

**FEATURES**

- Micro-power Bipolar technology
- Complies with ANSI, Bellcore, and ITU-T specifications
- Supports 2.4 GHz (OC-48)
- Interface to both PECL and TTL logic
- 16-bit PECL data path
- Compact 80 PQFP package
- Diagnostic loopback mode
- Line loopback
- Signal detect input
- Low jitter PECL interface
- Single 3.3V supply

**GENERAL DESCRIPTION**

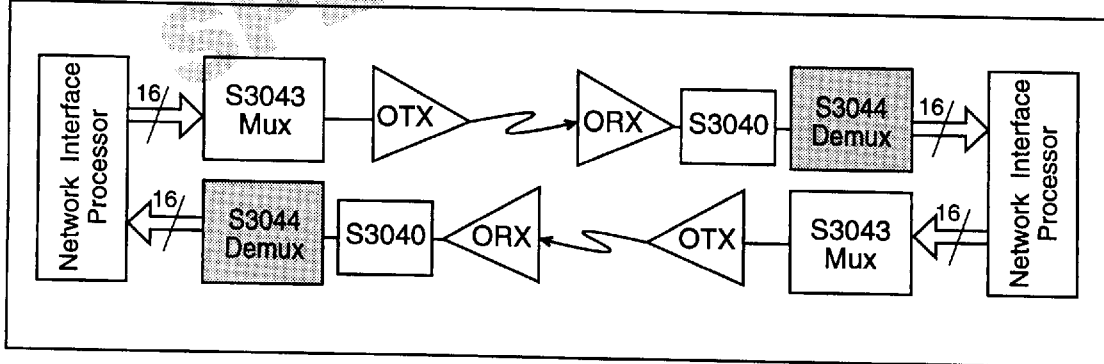
The S3044 SONET/SDH Demux chip is a fully integrated deserialization SONET OC-48 (2.4 GHz) interface device. The chip performs all necessary serial-to-parallel and framing functions in conformance with SONET/SDH transmission standards. The device is suitable for SONET-based ATM applications. Figure 1 shows a typical network application.

The low jitter PECL interface guarantees compliance with the bit-error rate requirements of the Bellcore, ANSI, and ITU-T standards. The S3044 is packaged in a 80 PQFP, offering designers a small package outline.

**APPLICATIONS**

- SONET/SDH-based transmission systems
- SONET/SDH modules
- SONET/SDH test equipment
- ATM over SONET/SDH
- Section repeaters
- Add drop multiplexors
- Broad-band cross-connects
- Fiber optic terminators
- Fiber optic test equipment

**Figure 1. System Block Diagram**



## S3044 OVERVIEW

The S3044 Demux implements SONET/SDH deserialization and frame detection functions. The block diagram in Figure 2 shows basic operation of the chip. This chip can be used to implement the front end of SONET equipment, which consists primarily of the serial transmit interface and the serial receive interface. The chip includes serial-to-parallel conversion and system timing. The system timing circuitry consists of management of the datastream, framing, and clock distribution throughout the front end.

The sequence of operations of the S3044 is as follows:

