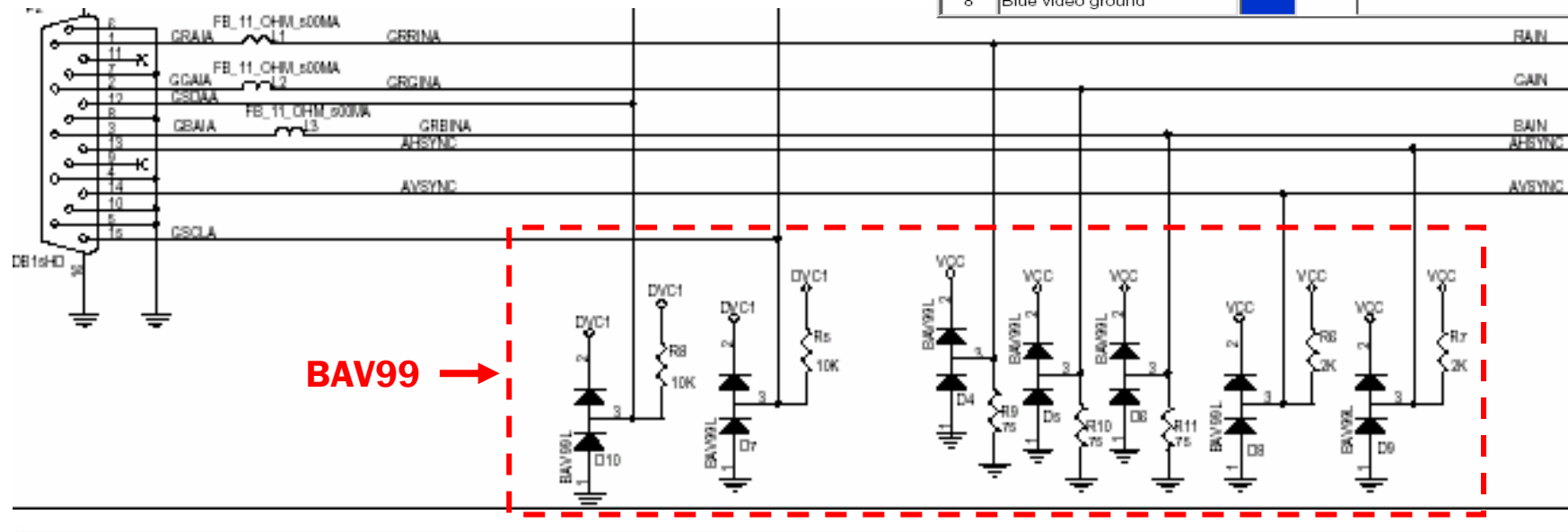
Signal Line Protection



Applications in LCD Monitor

- R, G, B Video inputs ports
- H & V Sync
- Interface circuit of I2C Bus

Pin No.	Assignment	Pin No.	Assignment
1	Red video input	9	DDC +5V
2	Green video input	10	Logic ground
3	Blue video input	11	Identical output - connected to pin 10
4	Identical output - connected to pin 10	12	Serial data line (SDA)
5	Ground	13	H. Sync / H+V
6	Red video ground	14	V. Sync
7	Green video ground	15	Data clock line (SCL)
8	Blue video ground		



