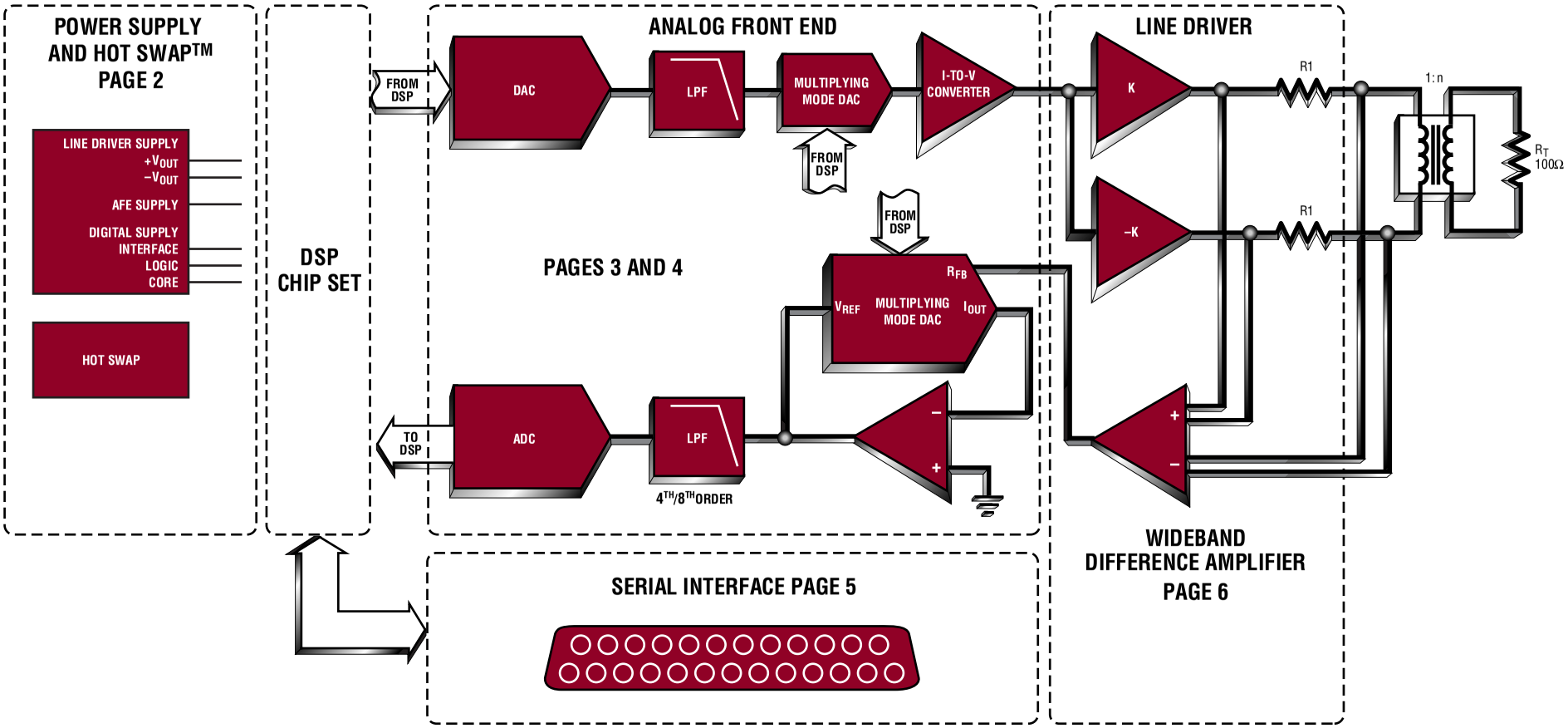
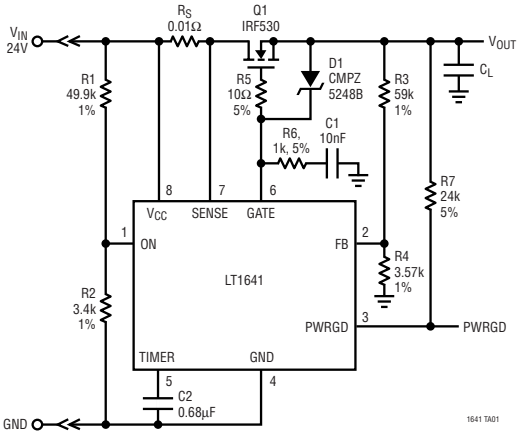