### Receiver Operations:

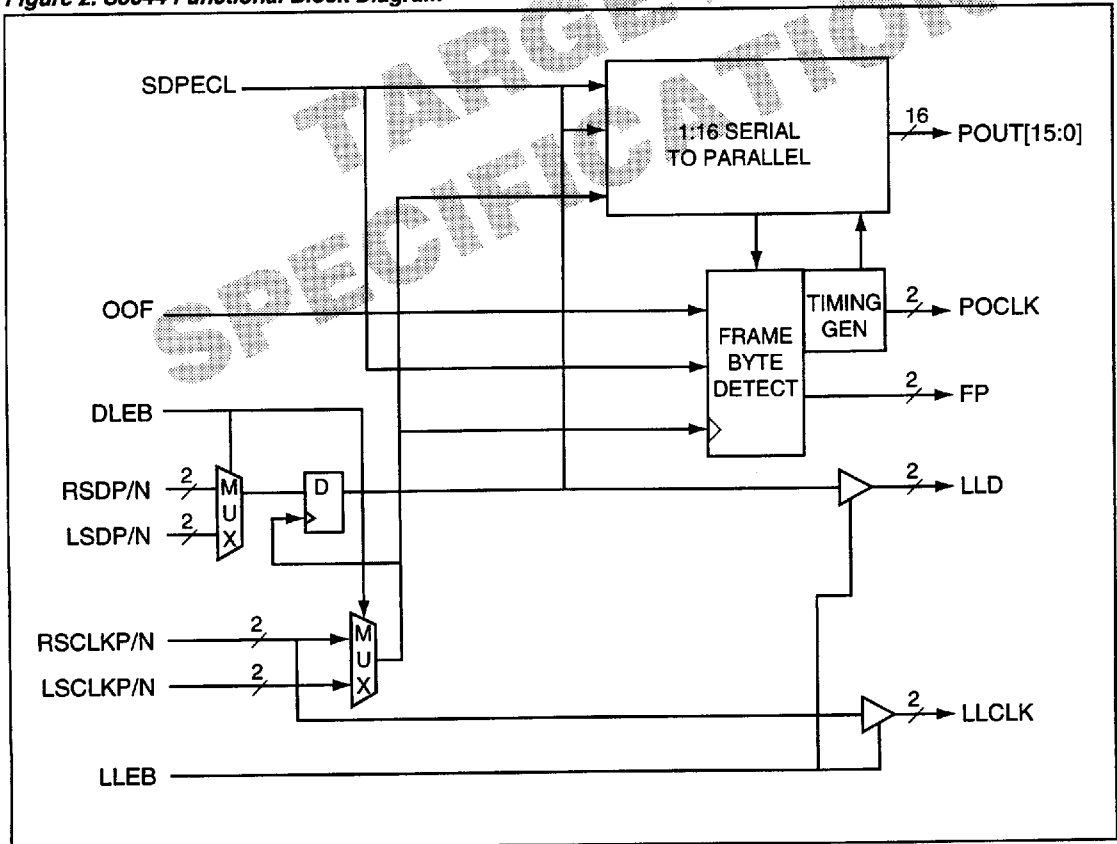
1. Serial input
2. Frame detection
3. Serial-to-parallel conversion
4. 16-bit parallel output

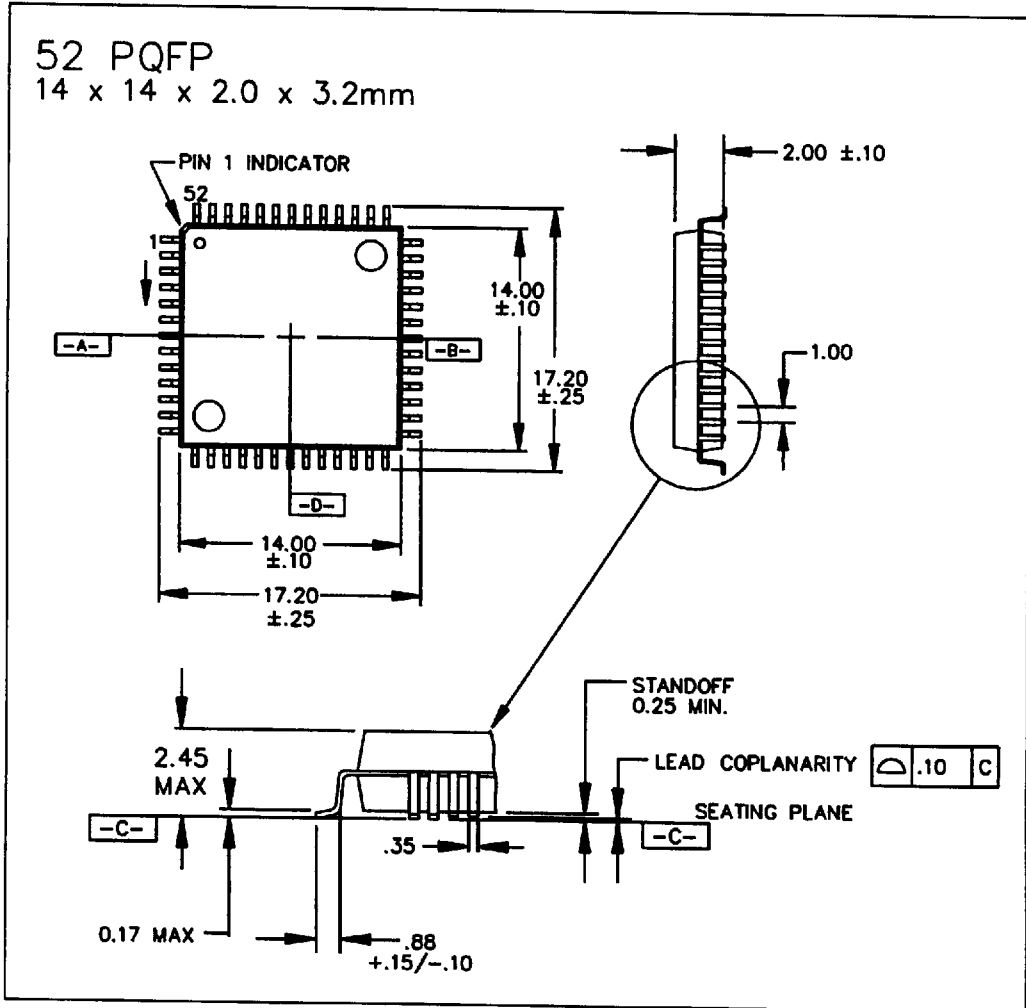
Internal clocking and control functions are transparent to the user.

