

## V.92/V.90 56Kbps Modem Module Design Application

**Model: ML3054**

The module is an integrated direct access arrangement (DAA) that provides a programmable line interface to meet global telephone line requirements. It eliminates the need for an AFE, an isolation transformer, relays, opto-isolators, and a 2-wire to 4-wire hybrid. It dramatically reduces the number of discrete components and cost required to achieve compliance with international regulatory requirements. MDC complies with MDC 1.5 specification.

### Specifications

- Data modem with receive rates up to 56k bps and send rates up to 48 kbps (V.92 mode) or up to V.34 rates (V.90 mode)
  - V.92, V.90, V.34, V.32 bis, V.32, V.22 bis, V.22, V.23, and V.21; Bell 212A and Bell 103 modulation modes
  - Quick connect
  - Modem-on-hold
  - V.250 and V.251 commands
- Data compression and error correction
  - V.44 data compression for optimal downloading of Internet Web pages and files
  - V.42 bis and MNP 5 data compression
  - V.42 LAPM and MNP 2-4 error correction
- Fax modem with send and receive rates up to 14.4 kbps
  - V.17, V.29, V.27 ter, and V.21 channel 2 modulation modes
  - EIA/TIA 578 Class 1 and T.31 Class 1.0 commands

#### SYSTEM REQUIREMENT

Windows 2000/XP operating system on a MMX 300 MHz-based computer with 64 MB RAM, or equivalent

Motherboard MDC connector Pin 2 must support 1.5V or 3.3V signal level.



### Feature

- HD Audio and AC-Link dual mode
- MDC 1.5 slot
- Operates as a single-line Data/Fax/Voice/TAM modem
- Azalia-compatible codec with the LSD and DIB
- Support for 1.5 and 3.3V HD audio signaling
- Low-Power standby mode
- 3.3V digital power supply
- Supports software-based speakerphone using WDM drivers
- Supports Power Management ACPI/APM
- Support wake-on-ring
- Support Caller ID
- Support MOH
- Digital PBX line protection
- Support Windows Vista/XP/2000
- Compatible with Intel 1.5V Specification
- Compliant AC 3KV Hi Pot (EN60950-1) (option)



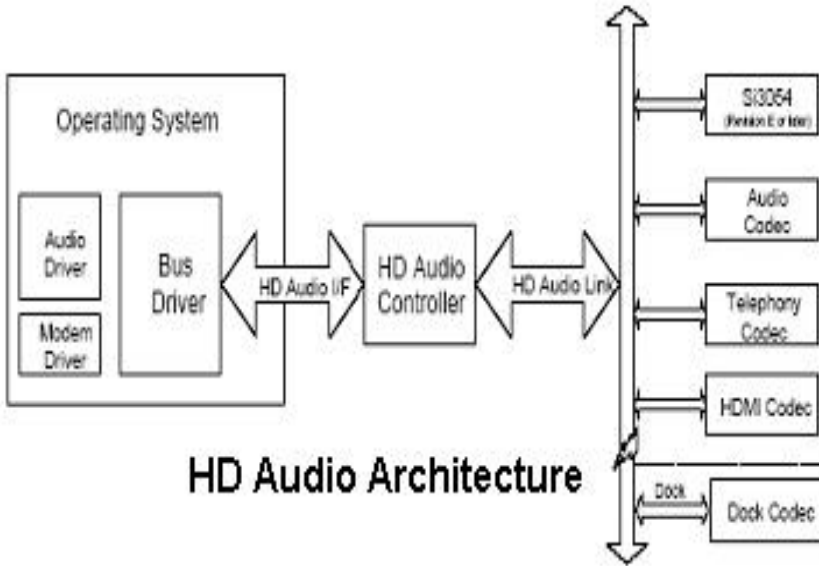
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### Pinout



