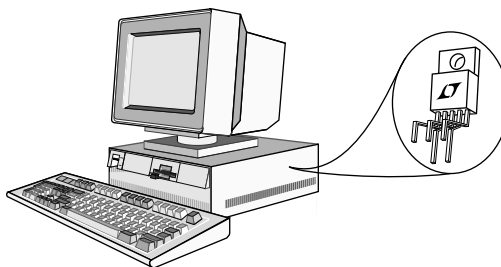
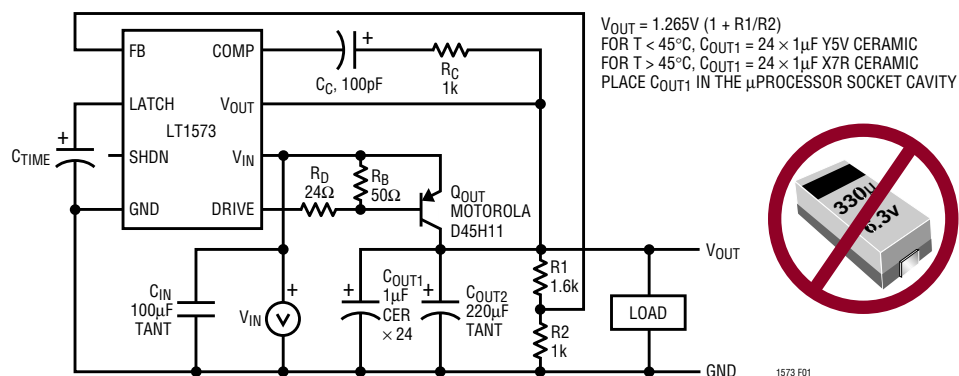


ICs for Low Voltage Microprocessor, Logic and Bus Termination

- Linear Regulation Solutions Featuring Fast Transient Response
- Switching Regulators for Up to 30A at > 90% Efficiency
- GTL+ Termination Solutions
- Reset Generation for PCI Applications
- 15kV ESD Tolerant RS232 Interface



UltraFast™ Regulators Minimize Bulk Output Capacitors Single and Dual Fast Transient Response Precision Regulators

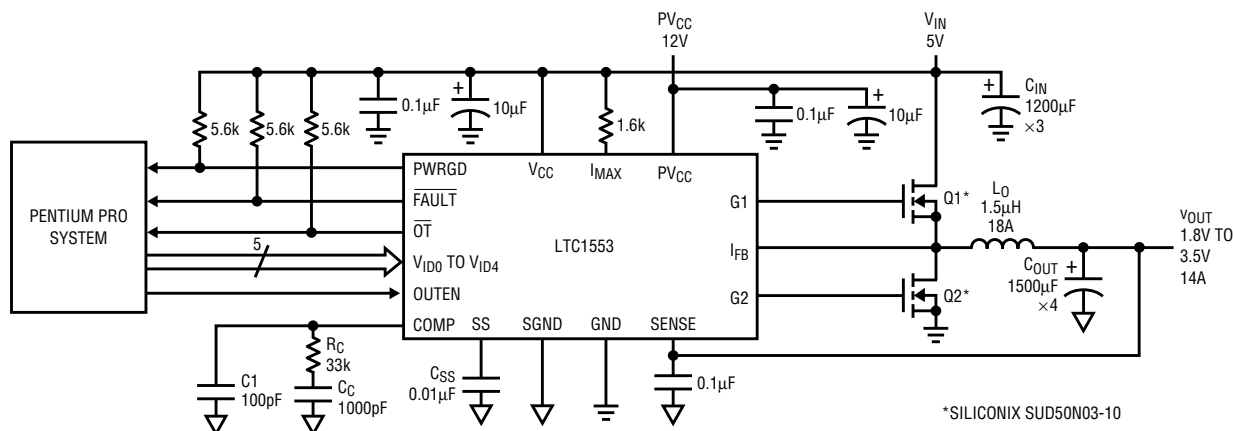


- Single (LT1573, LT1575) and Dual (LT1577) Regulators
- Use External MOSFET (LT1575, LT1577) for High Efficiency or PNP (LT1573) for Lower Cost
- Reduces Cost by Eliminating Aluminum and Tantalum Output Capacitors*
- Short-Circuit Protection Without Current Sense Resistor
- Guaranteed 1% Output Voltage Accuracy (Over Temperature)
- Extremely Low Dropout Voltage Possible: 0.1V at 10A

