PM-565A

COMPLETE HIGH-SPEED 12-BIT MONOLITHIC D/A CONVERTER

Precision Monolithics Inc.

PRELIMINARY

FEATURES

- **Very Fast-Settling (Sample Tested) ..... 250ns Max**
- **High-Stability Buried-Zener Reference on Chip**
- **Linearity Guaranteed Over Temperature .. 1/2 LSB Max**
- **Monotonicity Guaranteed Over Temperature**
- **Low Power Consumption ..... 345mW Max**
- **Operation Guaranteed at ± 12V Supplies**
- **Inputs Compatible with 5V and 15V Logic**
- **AD565A Second-Source Pin Compatibility with Improved Tempco, Reference Load Capability, and Trimming**

ORDERING INFORMATION†

LINEARITY OVER TEMPERATURE RANGE	FULL-SCALE TEMPCO, MAX	PACKAGE EPOXY DIP 24-PIN	PACKAGE HERMETIC DIP 24-PIN	OPERATING TEMPERATURE RANGE
±1/2 LSB	15 ppm/°C	—	PM565AAV*	MIL
±3/4 LSB	30 ppm/°C	—	PM565ABV*	MIL
±1/2 LSB	15 ppm/°C	PM565AGP	—	COM
±3/4 LSB	30 ppm/°C	PM565AHP	—	COM

* For devices processed in total compliance to MIL-STD-883, add /883 after part number. Consult factory for 883 data sheet.

† All commercial and industrial temperature range parts are available with burn-in. For ordering information see 1986 Data Book, Section 2.

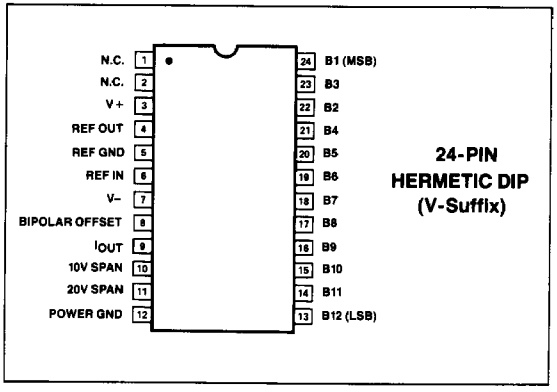
GENERAL DESCRIPTION

The PM-565A is a high-speed 12-bit bipolar digital-to-analog converter which provides a trimmed reference and application resistors. The output is a 0-2mA current, which can be converted to 0 to 10V, 0 to 5V, −5 to 5V, −10 to 10V output voltages using an external op-amp and the internal resistors. The digital inputs are TTL-compatible and may be driven by 5V or 15V CMOS.

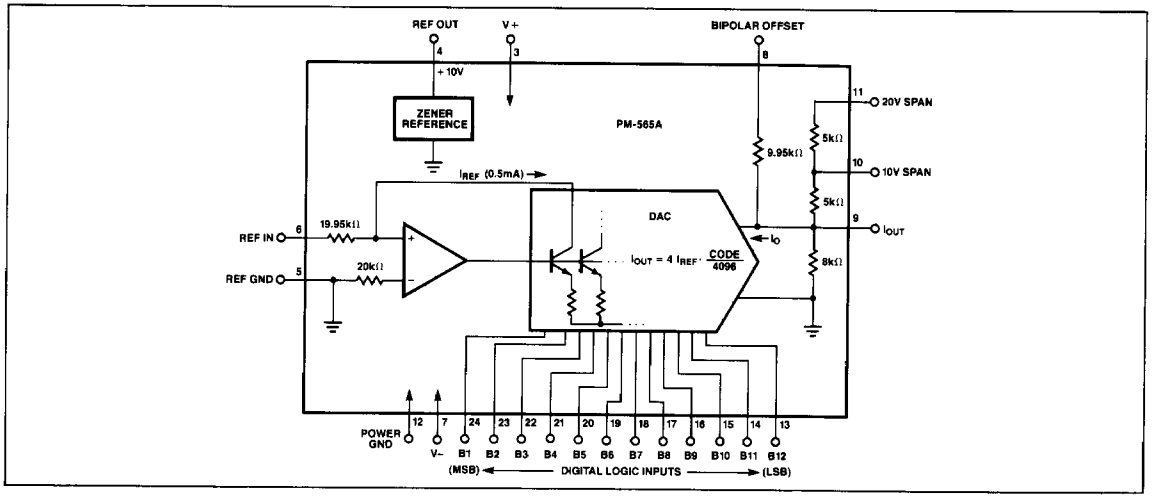
Logic delay to analog output is typically only 40ns, and settling to 0.01% of full-scale is factory tested. Great attention has been given to minimizing glitch energy and amplitude.

The subsurface zener reference is very stable, both over temperature and time. Typical gain tempco is only 10ppm/°C. The zener reference has less wideband noise than a typical bandgap type and is also free from excessive low-frequency noise. The reference is trimmed to 2 LSB Typ.

PIN CONNECTIONS



EQUIVALENT CIRCUIT



This preliminary product information is based on testing of a limited number of devices. Final specifications may vary. Please contact local sales office or distributor for final data sheet.