

Technical Summary

ADPCM Codec

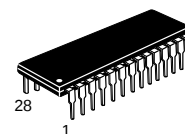
This technical summary provides a brief description of the MC145540 ADPCM Codec. A complete data book for the MC145540 is available and can be ordered from your local Motorola sales office. The data book number is MC145540/D.

The MC145540 ADPCM Codec is a single chip implementation of a PCM Codec-Filter and an ADPCM encoder/decoder, and therefore provides an efficient solution for applications requiring the digitization and compression of voiceband signals. This device is designed to operate over a wide voltage range, 2.7 to 5.25V and, as such, is ideal for battery powered as well as ac powered applications. The MC145540 ADPCM Codec also includes a serial control port and internal control and status registers that permit a microcomputer to exercise many built-in features.

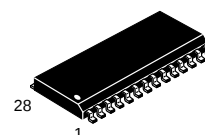
The ADPCM Codec is designed to meet the 32 kbps ADPCM conformance requirements of CCITT Recommendation G.721-1988 and ANSI T1.301. It also meets ANSI T1.303 and CCITT Recommendation G.723-1988 for 24 kbps ADPCM operation, and the 16 kbps ADPCM standard, CCITT Recommendation G.726. This device also meets the PCM conformance specification of the CCITT G.714 Recommendation.

- Single 2.7 to 5.25 V Power Supply
- Typical 2.3 V Power Dissipation of 43 mW, Power-Down of 15 μ W
- Differential Analog Circuit Design for Lowest Noise
- Complete Mu-Law and A-Law Companding PCM Codec-Filter
- ADPCM Transcoder for 64, 32, 24, and 16 kbps Data Rates
- Universal Programmable Dual Tone Generator
- Programmable Transmit Gain, Receive Gain, and Sidetone Gain
- Low Noise, High Gain, Three Terminal Input Operational Amplifier for Microphone Interface
- Push-Pull, 300 Ω Power Drivers with External Gain Adjust for Receiver Interface
- Push-Pull, 300 Ω Auxiliary Output Drivers for Ringer Interface
- Voltage Regulated Charge Pump to Power the Analog Circuitry in Low Voltage Applications
- Receive Noise Burst Detect Algorithm
- Order Complete Document as MC145540/D
- Device Supported by MC145537EVK ADPCM Codec Evaluation Kit

MC145540



P SUFFIX
PLASTIC DIP
CASE 710



DW SUFFIX
SOG PACKAGE
CASE 751F

ORDERING INFORMATION

MC145540P	Plastic DIP
MC145540DW	SOG Package

PIN ASSIGNMENT

TG	1	28	VDD
TI-	2	27	FSR
TI+	3	26	BCLKR
V _{AG}	4	25	DR
RO	5	24	C1+
AXO-	6	23	C1-
AXO+	7	22	V _{SS}
V _{DSP}	8	21	SPC
V _{EXT}	9	20	DT
PI	10	19	BCLKT
PO-	11	18	FST
PO+	12	17	SCP Rx
PDI/RESET	13	16	SCP Tx
SCPEN	14	15	SCPCLK

**NOT RECOMMENDED
FOR NEW DESIGNS
REPLACED BY MC14LC5540**