*LT1573 requires only one 220µF tantalum capacitor

Switching Regulator for Pentium® II Processor Includes Digital Control LTC®1553 High Efficiency Switching Regulator Controller

- Digitally Programmable 1.8V to 3.5V Fixed Output Voltage
- Provides All Features Required by the Intel Pentium® Pro Processor Specifications
- Flags for Power Good, Over-Temperature and Over-Voltage Fault
- Output Current Exceeds 14A from a 5V or 12V Supply
- All N-Channel External MOSFETs
- Excellent Output Regulation: $\pm 1\%$ Over Line, Load and Temperature Variations
- High Efficiency: Over 95% Possible
- Adjustable Current Limit Without External Sense Resistors
- Fast Transient Response
- Available in 20-Pin SSOP



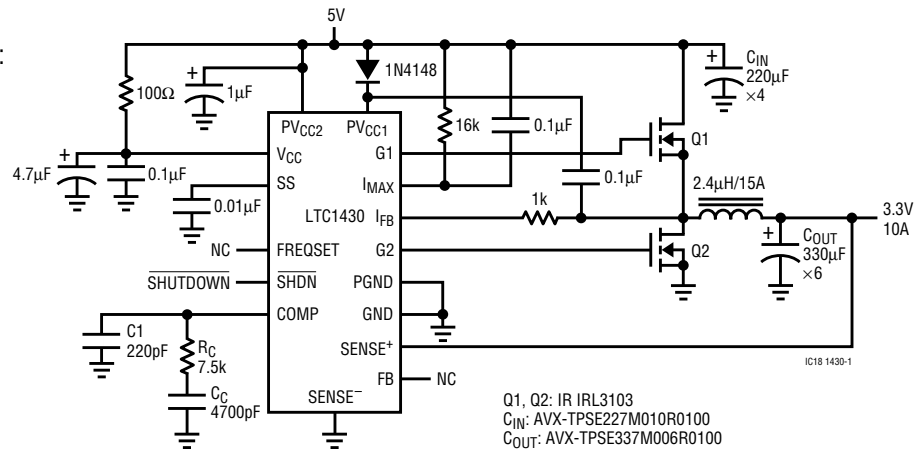
LT, LTC and LT are registered trademarks of Linear Technology Corporation.
UltraFast is a trademark of Linear Technology Corporation.
Pentium is a registered trademark of Intel Corporation.

Rev F 0997

High Power, High Efficiency Switching Regulator Controller Solution

LTC1430 Drives Large N-Channel MOSFETs for High Output Currents

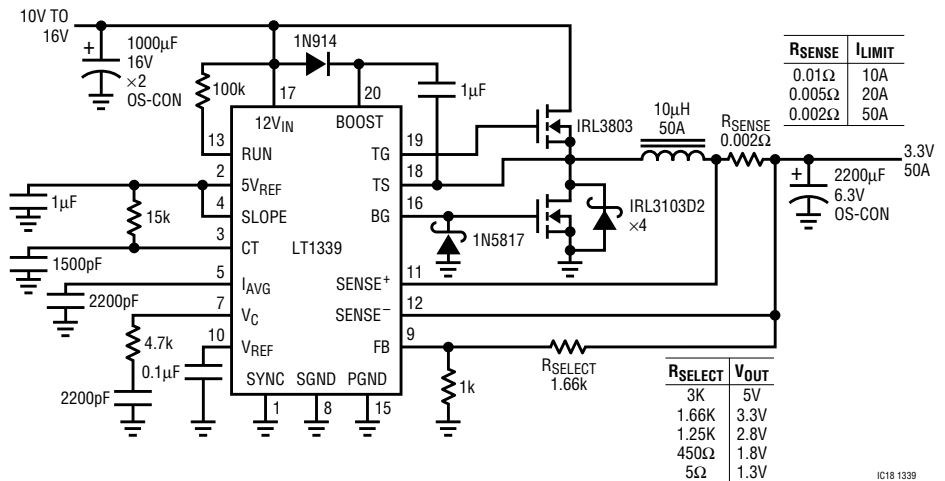
- High Power 5V to 3.3V Switching Controller:
Can Exceed 10A Output
- All N-Channel External MOSFETs
- Excellent Output Regulation:
 $\pm 1\%$ Over Line and Load
- Constant Frequency Operation—Small L
- High Efficiency: Over 95% Possible
- Fast Transient Response
- Adjustable or Fixed 3.3V Output
- Available in 8- and 16-Lead DIP and Narrow SO Packages