Choose the Right Hot Swap Controller for Your Application

PART NUMBER	OUTPUTS	VOLTAGE INPUT RANGE	FAULT	PWRGD OR RST	OV SCR	FOLDBACK CURRENT LIMIT	PACKAGES	APPLICATION
LTC1421	2	3V to 12V (–12V)	✓	Both			SSOP, SW24	Networking, Telecom, Industrial
LTC1422	1	3V to 12V		RST			SO-8, N8	General purpose
LT1640	1	–10V to –80V		PWRGD			SO-8, N8	–48V Telecom
LT1641	1	9V to 80V		PWRGD		✓	SO-8, N8	24V/48V industrial/alarms
LTC1642	1	3V to 16.5V	✓	RST	✓	✓	SSOP16	General purpose with fault protection
LTC1643	4	3V/5V/±12V	✓	PWRGD		✓	SSOP16	PCI (H), Compact PCI (L)
LTC1645	2	1.2V to 12V	✓	RST			SO-8, SO-14	Power sequencing
LTC1647-1	2	3V to 16.5V		—			SO-8	Dual ON Pins, Single Supply
LTC1647-2	2	3V to 16.5V	✓	—			SO-8	Dual ON Pins, Auto Retry
LTC1647-3	2	3V to 16.5V	✓	—			SSOP16	Dual ON Pins, Dual Supplies

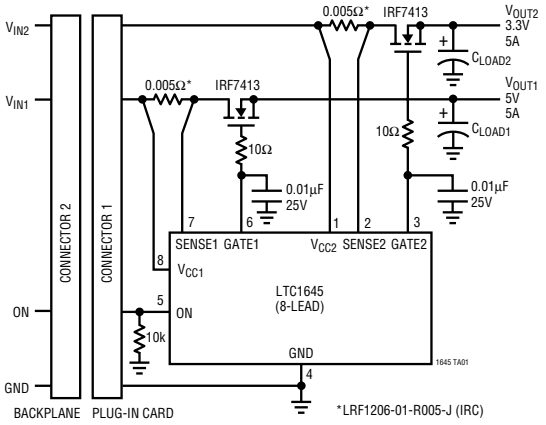
LT1641 Positive High Voltage Hot Swap Controller

- Controls Supply Voltage from 9V to 80V
- Programmable Analog Foldback Current Limiting
- Automatic Retry or Latched Operation Mode
- Undervoltage Lockout



LTC1645 Dual Channel Hot Swap Controller/Power Sequencer

- High Side Drivers for External N-FETs
- Electronic Circuit Breakers
- Undervoltage Lockout
- 2.3V to 12V V_{CC1} Range
- 1.2V to 12V V_{CC2} Range
- SO-8 Package
- 14-Pin SO Version Offers Additional Features

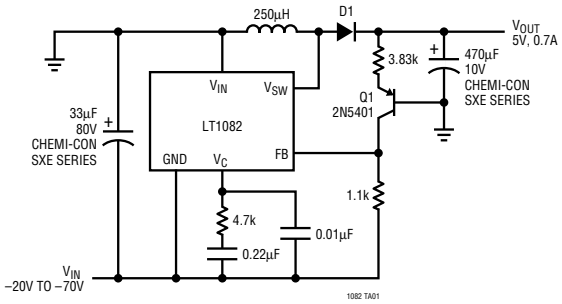


DC/DC Voltage Converters

Switching Regulator Controllers

LTC1149	Synchronous P-Channel/N-Channel, Up to 48V Input, Up to 95% Efficiency
LT1339	Up to 60V Input, All N-Channel MOSFET Synchronous Power Supply Controller
LT1680	Up to 60V Input, Single N-Channel MOSFET Controller for Step-Up Applications

Negative-to-Positive Telecom 5V Supply



Boost Regulators*

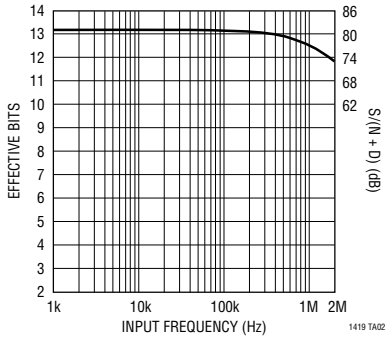
Part	MAX Input (V)	MAX Switch Voltage (V)	MAX Switch Current (A)	Switching Frequency (Hz)
LT1268	30	60	7.5	150k
LT1269			4.0	100k
LT1270/A			8.0/10	60k
LT1271			4.0	60k
LT1370	25	35	6	500k
LT1371			3	500k
LT1372	30	35	1.25	500k
LT1373			1.25	250k
LT1377			1.25	1M
LT1070HV	60	75	5.0	40k
LT1071HV			2.5	
LT1072HV			1.25	
LT1170HV	60	75	5.0	100k
LT1171HV			2.5	
LT1172HV			1.25	
LT1082	75	100	1.0	60k

