| REVISIONS | | | |
|---|---|---|---|
| LTR | DESCRIPTION | DATE (YR-MO-DA) | APPROVED |
| C | Add device types 02 and 03. Editorial changes throughout | 94-05-03 | M A Frye |

The original first page of this drawing has been replaced.

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| REV | | | | | | | | | | | | | | | | | | | |
| SHEET | | | | | | | | | | | | | | | | | | | |
| REV | | | | | | | | | | | | | | | | | | | |
| SHEET | | | | | | | | | | | | | | | | | | | |

| REV STATUS OF SHEETS | REV | C | C | C | C | C | C | C | C | C | C | C | C | C | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SHEET | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | |

PMIC N/A

**STANDARDIZED MILITARY DRAWING**

THIS DRAWING IS AVAILABLE FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE

AMSC N/A

PREPARED BY
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DRAWING APPROVAL DATE
88-02-09

REVISION LEVEL
C

DEFENSE ELECTRONICS SUPPLY CENTER
DAYTON, OHIO 45444

# MICROCIRCUIT, LINEAR, HIGH SPEED PULSE WIDTH MODULATOR CONTROLLER, MONOLITHIC SILICON

| SIZE | CAGE CODE | 5962-87681 |
|---|---|---|
| A | 67268 | |

SHEET 1 OF 13

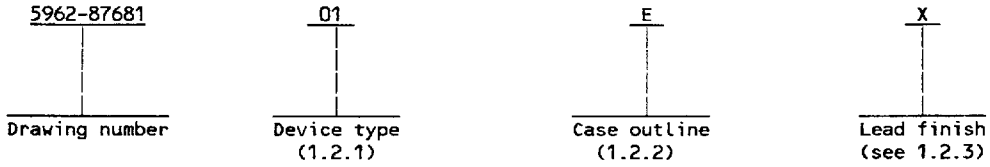
DESC FORM 193
JUL 91

5962-E231-94

1. SCOPE

1.1 Scope. This drawing describes device requirements for class B microcircuits in accordance with 1.2.1 of MIL-STD-883, "Provisions for the use of MIL-STD-883 in conjunction with compliant non-JAN devices".

1.2 Part or Identifying Number (PIN). The complete PIN shall be as shown in the following example:




1.2.1 Device type(s). The device type(s) shall identify the circuit function as follows:

| Device type | Generic number | Circuit function |
|---|---|---|
| 01 | 1825 | High speed PWM controller |
| 02 | 1825A | High speed PWM controller |
| 03 | 1825B | High speed PWM controller |

1.2.2 Case outline(s). The case outline(s) shall be as designated in MIL-STD-1835 and as follows:

| Outline letter | Descriptive designator | Terminals | Package style |
|---|---|---|---|
| E | CDIP1-T16 or GDIP2-T16 | 16 | Dual-in-line |
| 2 | CQCC1-N20 | 20 | Square leadless chip carrier |
| X | CQCC2-N28B | 28 | Square leadless chip carrier with thermal pads |

1.2.3 Lead finish. The lead finish shall be as specified in MIL-STD-883 (see 3.1 herein). Finish letter "X" shall not be marked on the microcircuit or its packaging. The "X" designation is for use in specifications when lead finishes A, B, and C are considered acceptable and interchangeable without preference.

1.3 Absolute maximum ratings.

| | |
|---|---|
| Supply voltage ($V_{CC}$): | |
| Device type 01 | 30 V dc |
| Device types 02 and 03 | 22 V dc |
| DC output current, source or sink | 0.5 A |
| Pulse output current, source or sink (0.5 $\mu$s) | 2.0 A |
| Analog input voltage: | |
| NONINVERTING, INVERTING, and RAMP pins | -0.3 V dc to 7.0 V dc |
| SOFT START and CURRENT LIMIT/SD pins | -0.3 V dc to 6.0 V dc |
| Clock output current | -5.0 mA |
| Error amplifier output current | 5.0 mA |
| Soft start sink current | 20 mA |
| Oscillator charging current | -5.0 mA |
| Power dissipation ($P_D$) | 1.0 W 1/ 2/ |
| Storage temperature range | -65°C to +150°C |
| Lead temperature (soldering, 10 seconds) | +300°C |
| Thermal resistance, junction-to-case ($\theta_{JC}$) | See MIL-STD-1835 |
| Junction temperature ($T_J$) | +150°C |