HD Audio Architecture

GND	1	2	Pin 2: VDDIO
SDO	3	4	RES
GND	5	6	3.3Vmain/aux
SYNC	7	8	GND
SD1	9	10	GND
RST#	11	12	BCLK

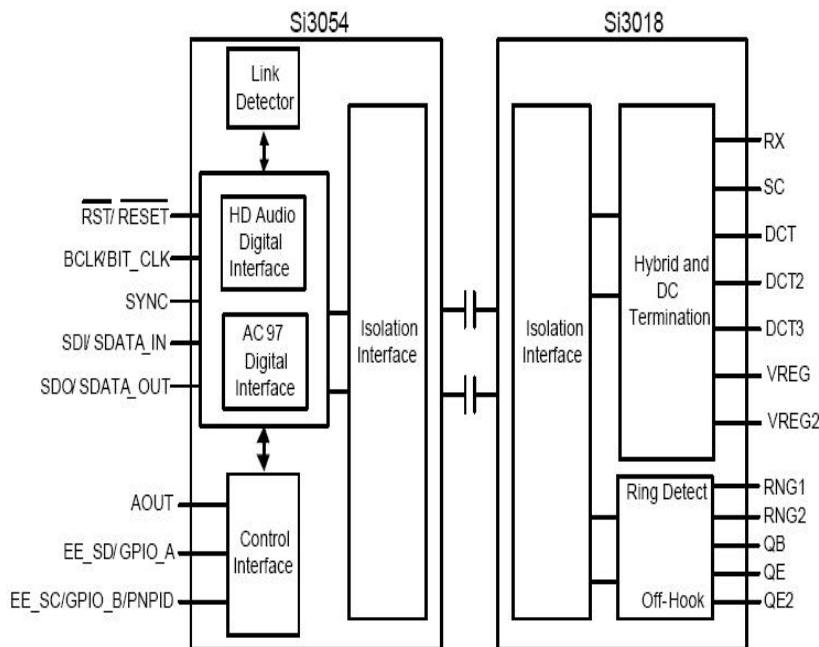
MDC 1.5 TYCO Azalia Connector

NC1	1	16	GPIO_A/EE_SC
VDDIO	2	15	GPIO_B/EE_SD/PNPID
BCLK/BIT_CLK	3	14	NC3
V <sub>D</sub>	4	13	V <sub>A</sub>
SDI/SDATA_IN	5	12	GND
SDO/SDATA_OUT	6	11	AOUT
SYNC	7	10	C1A
RST/RESET	8	9	C2A

Si 3054 Revision I (3.3V and 1.5V)

QE	1	16	DCT2
DCT	2	15	IGND
RX	3	14	DCT3
IB	4	13	QB
C1B	5	12	QE2
C2B	6	11	SC
VREG	7	10	VREG2
RNG1	8	9	RNG2

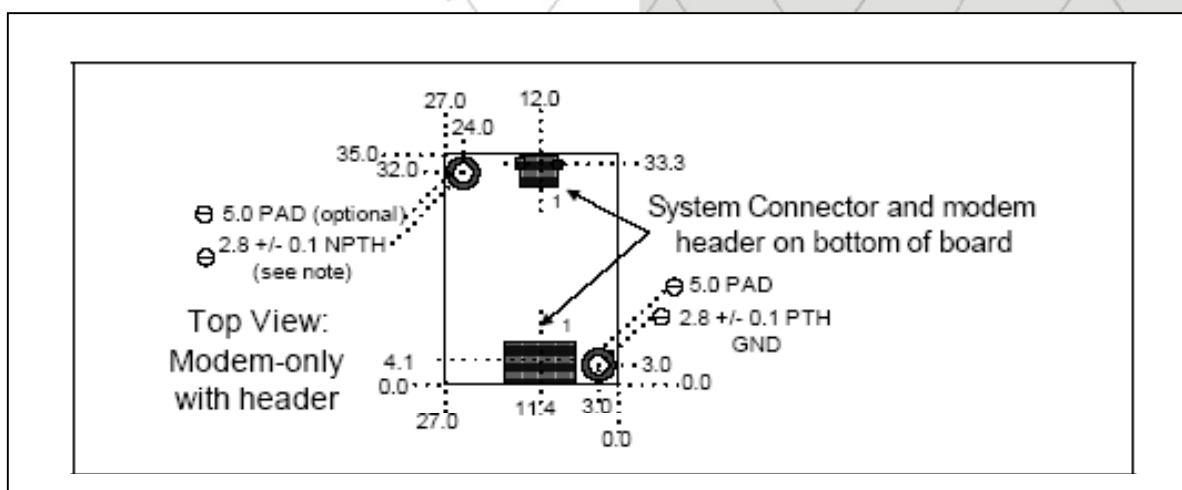
Si 3018



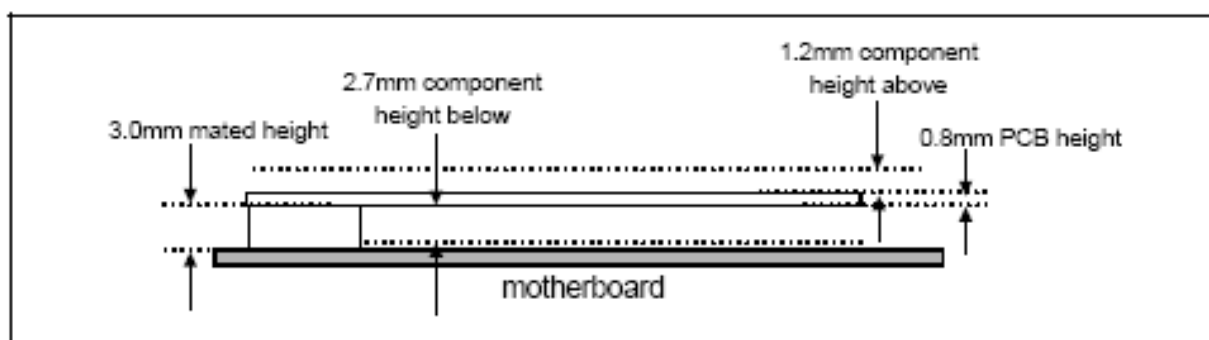
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## Mechanical Dimensions



### Component Height Restriction with Header (Side View)



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