High Efficiency 10V-18V to 3.3V at 50A Conversion for Multiple High Performance Processors

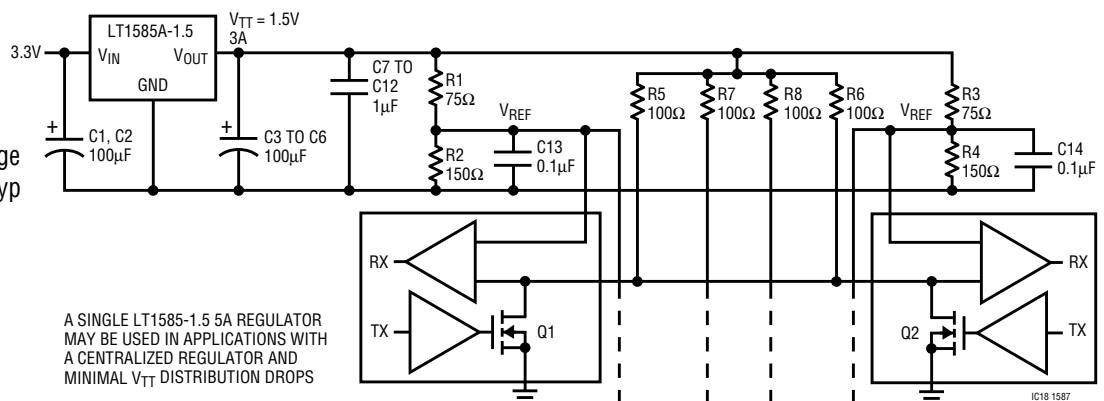
LT1339 Handles High Input Voltage and Large N-Channel MOSFETs

- High Voltage: Operation Up to 60V Max
- High Current: Dual N-Channel Synchronous Drive Handles Up to 10,000pF Gate Capacitance
- Programmable Average Load Current Limiting
- Programmable Fixed Frequency Synchronizable Current Mode Operation Up to 150kHz
- Undervoltage Lockout with Hysteresis
- Programmable Start Inhibit for Power Supply Sequencing and Protection
- Adaptive Nonoverlapping Gate Drive Prevents Shoot-Through



GTL+ Bus Regulator Has Fast Response and Tight Regulation

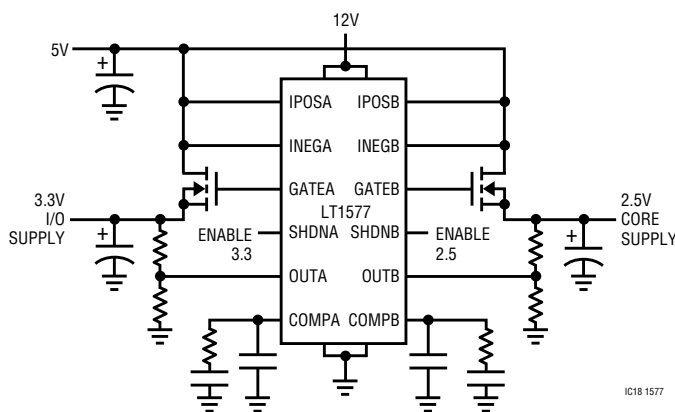
- Best Solution for Intel Pentium Pro Processor GTL+ Supply
- Fast Transient Response
- Guaranteed Dropout Voltage
- Load Regulation: 0.05% Typ
- Trimmed Current Limit
- On-Chip Thermal Limiting