1.4 Recommended operating conditions.

| | |
|---|---|
| Supply voltage range: | |
| Device type 01 | 10 V dc to 30 V dc |
| Device types 02 and 03 | 12 V dc to 22 V dc |
| Ambient operating temperature range ($T_A$) | -55°C to +125°C |

1/ For case outline E, derate linearly above $T_A$ = +60°C at 11 mW/°C; for case outlines 2 and X, derate linearly above $T_A$ = 40°C at 9 mW/°C.
2/ Must withstand the added $P_D$ due to short circuit test, e.g., $I_{SC}$.

2. APPLICABLE DOCUMENTS

2.1 Government specification, standards, and bulletin. Unless otherwise specified, the following specification, standards and bulletin of the issue listed in that issue of the Department of Defense Index of Specifications and Standards specified in the solicitation, form a part of this drawing to the extent specified herein.

SPECIFICATION

MILITARY

MIL-I-38535 - Integrated Circuits (Microcircuits) Manufacturing, General Specification for.

STANDARDS

MILITARY

MIL-STD-883 - Test Methods and Procedures for Microelectronics.
MIL-STD-1835 - Microcircuit Case Outlines.

BULLETIN

MILITARY

MIL-BUL-103 - List of Standardized Military Drawings (SMD's).

(Copies of the specification, standards, and bulletin required by manufacturers in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting activity.)

2.2 Order of precedence. In the event of a conflict between the text of this drawing and the references cited herein, the text of this drawing shall take precedence.

3. REQUIREMENTS

3.1 Item requirements. The individual item requirements shall be in accordance with 1.2.1 of MIL-STD-883, "Provisions for the use of MIL-STD-883 in conjunction with compliant non-JAN devices" and as specified herein. Product built to this drawing that is produced by a Qualified Manufacturer Listing (QML) certified and qualified manufacturer or a manufacturer who has been granted transitional certification to MIL-I-38535 may be processed as QML product in accordance with the manufacturers approved program plan and qualifying activity approval in accordance with MIL-I-38535. This QML flow as documented in the Quality Management (QM) plan may make modifications to the requirements herein. These modifications shall not affect form, fit, or function of the device. These modifications shall not affect the PIN as described herein. A "Q" or "QML" certification mark in accordance with MIL-I-38535 is required to identify when the QML flow option is used.

3.2 Design, construction, and physical dimensions. The design, construction, and physical dimensions shall be as specified in MIL-STD-883 (see 3.1 herein) and herein.

3.2.1 Case outline(s). The case outline(s) shall be in accordance with 1.2.2 herein.

3.2.2 Terminal connections. The terminal connections shall be as specified on figure 1.

3.2.3 Block diagram(s). The block diagram(s) shall be as specified on figure 2.

3.3 Electrical performance characteristics. Unless otherwise specified herein, the electrical performance characteristics are as specified in table I and shall apply over the full ambient operating temperature range.

3.4 Electrical test requirements. The electrical test requirements shall be the subgroups specified in table II. The electrical tests for each subgroup are described in table I.

TABLE I. Electrical performance characteristics.