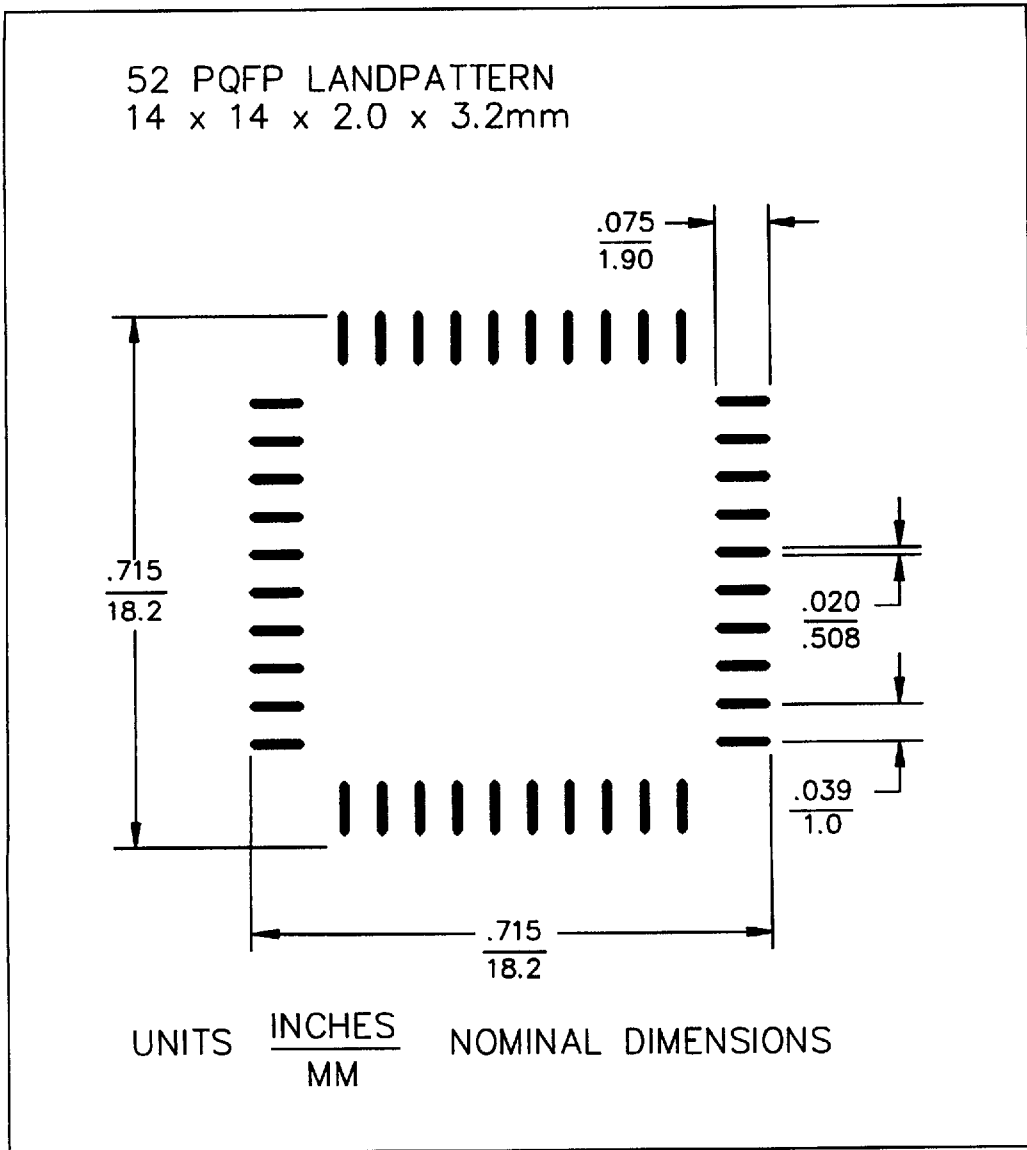
### Suggested Interface Devices

AMCC	S3040	Clock Recovery Device
AMCC	S3045	OC-48 to OC-12 Demux