BAV99 →



Solutions by application
Ivan Tang / M.T. Chen
Feb 1, 2005

ON Semiconductor®

Solutions for Displays

---LCD TV---



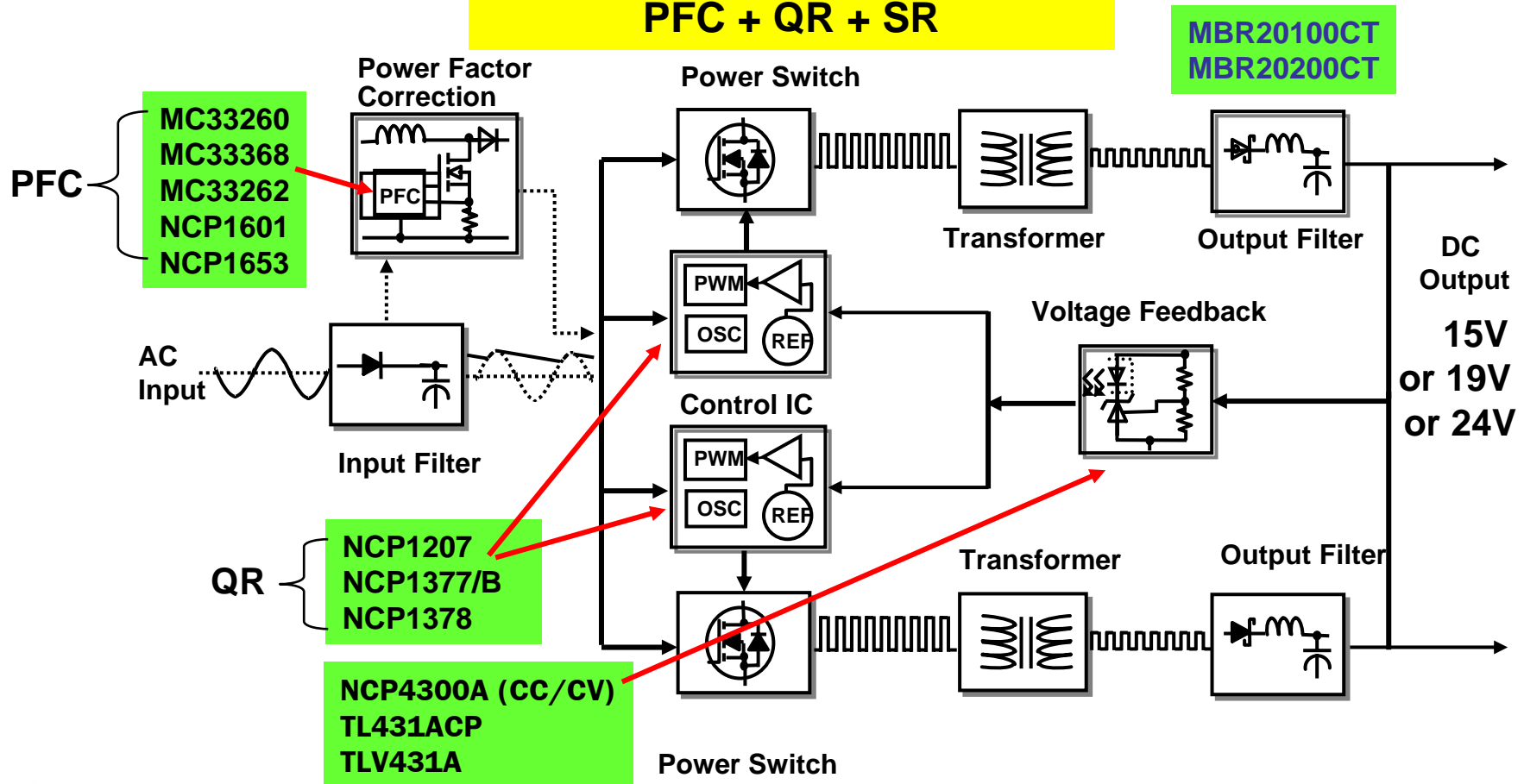
Solutions by application
Ivan Tang / M.T. Chen
Feb 1, 2005