| Test | Symbol | Conditions 1/ $-55°C \le T_A \le +125°C$ unless otherwise specified | Group A subgroups | Device type | Limits | | Unit |
|---|---|---|---|---|---|---|---|
| | | | | | Min | Max | |
| **Reference section** | | | | | | | |
| Output voltage | $V_{REF}$ | $T_J$ = +25°C, $I_O$ = 1.0 mA | 1 | All | 5.05 | 5.15 | V |
| Line regulation | $V_{RLINE}$ | 10 V < $V_{CC}$ < 30 V | 1, 2, 3 | 01 | | ±20 | mV |
| | | 12 V < $V_{CC}$ < 20 V | | 02,03 | | ±15 | |
| Load regulation | $V_{RLOAD}$ | 1.0 mA < $I_O$ < 10 mA | 1, 2, 3 | All | | ±20 | mV |
| Long term stability 2/ | $\frac{\Delta V_{REF}}{\Delta t}$ | $T_J$ = +125°C, t = 1000 hrs | 2 | All | | ±25 | mV |
| Total output variation | $V_{OM1}$ | $I_O$ = -1.0 mA, $V_{CC}$ = 10 V | 1, 2, 3 | All | 5.00 | 5.20 | V |
| | $V_{OM2}$ | $I_O$ = -1.0 mA, $V_{CC}$ = 30 V | | | | | |
| | $V_{OM3}$ | $I_O$ = -10 mA, $V_{CC}$ = 10 V | | | | | |
| | $V_{OM4}$ | $I_O$ = -10 mA, $V_{CC}$ = 30 V | | | | | |
| Short-circuit current | $I_{SC}$ | $V_{REF}$ = 0 V | 1, 2, 3 | 01 | -15 | -100 | mA |
| | | | | 02,03 | 30 | 90 | |
| **Oscillator section** | | | | | | | |
| Initial accuracy | $f_o$ | $T_J$ = +25°C | 4 | 01 | 360 | 440 | kHz |
| | | | | 02,03 | 375 | 425 | |
| Voltage stability | $\frac{\Delta f_o}{\Delta V}$ | 10 V < $V_{CC}$ < 30 V | 4, 5, 6 | 01 | | ±2.0 | % |
| | | 12 V < $V_{CC}$ < 20 V | | 02,03 | | ±1.0 | |
| Total variation | $f_{OM1}$ | $V_{CC}$ = 10 V | 4, 5, 6 | All | 340 | 460 | kHz |
| | $f_{OM2}$ | $V_{CC}$ = 30 V | | | | | |

See footnotes at end of table.

TABLE I. Electrical performance characteristics - Continued.

| Test | Symbol | Conditions 1/ $-55°C \le T_A \le +125°C$ unless otherwise specified | Group A subgroups | Device type | Limits | | Unit |
|---|---|---|---|---|---|---|---|
| | | | | | Min | Max | |
| Oscillator section - Continued. | | | | | | | |
| Clock out high | $V_{CLK(H)}$ | | 1, 2, 3 | 01 | 3.9 | | V |
| | | | | 02,03 | 3.7 | | |
| Clock out low | $V_{CLK(L)}$ | | 1, 2, 3 | 01 | | 2.9 | V |
| | | | | 02,03 | | 0.2 | |
| Ramp voltage, peak 2/ | $V_{im}$ | | 1, 2, 3 | All | 2.6 | 3.0 | V |
| Ramp voltage, valley 2/ | $V_{iv}$ | | 1, 2, 3 | All | 0.6 | 1.25 | V |
| Ramp voltage, valley to peak 2/ | $V_{ivp}$ | | 1, 2, 3 | All | 1.6 | 2.1 | V |
| Error amplifier section | | | | | | | |
| Input offset voltage | $V_{OS}$ | $V_{CM}$ = 3.0 V, $V_O$ = 3.0 V | 1, 2, 3 | All | -10 | 10 | mV |
| Input bias current | $I_{IB}$ | $V_{CM}$ = 3.0 V, $V_O$ = 3.0 V | 1, 2, 3 | All | | 3.0 | µA |
| Input offset current | $I_{OS}$ | $V_{CM}$ = 3.0 V, $V_O$ = 3.0 V | 1, 2, 3 | All | | ±1.0 | µA |
| Open loop gain | $A_{VOL}$ | 1.0 V < $V_O$ < 4.0 V | 4, 5, 6 | All | 60 | | dB |
| Common-mode rejection ratio | CMRR | 1.5 V < $V_{CM}$ < 5.5 V<br>$V_{OUT}$ = 3.0 V | 4, 5, 6 | All | 75 | | dB |
| Power supply rejection ratio | PSRR | 10 V < $V_{CC}$ < 30 V<br>$V_{OUT}$ = 3.0 V | 4, 5, 6 | All | 85 | | dB |
| Output sink current | $I_{O(SINK)}$ | E/A OUT voltage = 1.0 V | 1, 2, 3 | All | 1.0 | | mA |
| Output source current | $I_{O(SOURCE)}$ | E/A OUT voltage = 4.0 V | 1, 2, 3 | All | -0.5 | | mA |
| Output high voltage | $V_{OH1}$ | E/A OUT current = -0.5 mA | 1, 2, 3 | All | 4.0 | 5.0 | V |

See footnotes at end of table.