AMCC	S3043	OC-48 Transmitter

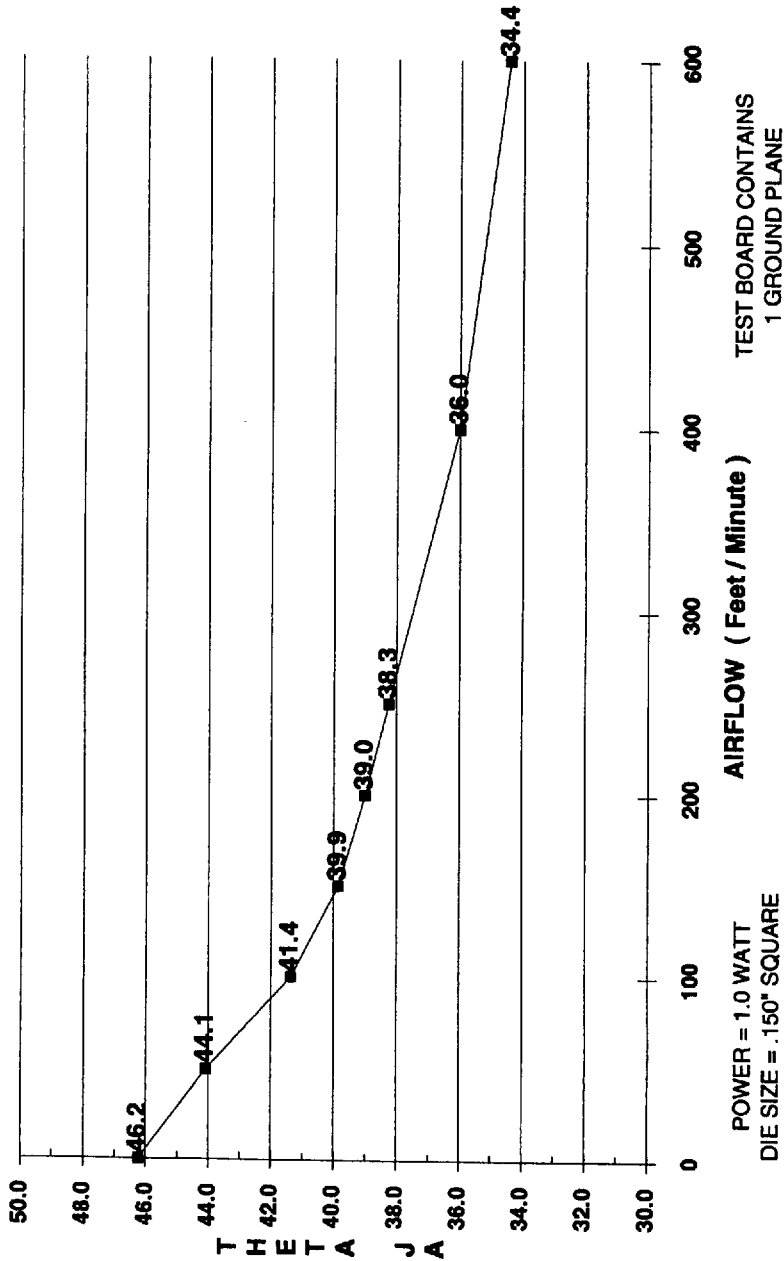
Figure 2. S3044 Functional Block Diagram