*Boost regulators are well suited for negative-to-positive converters

High Speed A/D Converters

- Up to 10Msps (LTC1420)
- ±5V or 5V Supply Operation
- High Bandwidth Sample-and-Hold
- Excellent S/N+D at Nyquist (≥72dB)
- SO and SSOP Surface Mount Packages
- Nap and Sleep Modes for Instant Wake-Up
- Internal Reference

LTC1419's Effective Bits and S/N+D vs Input Frequency



Part Number	Application	Resolution	Sample Rate	SINAD	Power	V_{CC}	Interface	Packages
LTC1420	ADSL Downstream	12-Bit	10Msps	71dB	200mW	5V or ±5V	Parallel	Narrow SSOP-28
LTC1411	ADSL Upstream	14-Bit	3Msps	80dB	150mW	5V or ±5V	Parallel	SSOP-36
LTC1412	ADSL Upstream	12-Bit	3Msps	72dB	150mW	±5V	Parallel	SSOP-28
LTC1414	ADSL Upstream	14-Bit	2.2Msps	78dB	150mW	±5V	Parallel	Narrow SSOP-28
LTC1402	ADSL Upstream	12-Bit	2.2Msps	72dB	90mW	5V or ±5V	Serial	Narrow SSOP-16
LTC1415	1-Pair E1, ADSL	12-Bit	1.25Msps	72dB	55mW	5V	Parallel	SW, SSOP-28
LTC1410	1-Pair E1, ADSL	12-Bit	1.25Msps	72dB	160mW	±5V	Parallel	SW, SSOP-28
LTC1419	1-Pair T1, ADSL	14-Bit	800ksps	81.5dB	150mW	±5V	Parallel	SW, SSOP-28
LTC1409	1-Pair T1, ADSL	12-Bit	800ksps	72.5dB	80mW	±5V	Parallel	SW, SSOP-28

Digital-to-Analog Converters

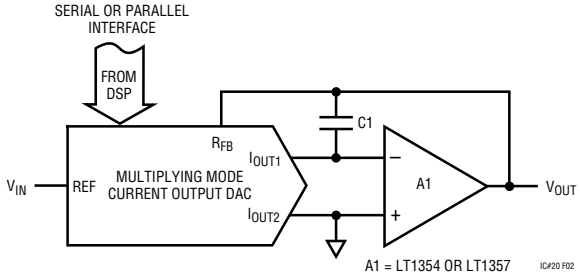
VCXO Control, Tx Attenuator/Rx PGA Control

Multiplying I_{OUT} DACs

- Multiplying Current Output
- Industry Standard Pinouts

12-Bit Parallel	LTC7541A, LTC7545	Industry Standard
12-Bit Serial	LTC7543, LTC8043, LTC8143	Industry Standard
12-Bit Serial Dual	LTC1590	Dual in SO16
14-Bit Parallel	LTC1591	On-Chip Resistors for 4-Quadrant Multiplication
16-Bit Parallel	LTC1597, LTC1599	
16-Bit Serial	LTC1595, LTC1596	Pin Compatible with LTC8043, LTC8143

Programmable Attenuator

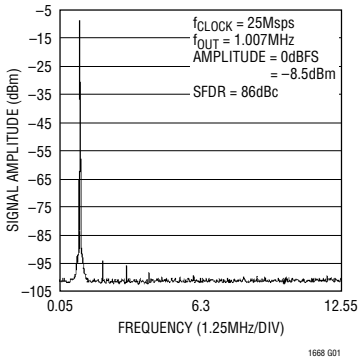


LTC1668: High Speed Transmit DAC

Features

- 50Msps Update Rate
- 16-Bit Resolution
- High Spectral Purity: 87dB SFDR at 1MHz f_{OUT}
- Differential Current Outputs
- 30ns Settling Time
- 5pV-s Glitch Impulse
- Low Power: 180mW from ±5V Supplies
- TTL/CMOS (3.3V or 5V) Inputs
- Small Package: 28-Pin SSOP