TABLE I. Electrical performance characteristics - Continued.

| Test | Symbol | Conditions 1/ $-55°C \le T_A \le +125°C$ unless otherwise specified | Group A subgroups | Device type | Limits | | Unit |
|---|---|---|---|---|---|---|---|
| | | | | | Min | Max | |
| Error amplifier section - Continued. | | | | | | | |
| Output low voltage | $V_{OL1}$ | E/A OUT current = 1.0 mA | 1, 2, 3 | All | 0 | 1.0 | V |
| Unity gain bandwidth 2/ | BW | | 4, 5, 6 | 01 | 3.0 | | MHz |
| Gain bandwidth product 2/ | GBWP | F = 200 kHZ | 4, 5, 6 | 02,03 | 6.0 | | |
| Slew rate 2/ | SR | | 4, 5, 6 | All | 6.0 | | V/µs |
| PWM comparator section | | | | | | | |
| RAMP bias current | $I_{BRAMP}$ | RAMP voltage = 0 V | 1, 2, 3 | 01 | | -5.0 | µA |
| | | | | 02,03 | | -8.0 | |
| Duty cycle range | DC(range) | | 1, 2, 3 | All | 0 | 80 | % |
| E/A OUT zero dc threshold voltage | $V_{TH}$ | RAMP voltage = 0 V | 1, 2, 3 | All | 1.1 | | V |
| Delay to output 2/ | $t_{D1}$ | | 9,10,11 | 01 | | 100 | ns |
| | | | | 02,03 | | 80 | |
| Soft-start/duty cycle clamp section | | | | | | | |
| Charge current | $I_{CHG}$ | SOFT START voltage = 0.5 V | 1, 2, 3 | 01 | 3.0 | 20 | µA |
| | | SOFT START voltage = 2.5 V | | 02,03 | 8.0 | 20 | |
| Discharge current | $I_{DCHG}$ | SOFT START voltage = 1.0 V | 1, 2, 3 | 01 | 1.0 | | mA |
| | | SOFT START voltage = 2.5 V | | 02,03 | 0.10 | 0.35 | |
| Current limit/shutdown section | | | | | | | |
| CURRENT LIMIT/SD bias current | $I_B$ | 0 V < CURRENT LIMIT/SD voltage < 4.0 V | 1, 2, 3 | 01 | -15 | 15 | µA |
| Current limit threshold | $V_{LIMIT}$ | | 1, 2, 3 | 01 | 0.9 | 1.1 | V |
| Shutdown threshold | $V_{SHTDN}$ | | 1, 2, 3 | 01 | 1.25 | 1.55 | V |

See footnotes at end of table.

TABLE I. Electrical performance characteristics - Continued.

| Test | Symbol | Conditions 1/ $-55°C \le T_A \le +125°C$ unless otherwise specified | Group A subgroups | Device type | Limits | | Unit |
|---|---|---|---|---|---|---|---|
| | | | | | Min | Max | |
| Current limit/shutdown section - Continued. | | | | | | | |
| Delay to output 2/ | $t_{D2}$ | | 9,10,11 | 01 | | 100 | ns |
| Current limit/start sequence/fault section | | | | | | | |
| Restart threshold | $V_{RS}$ | | 1, 2, 3 | 02,03 | | 0.5 | V |
| I LIM bias current | $I_{BLIM}$ | 0 V < V I LIM < 2 V | 1, 2, 3 | 02,03 | | 15 | µA |
| Current limit threshold | $V_{LIMIT}$ | | 1, 2, 3 | 02,03 | 0.95 | 1.05 | V |
| Over current threshold | $V_{OVER}$ | | 1, 2, 3 | 02,03 | 1.14 | 1.26 | V |
| I LIM delay to output | $t_{D3}$ | | 1, 2, 3 | 02,03 | | 80 | nS |
| Output section | | | | | | | |
| Output low level | $V_{OL2}$ | $I_{OUT}$ = 20 mA | 1, 2, 3 | All | | 0.4 | V |
| | | $I_{OUT}$ = 200 mA | 1, 2, 3 | All | | 2.2 | V |
| Output high level | $V_{OH2}$ | $I_{OUT}$ = -20 mA | 1, 2, 3 | All | 13.0 | | V |
| | | $I_{OUT}$ = -200 mA | 1, 2, 3 | All | 12.0 | | V |
| Collector leakage | $I_{LC}$ | $V_C$ = 30 V | 1, 2, 3 | 01 | | 500 | µA |
| UVLO output low saturation | $V_{OLS}$ | $I_O$ = 20 mA | 1, 2, 3 | 02,03 | | 1.2 | V |
| Rise/Fall time 2/ | $t_r$ | $C_L$ = 1.0 nF | 9,10,11 | 01 | | 60 | ns |
| | | | | 02,03 | | 45 | |