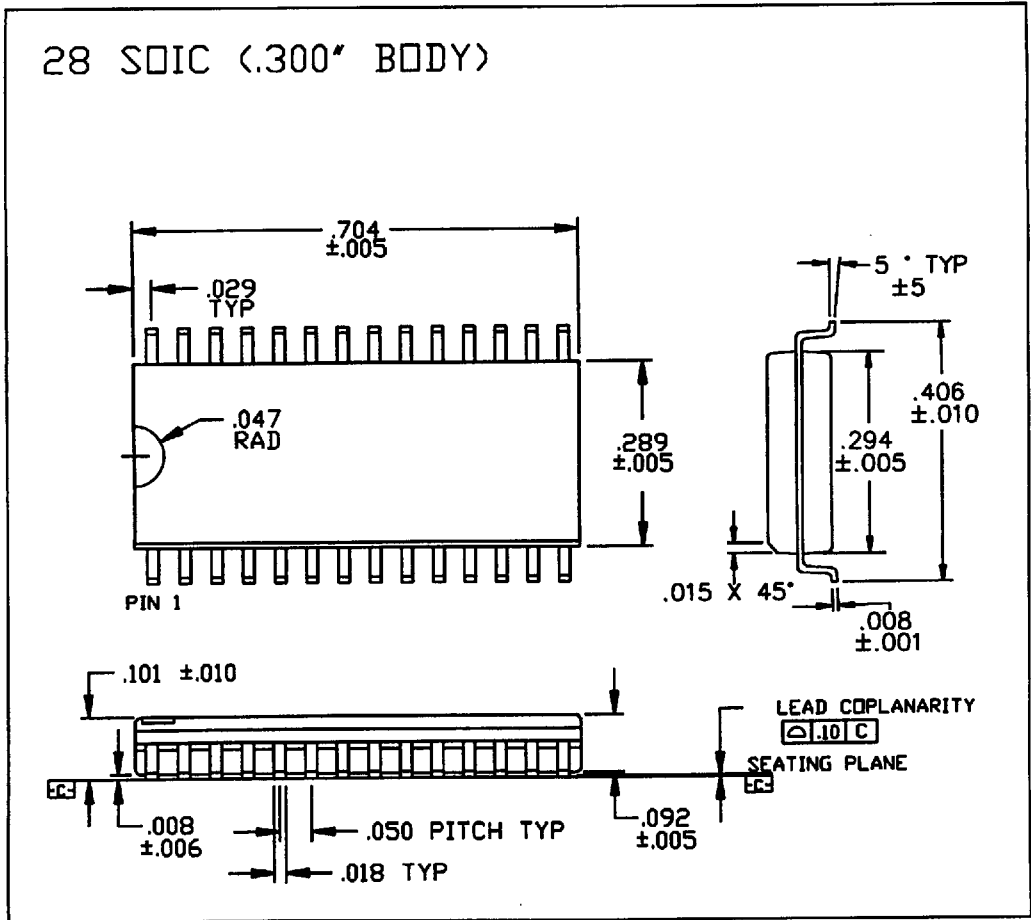




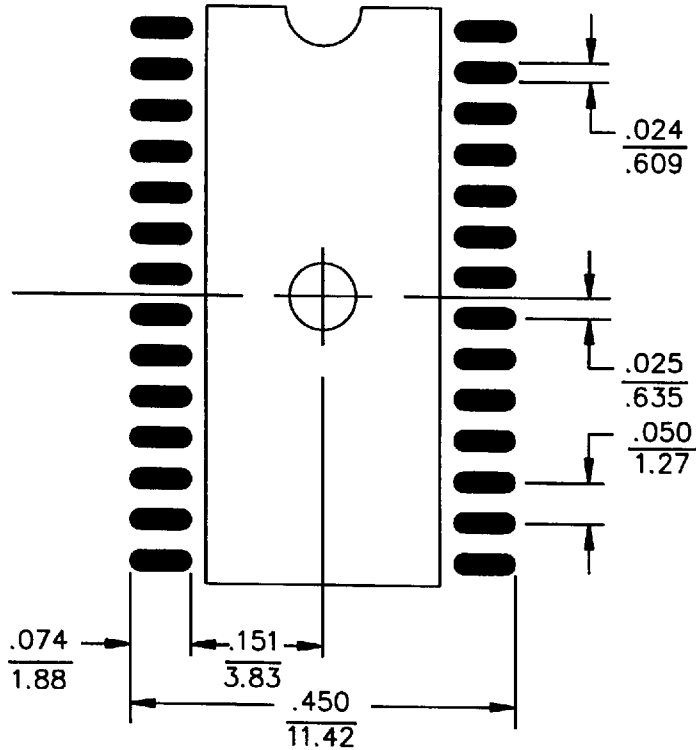


THERMAL DISSIPATION vs AIRFLOW  
52 PQFP -14 x 14 x 2.0 x 3.2 mm BODY

