# Product Preview

# **ADSL Line Driver**

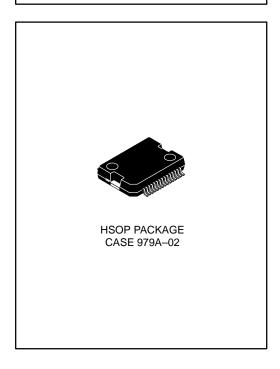
The MC03AX1456 ADSL Line Driver provides a single chip analog front end to interface the ADSL Transceiver to the line transformer.

The MC03AX1456CO is designed to fulfill the central office requirements. The MC03AX1456RT is optimized for use at the remote terminal (i.e. consumer premises). The ADSL Line Driver provides three differential ports: a transmit and a receive port to interface to the ADSL Transceiver's transmit and receive ports, respectively; and a bidirectional line port.

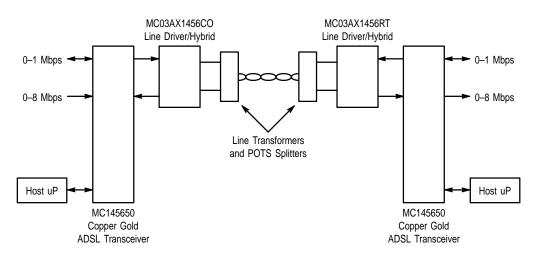
The transmit port incorporates a high–pass filter and a programmable gain stage with three settings. The receive port incorporates a programmable HF boost and a programmable gain stage, each with three settings, as well as a high pass–filter.

- Hybrid balance for echo cancellation
- Defined termination impedance to the line
- Programmable transmit gain (3 settings)
- Programmable receive gain (3 setting)
- Programmable HF boost (3 setting)
- Transmit band for CO is 26KHz-1104KHz
- Transmit band for the RT is 26KHz-138KHz
- Frequency ripple <0.5dB (CO and RT)
- Standby mode for lower power dissipation (CO and RT)
- ±15V ±10% supply voltages
- 30-pin HSOP package

# MC03AX1456CO MC03AX1456RT



### **ADSL System Block Diagram**



This document contains information on a product under development. Motorola reserves the right to change or discontinue this product without notice.

**Central Office Unit** 

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Remote Unit

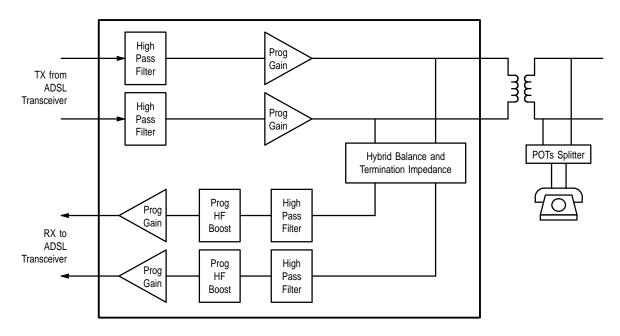


Figure 1. Functional Block Diagram of the MC03AX1456 Line Driver

#### **MAXIMUM RATINGS\***

Symbol	Parameter	Value	Unit
VCC	Positive Supply Voltage (Referenced to GND)	+18	V
VEE	Negative Supply Voltage (Referenced to GND)	-18	V
VIN	Input Voltage (Referenced to GND)	TBD	V
Vout	Output Voltage (Referenced to GND)	TBD	V
I <sub>IN</sub>	Input Current	TBD	mA
lout	Output Current	TBD	mA
T <sub>STG</sub>	Storage Temperature Range	-65 to +150	°C

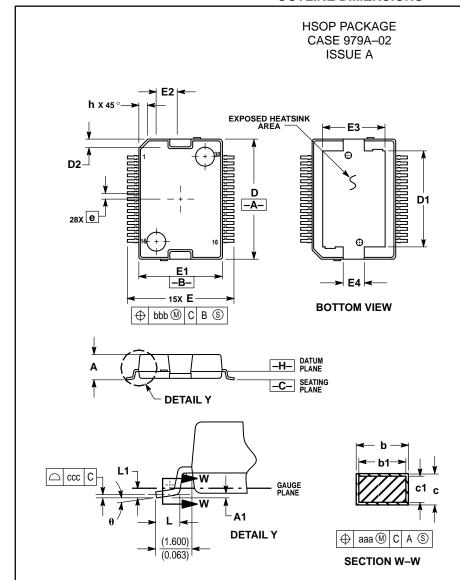
<sup>\*</sup> Maximum Ratings are those values beyond which damage to the device may occur. Functional operation should be restricted to the Recommended Operating Conditions.

## **RECOMMENDED OPERATING CONDITIONS**

Symbol	Parameter	Min	Тур	Max	Unit
Vcc	Positive Supply Voltage	+13.5	+15.0	+16.5	V
V_Sup	Negative Supply Voltage	-13.5	-15.0	-16.5	V
TJ	Junction Temperature			150	°C

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#### **OUTLINE DIMENSIONS**



#### NOTES:

- DIMENSIONING AND TOLERANCING PER ANSI
   Y14 5M 1982
- CONTROLLING DIMENSION: MILLIMETER.
   DATUM PLANE -H IS LOCATED AT BOTTOM OF LEAD AND IS COINCIDENT WITH THE LEAD WHERE THE LEAD EXITS THE PLASTIC BODY AT
- THE BOTTOM OF THE PARTING LINE.

  4. DIMENSIONS D AND E1 DO NOT INCLUDE MOLD PROTRUSION. ALLOWABLE PROTRUSION IS 0.150 (0.006) PER SIDE. DIMENSIONS D AND E1 DO INCLUDE MOLD MISMATCH AND ARE
- DETERMINED AT DATUM PLANE—H—.

  5. DIMENSION 5 DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.127 (0.005) TOTAL IN EXCESS OF THE 5 DIMENSION AT MAXIMUM MATERIAL CONDITION.
- 6. DATUMS –A– AND –B– TO BE DETERMINED AT DATUM PLANE –H–.

	MILLIMETERS		INCHES		
DIM	MIN	MAX	MIN	MAX	
Α	3.100	3.450	0.122	0.136	
A1	0.050	0.200	0.002	0.008	
A2	3.050	3.250	0.120	0.128	
D	15.800	16.000	0.622	0.630	
D1	12.270	12.470	0.483	0.491	
D2	0.900	1.100	0.035	0.043	
E	13.950	14.450	0.549	0.569	
E1	10.900	11.100	0.429	0.437	
E2	2.500	2.700	0.098	0.106	
E3	7.000	7.200	0.276	0.284	
E4	2.700	2.900	0.106	0.114	
L	0.840	1.100	0.033	0.043	
L1	0.350 BSC		0.014 BSC		
b	0.350	0.475	0.014	0.019	
b1	0.350	0.432	0.014	0.017	
С	0.230	0.320	0.009	0.013	
c1	0.230	0.280	0.009	0.011	
е	0.800 BSC		0.031 BSC		
h		1.100		0.043	
θ	0°	8°	0°	8°	
aaa	0.200		0.008		
bbb	0.2	0.200 0.008		800	
ccc	0.100		0.004		

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