ON Semiconductor®

LCD TV Adaptor Applications

Power output <100W – 200W>

Existing Topology in market is
PFC + QR + SR

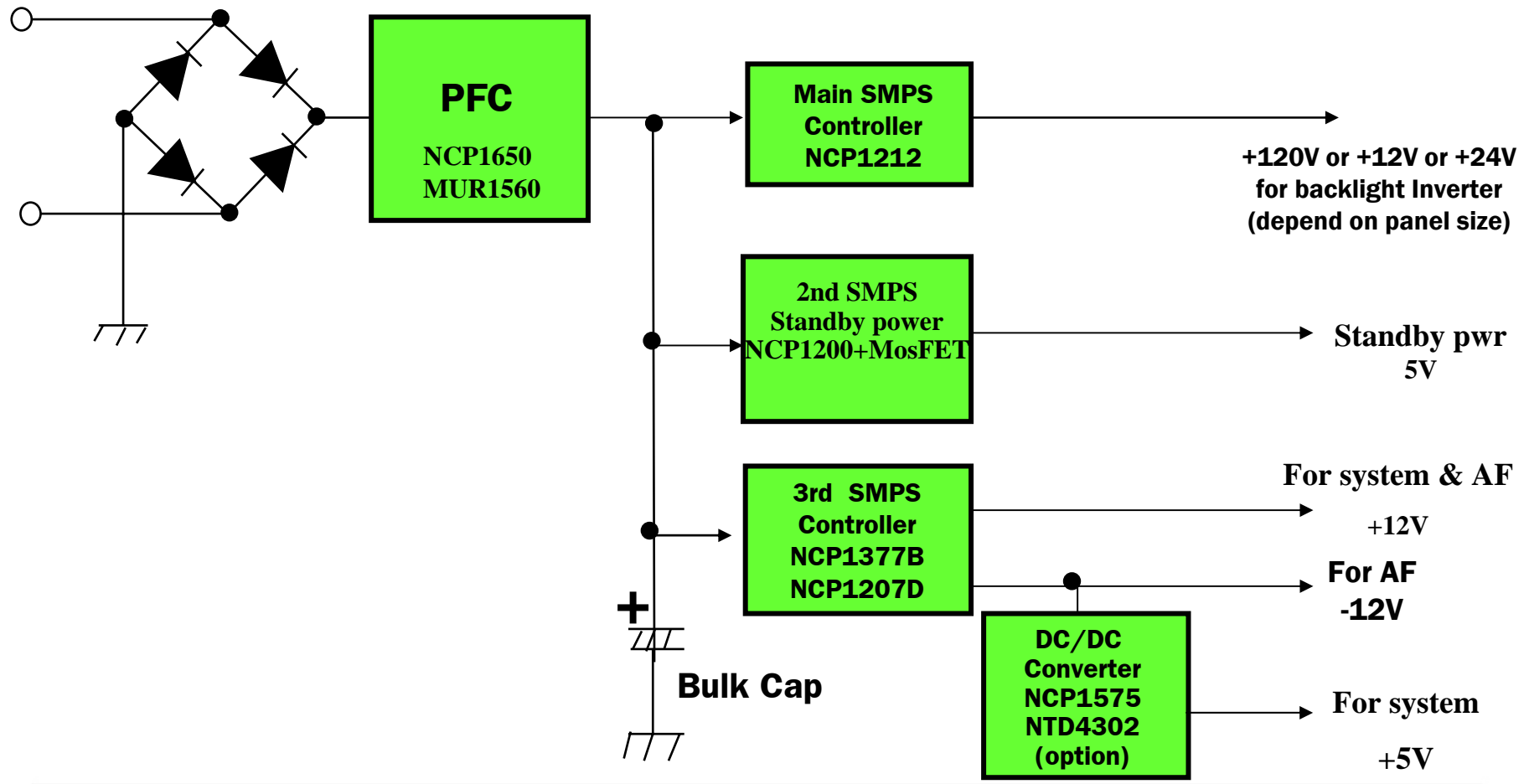


Solutions by application
Ivan Tang / M.T. Chen
Feb 1, 2005