Single Tone SFDR

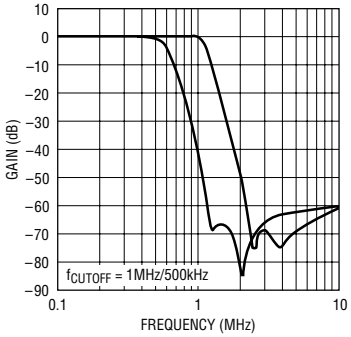


Tx Reconstruction and Rx Antialiasing Filters

LTC1560-1: 1MHz/500kHz Continuous Time Low Noise Elliptic Filter

- 5th Order Filter in an SO-8
- ±0.3dB Passband Ripple
- 75dB Signal-to-Noise Ratio ($2.1V_{RMS}$ Input)
- 69dB Signal-to-Noise Ratio with –63dB THD
- Pin Selectable Cutoff Frequency

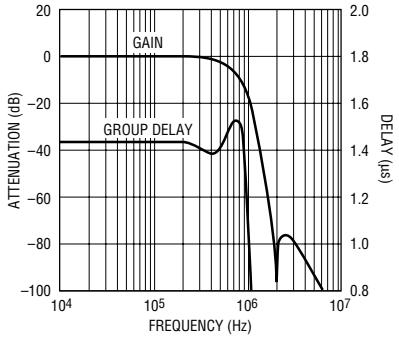
LTC1560 Frequency Response



LTC1565-31: 650kHz Continuous Time, Linear Phase Lowpass Filter

- 7th Order, 650kHz Linear Phase Filter in an SO-8
- **Differential Inputs and Outputs**
- Operates On a Single 5V or a ±5V Supply
- 75dB THD and SNR (5V Supply, $2V_{P-P}$ Input)
- 78dB SNR (5V Supply, $2.5V_{P-P}$ Input)
- Requires No External Components
- Requires No External Clock Signal

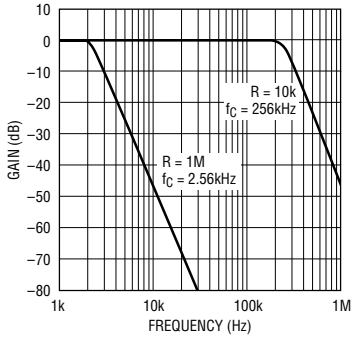
LTC1565-31 Frequency Response



LTC1563: Active RC, 4th Order Lowpass Filter Family

- **LTC1563-2: Unity-Gain Butterworth Response**
  LTC1563-3: Unity-Gain Bessel Response
- **Continuous Time, Active RC Filter, No Clock**
- **Extremely Easy to Use—A Single Resistor Value Sets the Cutoff Frequency (2.56kHz < f_C < 256kHz)**
- **Extremely Flexible—Different Resistor Values Allow Arbitrary Transfer Functions with or Without Gain (2.56kHz < f_C < 256kHz)**
- Rail-to-Rail Input and Output Voltages
- Operates from a Single 3V (2.7V Min) to ±5V Supply
- Low Noise: $36\mu V_{RMS}$ for f_C = 25.6kHz, $60V_{RMS}$ for f_C = 256kHz
- f_C Accuracy < ±2% (Typ)
- Cascadable to form 8th Order Lowpass Filters

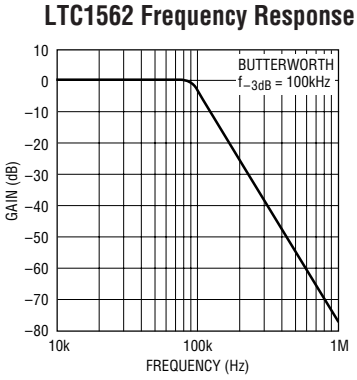
LTC1563 Frequency Response



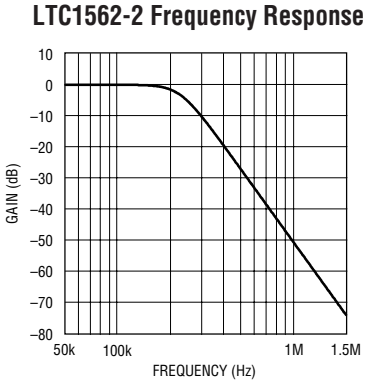
LTC1562/LTC1562-2: Very Low Noise, Low Distortion Active RC Quad Universal Filter