See footnotes at end of table.

TABLE I. Electrical performance characteristics - Continued.

| Test | Symbol | Conditions 1/ $-55°C \le T_A \le +125°C$ unless otherwise specified | Group A subgroups | Device type | Limits | | Unit |
|---|---|---|---|---|---|---|---|
| | | | | | Min | Max | |
| Under-voltage lockout section | | | | | | | |
| Start threshold | $V_{START}$ | | 1, 2, 3 | 01 | 8.8 | 9.6 | V |
| | | | | 02 | 8.4 | 9.6 | |
| | | | | 03 | | 17.0 | |
| Stop threshold | $V_{STOP}$ | | 1, 2, 3 | 03 | 9 | | V |
| UVLO hysteresis | $V_{HYS}$ | | 1, 2, 3 | 02 | 0.4 | 1.2 | V |
| | | | | 03 | 5.0 | 7.0 | |
| Supply current | | | | | | | |
| Start up current | $I_{START}$ | $V_{CC}$ = 8.0 V | 1, 2, 3 | 01 | | 2.5 | mA |
| | | $V_C = V_{CC} = V_{TH}$ (start) -0.5 V | | | | 0.3 | |
| Supply current | $I_{CC}$ | INVERTING INPUT, RAMP, and CURRENT LIMIT/SD voltage = 0 V, NONINVERTING INPUT voltage = 1.0 V | 1, 2, 3 | 01 | | 33 | mA |
| | | | | 02,03 | | 36 | |

1/ Unless otherwise specified, characteristics apply at $R_T$ = 3.65 kΩ, $C_T$ = 1.0 nF. $V_{CC}$ = 15 V for device type 01 and $V_{CC}$ = 12 V for device types 02 and 03.
2/ Guaranteed, if not tested, to the specified limits.

| Device type | 01, 02, 03 | 01 | 01, 02, 03 |
|---|---|---|---|
| Case outlines | E | 2 | X |
| Terminal number | Terminal symbol | | |
| 1 | INVERTING INPUT | NC | NC |
| 2 | NONINVERTING INPUT | INVERTING INPUT | INVERTING INPUT |
| 3 | E/A OUT | NONINVERTING INPUT | NONINVERTING INPUT |
| 4 | CLOCK | E/A OUT | NC |
| 5 | $R_T$ | CLOCK | NC |
| 6 | $C_T$ | NC | E/A OUT |
| 7 | RAMP | $R_T$ | CLK/LEB |
| 8 | SOFT START | $C_T$ | NC |
| 9 | CURRENT LIMIT/SD | RAMP | $R_T$ |
| 10 | GROUND | SOFT START | $C_T$ |
| 11 | OUT A | NC | NC |
| 12 | POWER GROUND | CURRENT LIMIT/SD | NC |
| 13 | $V_C$ | GROUND | RAMP |
| 14 | OUT B | OUT A | SOFT START |
| 15 | $V_{CC}$ | POWER GROUND | NC |
| 16 | $V_{REF}$ | NC | CURRENTLIMIT/SD |
| 17 | --- | $V_C$ | GROUND |
| 18 | --- | OUT B | NC |
| 19 | --- | $V_{CC}$ | NC |
| 20 | --- | $V_{REF}$ | OUT A |
| 21 | --- | --- | POWER GROUND |
| 22 | --- | --- | NC |
| 23 | --- | --- | $V_C$ |
| 24 | --- | --- | OUT B |
| 25 | --- | --- | NC |
| 26 | --- | --- | NC |
| 27 | --- | --- | $V_{CC}$ |
| 28 | --- | --- | $V_{REF}$ |

FIGURE 1. Terminal connections.