ON Semiconductor®

Typical block diagram for LCD TV power supply

---Open frame type I---

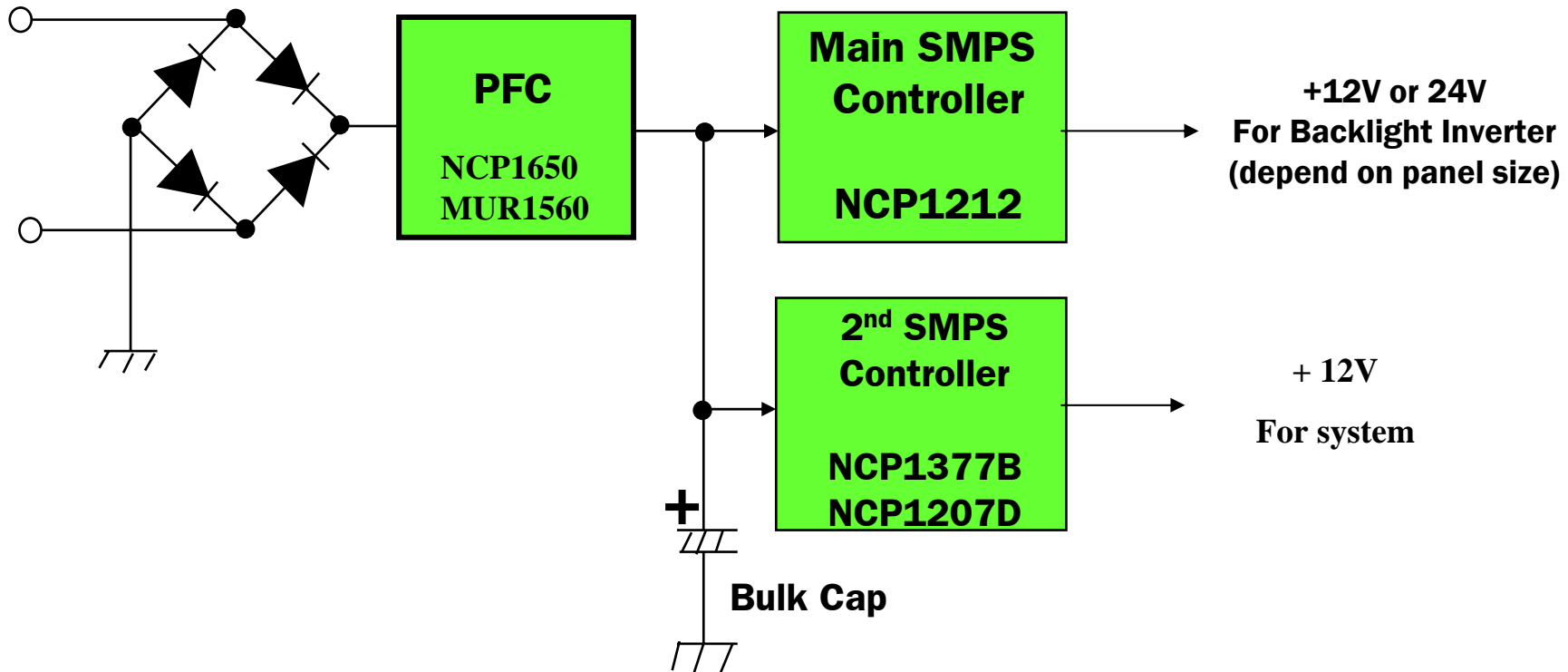


Solutions by application
Ivan Tang / M.T. Chen
Feb 1, 2005

ON Semiconductor[®]