Dual High Performance Regulator for Microprocessor Core and I/O Supplies

LT1577 Dual Regulator Controller Handles High Current Loads

- UltraFast Transient Response Eliminates Tantalum and Electrolytic Output Capacitors
- 1% Reference for Each Regulator
- Typical Load Regulation: 1mV
- High Side Current Sense Limit
- Independent Enables for Proper Sequencing

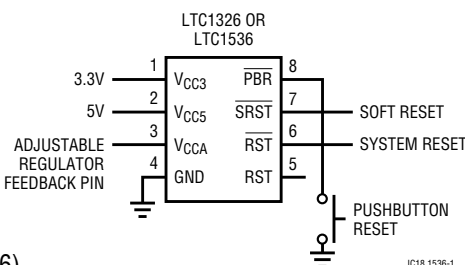


IC18 1577

Triple Supply Monitor for PCI Applications

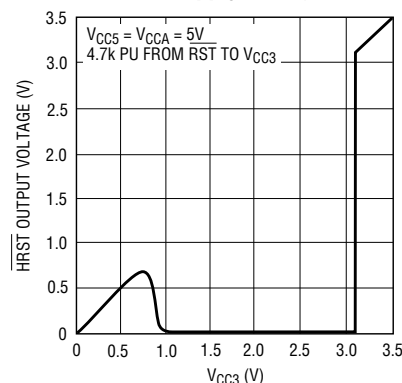
LTC1536 Monitors Multiple Supply Voltages with High Accuracy

- Monitors 5V, 3.3V and Adjustable Inputs Simultaneously
- Guaranteed Threshold Accuracy: $\pm 0.5\%$
- Low Supply Current: 20 μ A (LTC1326)
65 μ A (LTC1536)
- Internal Reset Time Delay: 200ms
- Manual Pushbutton Reset Input
- Active Low and Active High Reset Outputs
- Active Low Soft Reset Output
- Power Supply Glitch Immunity
- Guaranteed Reset for $V_{CC3} \geq 1V$
- Meets PCI t_{FAIL} Timing Specifications (LTC1536)
- 8-Pin SO and MSOP Packages



IC18 1536-1

RST Output Voltage vs Supply Voltage



IC18 1536-2

Low Power, 15kV ESD Protected, RS232 Transceivers

- $\pm 15kV$ ESD Human Body Model
- $\pm 15kV$ IEC-1000-4-2 Air Gap Test
- $\pm 8kV$ IEC-1000-4-2 Contact Test



PART	DRIVERS	RECEIVERS	SUPPLY REQUIRED	I _Q (TYP)	SHUTDOWN	COMMENTS	DRIVER DISABLE
LT1133A	3	5	5V	15mA	No	PC/DTE Interface	No
LT1137A	3	5	5V	12mA	Yes	Flow-Through Architecture	Yes
LT1039A	3	3	5V, $\pm 12V$	1mA	Yes	One Receiver Active in Shutdown	No
LT1039A-16	3	3	5V, $\pm 12V$	1mA	No	Rugged MC145406 Replacement	No
LT1141A	3	5	5V, $\pm 12V$	8mA, $\pm 2mA$	Yes	PC/DTE Interface	Yes
LT1180A	2	2	5V	9mA	Yes	Ideal for Surface Mount	No