- **Continuous Time—No Clock**
- Four 2nd Order Filter Sections
- Wide Variety of Responses: Butterworth, Chebyshev, Elliptic or Equiripple Response
- Filter Shapes: Lowpass, Highpass and Bandpass
- Typical SNR: 103dB for LTC1562, 99dB or LTC1562-2
- Rail-to-Rail Input and Output Voltages
- Single or Dual Supply, 5V to 10V Total

LTC1562 Frequency Response



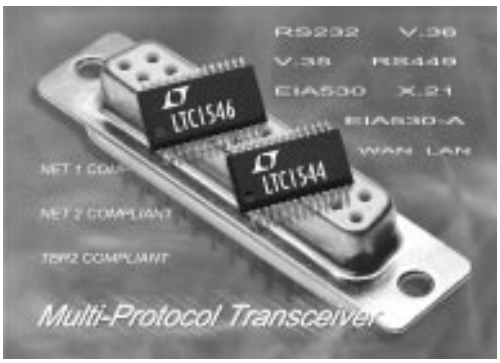
LTC1562-2 Frequency Response

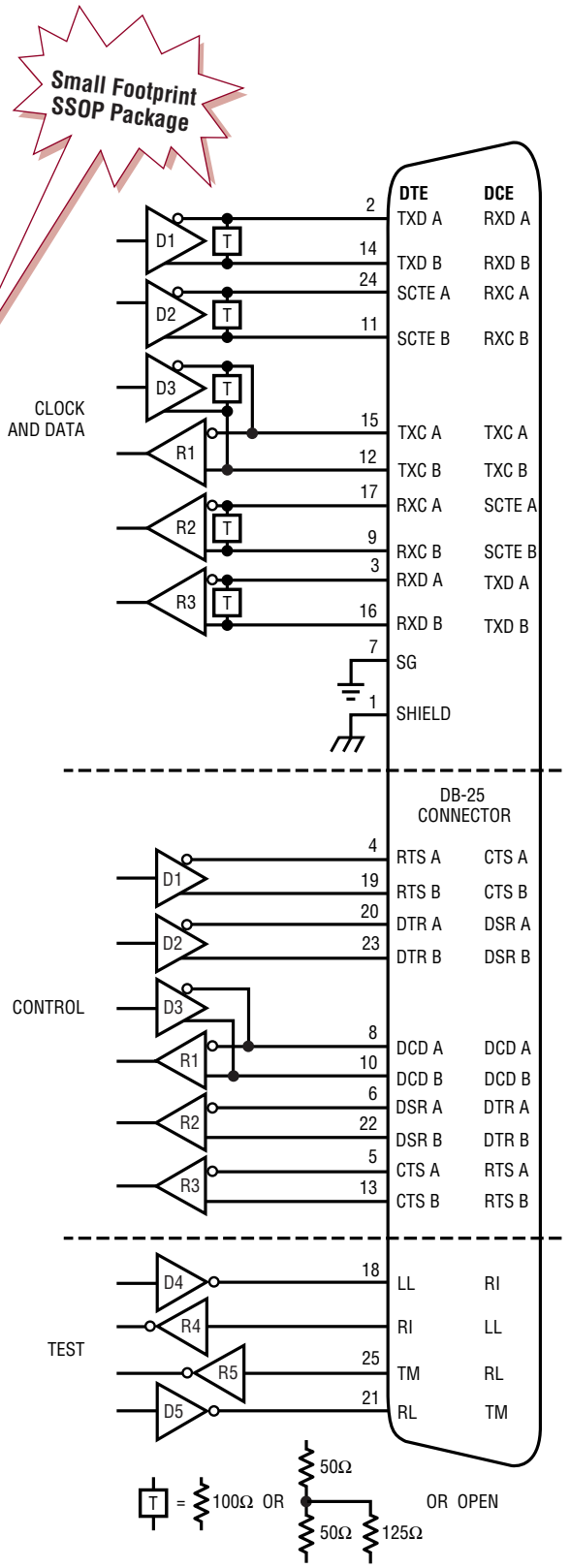


Multiprotocol Interface Solutions

- Supports RS232, RS449, EIA530, EIA530-A, V.35, V.36, X.21 Protocols
- Single 5V Supply
- Integrated Switched Termination
- Flow-Through Pinout
- NET1, NET2 and TBR2 Compliant