LCD TV power supply

---Open frame type II---

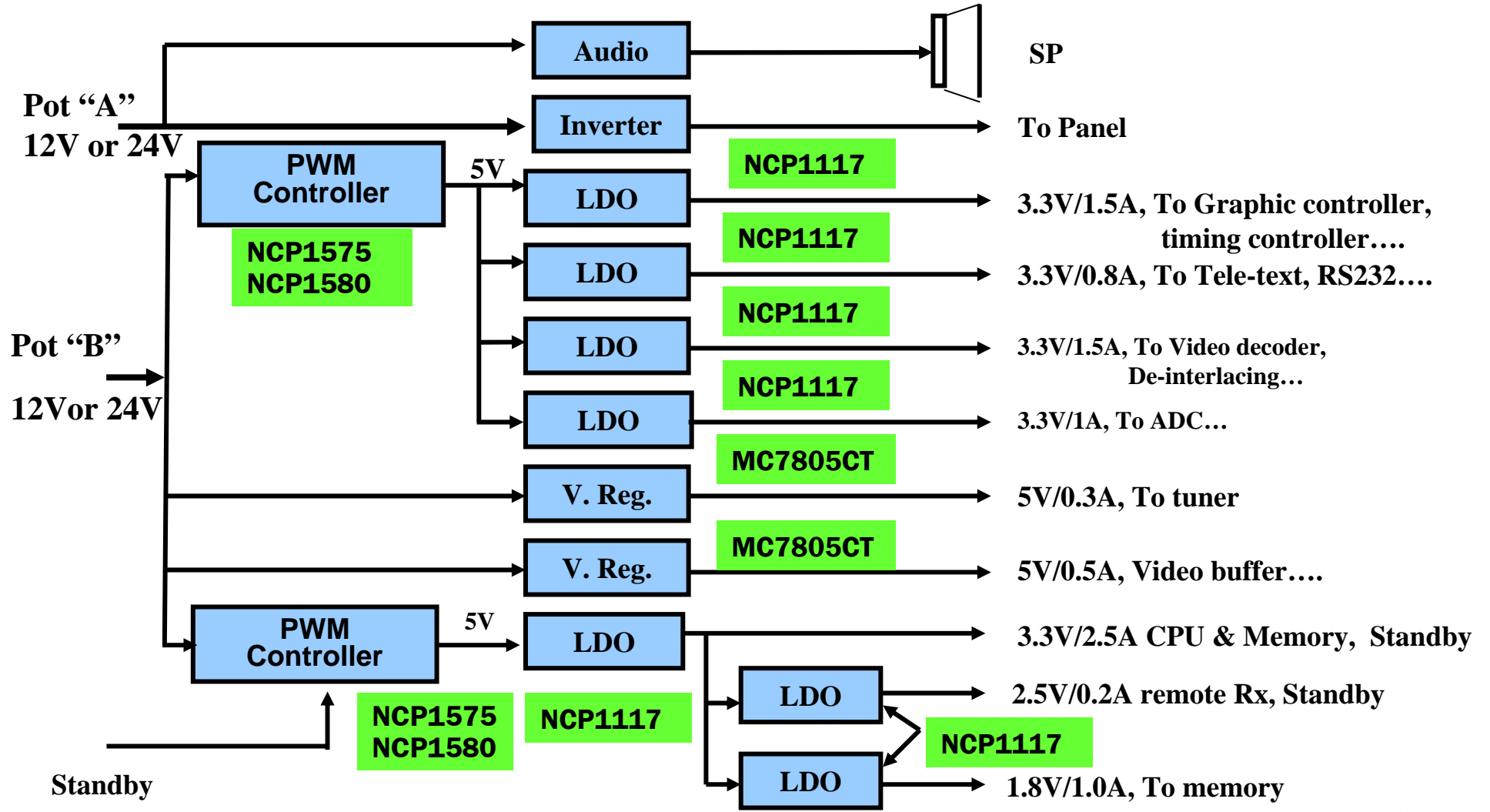


Solutions by application
Ivan Tang / M.T. Chen
Feb 1, 2005

ON Semiconductor[®]