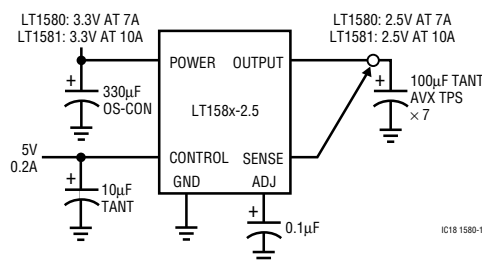
PROCESSOR TYPE	CORE VOLTAGE	CORE CURRENT	REGULATOR	I/O VOLTAGE	I/O CURRENT	REGULATOR
Pentium® II Processor 233MHz/266MHz	2.8V +100mV/-60mV	14.2A	LTC1553 (S) or LTC1430 (S)	3.3V	2A	LT1587 LT1575 LT1573
Pentium® Pro Processor 166MHz/180MHz/200MHz	3.3V ±5%	10A to 14A	LTC1553 (S) or LTC1430 (S)	None		
GTL+ Terminator	1.5V ±2%	5.7A	LT1585-1.5 (L) ×2 LT1585A-1.5 (L) LT1575 (L)	None		
Pentium® Processor with MMX™ Technology 166MHz/200MHz/233MHz	2.8V ±100mV	6.5A	LTC1430 (S) LT1584 (L) LT1580 (L) LT1575 (L)	3.3V ±5%	0.65A	LT1587
Pentium Processor 133MHz/166MHz/200MHz	3.5V ±2.9%	4.5A	LTC1430 (S) LT1585 (L) LT1575 (L)	Same as Core		
AMD K6™ with MMX 166MHz/200MHz/233MHz	2.9V ±5% 3.2V ±100mV	7.5A 9.5A	LTC1553 (S) or LTC1430 (S)	3.3V ±5%	0.52A	LT1587
AMD K5	2.38V to 3.60V ±5%	4A	LTC1553 (S) LTC1430 (S) LT1585 (L) LT1575 (L)	3.3V ±5%	1A to 3A	LT1587
Cyrix 6x86MX™ 133MHz/150MHz/166MHz 188MHz/200MHz/225MHz 233MHz	2.9V ±100mV	6.3A to 9.5A	LTC1430 (S) LT1581 (L) LT1575 (L)	3.3V ±5%	0.1A	
Cyrix 6x86 80MHz/100MHz/110MHz 120MHz/133MHz	3.15V to 3.6V	4.7A to 6.6A	LTC1430 (S) LT1584 (L) LT1575 (L)	Same as Core		
Cyrix 6x86L 100MHz/110MHz/120MHz 133MHz/150MHz	2.8V ±6%	4.7A to 6A	LTC1430 (S) LT1584 (L) LT1575 (L)	3.3V ±4.5%	0.1A	
IBM PowerPC™ 740/750 200MHz/233MHz/266MHz	2.6V ±100mV	3A	LT1587 (L) LT1573 (L)	3.3V ±5%	0.25A	
IBM PowerPC 604e 250MHz/300MHz/350MHz	1.9V ±100mV	5.9A	LT1584 (L) LT1575 (L)	3.3V ±5%	0.35A	
IBM PowerPC 604e 180MHz/200MHz/225MHz 233MHz	2.5V ±5%	5.3A	LTC1430 (S) LT1584 (L) LT1580 (L)	3.3V ±5%	0.5A	
IBM PowerPC 603e 200MHz/225MHz/233MHz 240MHz/250MHz	2.5V ±5%	2.4A	LT1587 (L) LT1573 (L)	3.3V ±5%	0.2A	

L = Linear Regulator, S = Switching Regulator, Penitum is a registered trademark of Intel Corp, MMX is a trademark of Intel Corp, K6 is a trademark of Advanced Micro Devices Inc, 6x86MX is a trademark of Cyrix Corp, PowerPC is a trademark of IBM Corp.

7A and 10A Very Low Dropout Regulators for Low Voltage Microprocessors

LT158x Regulates from 3.3V to 2.5V with ±1% Accuracy

- Low Dropout: Tested Limits
- Fast Transient Response
- Remote Sense
- 1mV Load Regulation
- Fixed 2.5V Output or Adjustable Output
- No Supply Sequencing Problems in Dual Supply Mode



Dropout Power Guaranteed Test Points