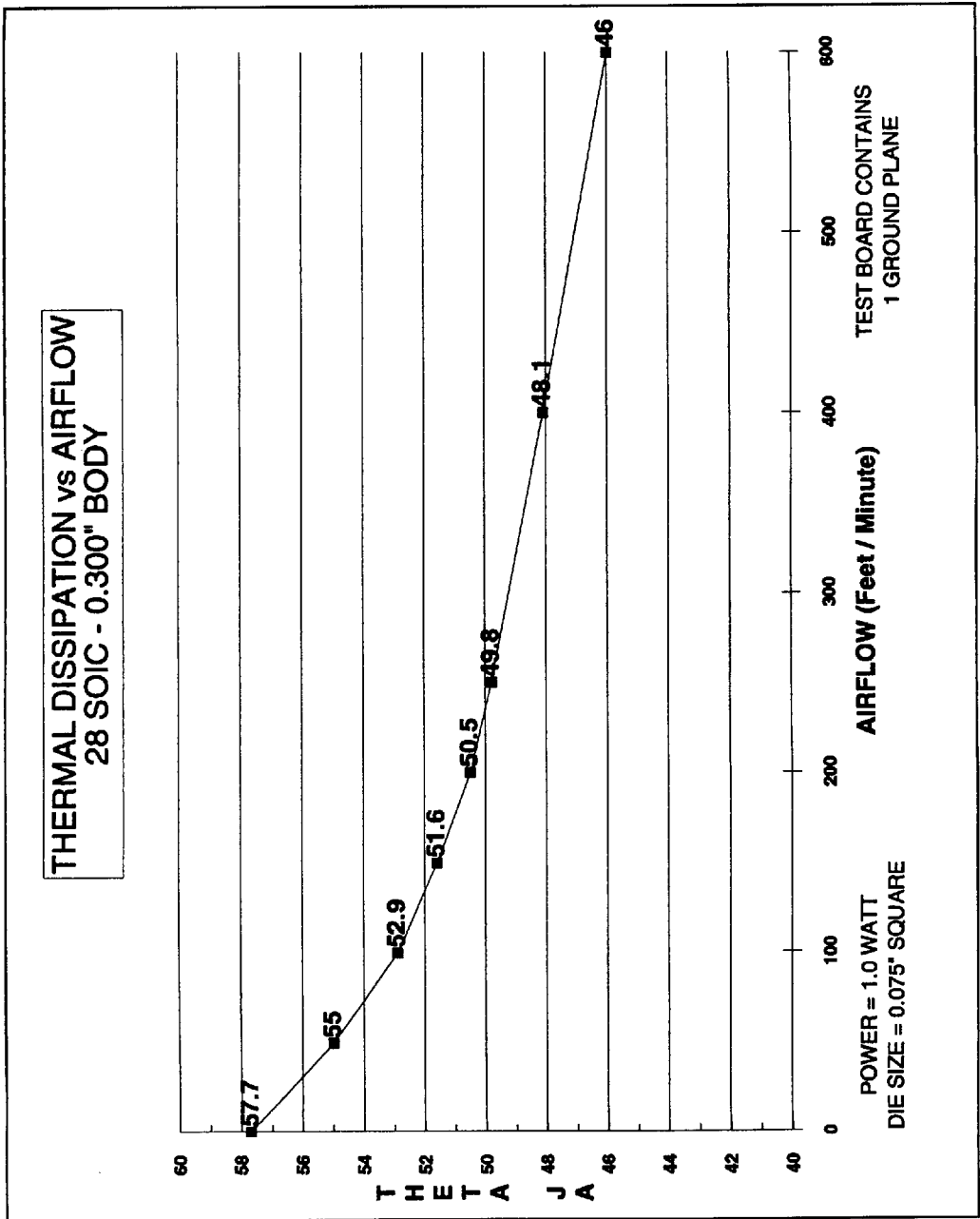




28 SOIC (.300" BODY) LANDPATTERN



UNITS  $\frac{\text{INCHES}}{\text{MM}}$  NOMINAL DIMENSIONS



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