Power supply for LCD TV system

---open frame type---

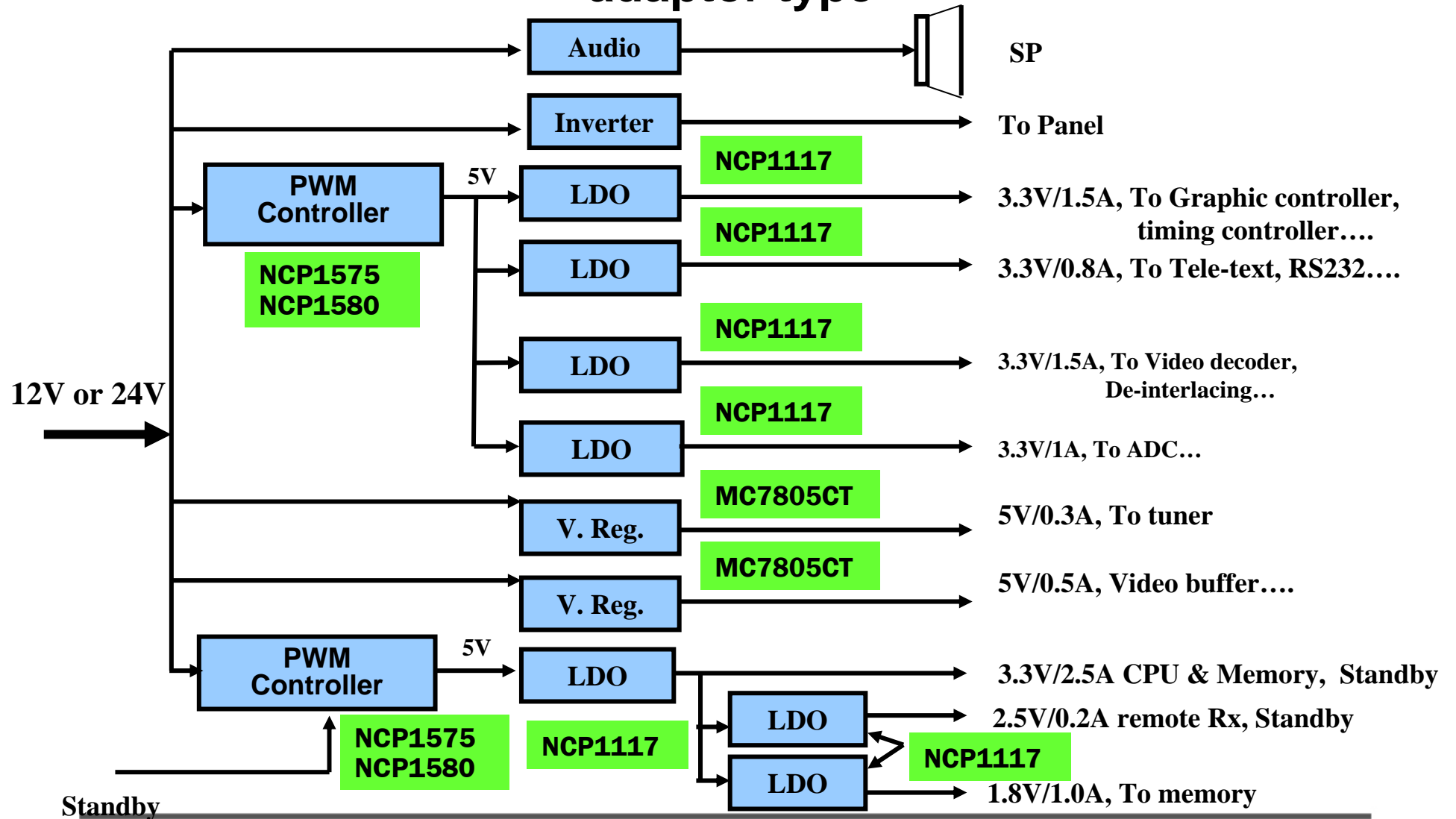


Solutions by application
Ivan Tang / M.T. Chen
Feb 1, 2005

ON Semiconductor®

Power supply for LCD TV system

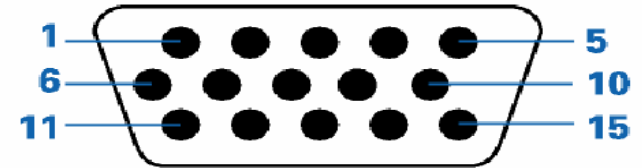
--- adaptor type---



Solutions by application
Ivan Tang / M.T. Chen
Feb 1, 2005

ON Semiconductor®

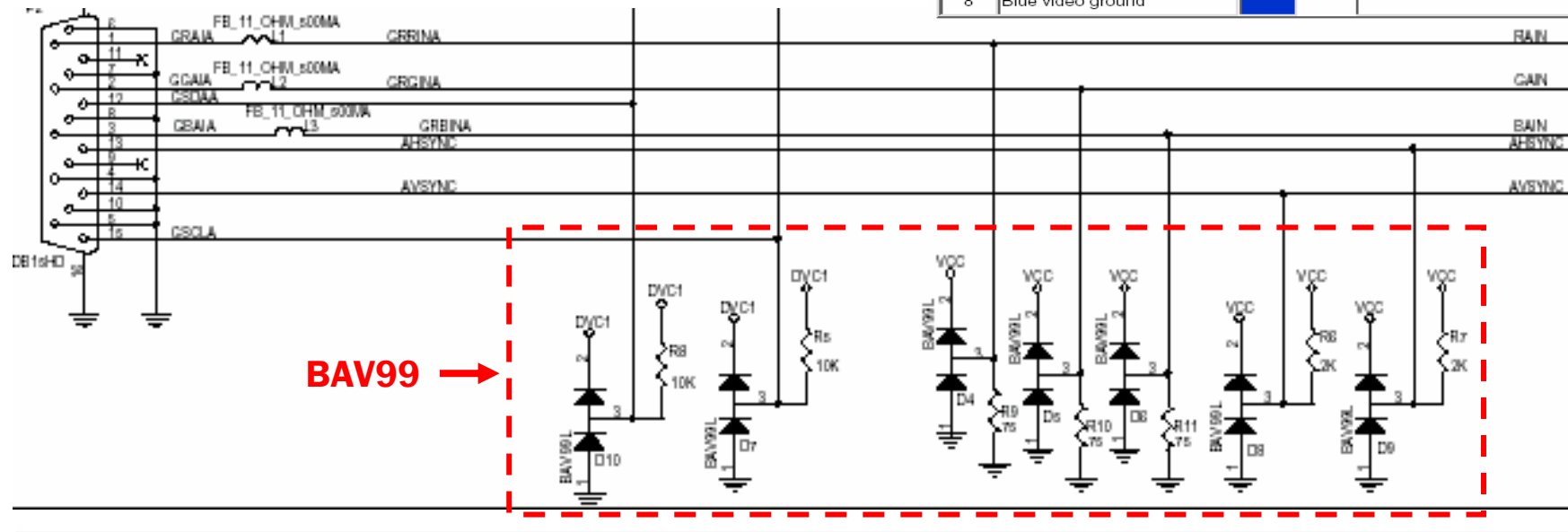