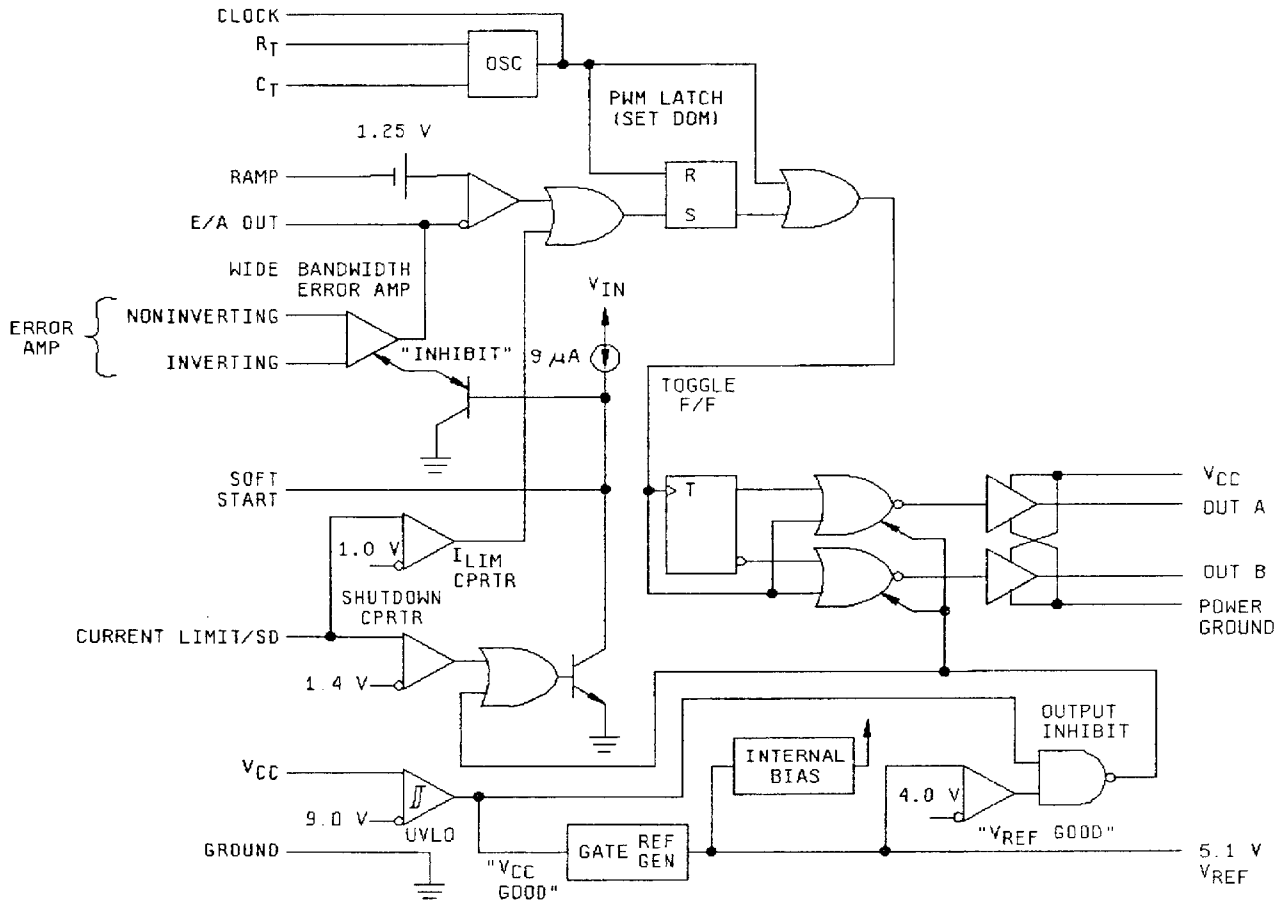



FIGURE 2. