



# MOTOROLA

## Specifications and Applications Information

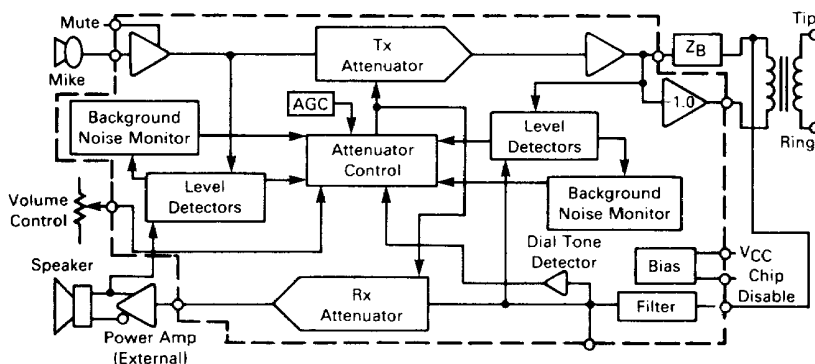
### VOICE SWITCHED SPEAKERPHONE CIRCUIT

The MC34118 Voice Switched Speakerphone Circuit incorporates the necessary amplifiers, attenuators, level detectors, and control algorithm to form the heart of a high quality hands-free speakerphone system. Included are a microphone amplifier with adjustable gain and MUTE control, Transmit and Receive attenuators which operate in a complementary manner, level detectors at both input and output of both attenuators, and background noise monitors for both the transmit and receive channels. A Dial Tone Detector prevents the dial tone from being attenuated by the Receive background noise monitor circuit. Also included are two line driver amplifiers which can be used to form a hybrid network in conjunction with an external coupling transformer. A high-pass filter can be used to filter out 60 Hz noise in the receive channel, or for other filtering functions. A Chip Disable pin permits powering down the entire circuit to conserve power on long loops where loop current is at a minimum.

The MC34118 may be operated from a power supply, or it can be powered from the telephone line, requiring typically 5.0 mA. The MC34118 can be interfaced directly to Tip and Ring (through a coupling transformer) for stand-alone operation, or it can be used in conjunction with a handset speech network and/or other features of a featurephone.

- Improved Attenuator Gain Range: 52 dB Between Transmit and Receive
- Low Voltage Operation for Line-Powered Applications (3.0–6.5 V)
- 4-Point Signal Sensing for Improved Sensitivity
- Background Noise Monitors for Both Transmit and Receive Paths
- Microphone Amplifier Gain Set by External Resistors — Mute Function Included
- Chip Disable for Active/Standby Operation
- On Board Filter Pinned-Out for User Defined Function
- Dial Tone Detector to Inhibit Receive Idle Mode During Dial Tone Presence
- Standard 28-Pin Plastic DIP Package and SOIC Package Available
- Compatible with MC34119 Speaker Amplifier

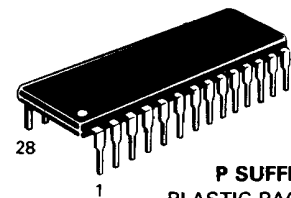
### SIMPLIFIED BLOCK DIAGRAM



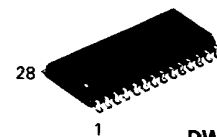
## MC34118

### VOICE SWITCHED SPEAKERPHONE CIRCUIT

#### SILICON MONOLITHIC INTEGRATED CIRCUIT



**P SUFFIX**  
PLASTIC PACKAGE  
CASE 710-02



**DW SUFFIX**  
PLASTIC PACKAGE  
CASE 751F-01

### PIN CONNECTIONS

(Top View)

FO	1	28	GND
FI	2	27	CPR
CD	3	26	RLI1
VCC	4	25	RLO1
HTO +	5	24	TLO1
HTO -	6	23	TLI1
HTI	7	22	RXO
TXO	8	21	RXI
TXI	9	20	RLI2
MCO	10	19	RLO2
MCI	11	18	TLO2
MUT	12	17	TLI2
VLC	13	16	CPT
CT	14	15	VB

(Pin assignments same for both packages)