Signal Line Protection



Applications in Analog Signal Input

- R, G, B Video inputs ports
- H & V Sync
- Interface circuit of I2C Bus

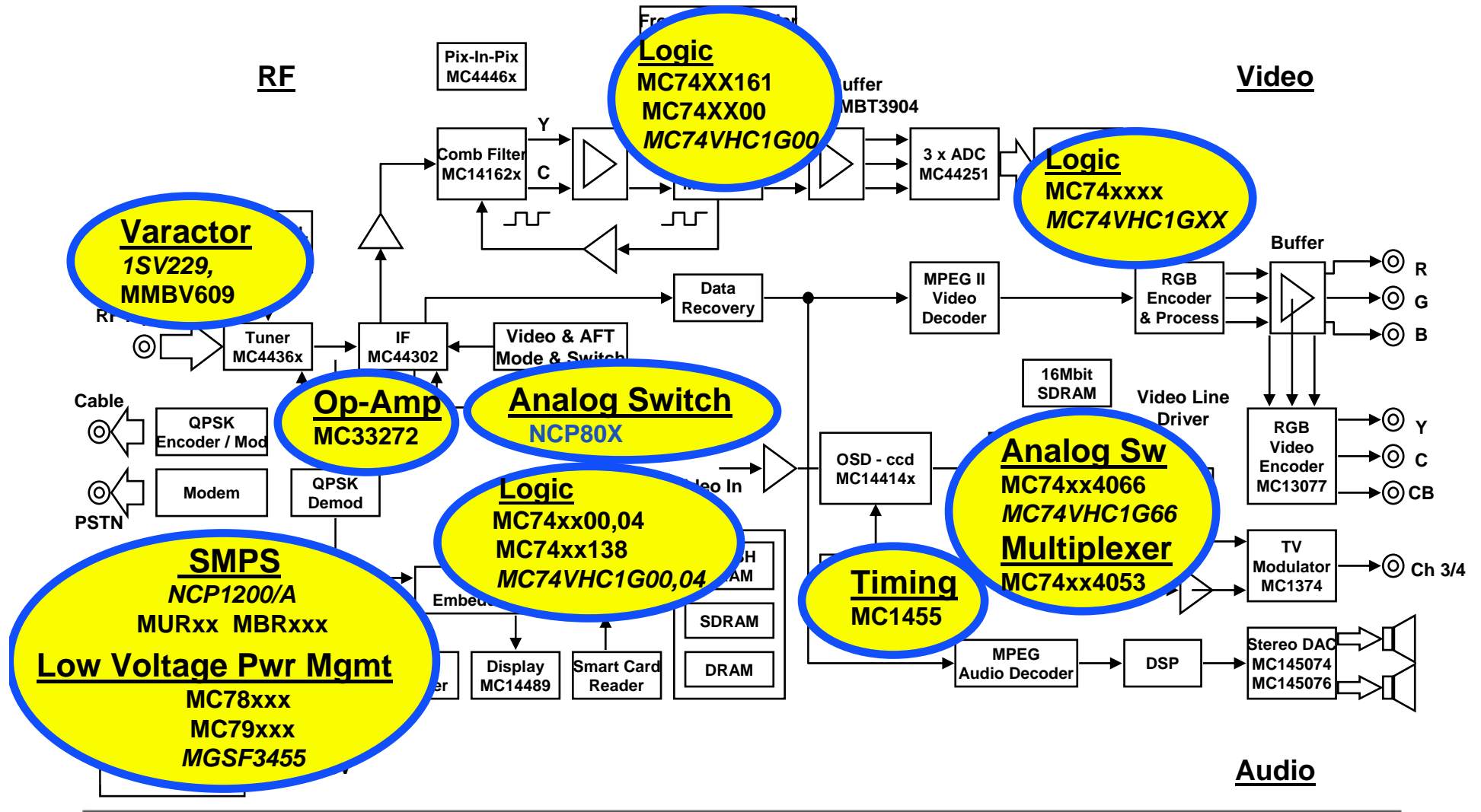
Pin No.	Assignment	Pin No.	Assignment
1	Red video input	9	DDC +5V
2	Green video input	10	Logic ground
3	Blue video input	11	Identical output - connected to pin 10
4	Identical output - connected to pin 10	12	Serial data line (SDA)
5	Ground	13	H. Sync / H+V
6	Red video ground	14	V. Sync
7	Green video ground	15	Data clock line (SCL)
8	Blue video ground		



Solutions by application
Ivan Tang / M.T. Chen
Feb 1, 2005

ON Semiconductor®

Power supply for Set-top Box System



Solutions by application
Ivan Tang / M.T. Chen
Feb 1, 2005

ON Semiconductor®