CHIPSET	CLOCK AND DATA SIGNALS	CONTROL SIGNALS	TEST SIGNALS LL	TEST SIGNALS RL	TEST SIGNALS TM	TERMINATION	PACKAGE
LTC1546	✓					✓	SSOP28
LTC1545		✓	✓	✓	✓		SSOP36
LTC1546	✓					✓	SSOP28
LTC1544		✓	✓				SSOP28
LTC1543	✓						SSOP28
LTC1545		✓	✓	✓	✓		SSOP36
LTC1344A						✓	SSOP24
LTC1543	✓						SSOP28
LTC1544		✓	✓				SSOP28
LTC1344A						✓	SSOP24
LTC1343	✓						SSOP44
LTC1343		✓	✓	✓	✓		SSOP44
LTC1344						✓	SSOP24



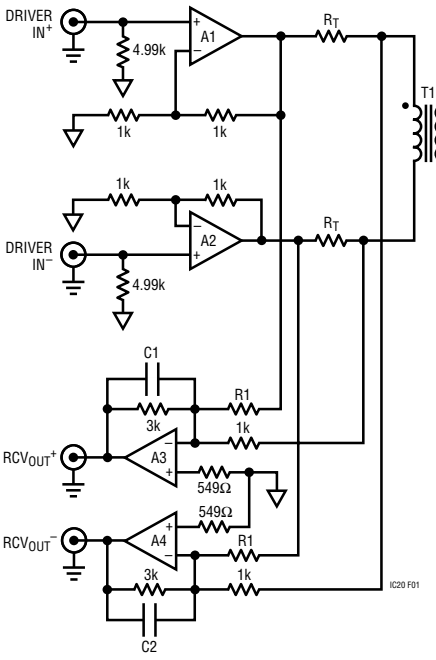


Low Loss, High Power Line Driver Amplifiers

Characteristics	LT1497	LT1886	LT1206	LT1207	LT1795	LT1210
Minimum Output Current	125mA	200mA	250mA	250mA	500mA	1.1A
Bandwidth	50MHz	70MHz	60MHz	60MHz	50MHz	35MHz
Slew Rate	900V/µS	200V/µs	900V/µs	900V/µs	900V/µs	900V/µs
Supply Voltage Range	10 to 36V	5 to 13V	10 to 36V	10 to 36V	10 to 36V	10 to 36V
I_{SUPPLY}/Amplifier	6mA	7mA	12mA	12mA	12mA	15mA
Amplifiers/Package	1	2	1	2	2	1
Key Applications	HDSL2/G.Lite Upstream (PC's)	HDSL2/G.Lite Upstream (PC's)	G.Lite Downstream (CO's)	G.Lite Downstream (CO's)	ADSL Full Rate Downstream (CO's)	ADSL Full Rate Downstream (CO's)
Packages	8-Lead SO 16-Lead SO	8-Lead SO	8-Lead Dip, SO 7-Lead DD, TO-220	16-Lead SO	20-Lead Wide SO Thermally Enhanced TSSOP20 Pin Power Package	16-Lead SO 7-Lead DD, TO-220

Line Driver

Trans-Hybrid Receiver



- Peak Output Currents: 125mA to 1.1A
- Ideal for DMT and CAP ADSL Applications
- Adjustable Output Power Capability
- Low Power Operation
  - Shutdown Mode Supported
  - I_S < 200µA/Amp in Shutdown

For Central Office (CO) Applications:
A1, A2 = 1/2 LT1795
A3, A4 = 1/2 LT1813
T1 = 1:2 Turns Ratio
R_T = 12.7Ω, 1%
R1 = 2.05k, 1%
C1 = 100pF

For Remote Terminal (RT) Applications:
A1, A2 = 1/2 LT1886
A3, A4 = 1/2 LT1813
T1 = 1:1 Turns Ratio
R_T = 52.3Ω, 1%
R1 = 2.1k, 1%
C1 = 12pF

Trans-Hybrid Receiver High Speed Amplifiers

Characteristics	LT1355	LT1358	LT1361	LT1364	LT1813
Noise Voltage (nV/√Hz)	10	8	9	9	8
Gain Bandwidth	12MHz	25MHz	50MHz	70MHz	75MHz
Slew Rate	400V/µs	600V/µs	800V/µs	1000V/µs	500V/µs
Supply Voltage Range	5V to 30V	5V to 30V	5V to 30V	5V to 30V	2.5V to 12V
I_{SUPPLY}/Amplifier	1mA	2mA	4mA	6mA	3mA

- Low Noise: Typically Less Than 8nV/√Hz
- High Speeds to 100MHz
- Low Power: Typically Less Than 3mA per Amplifier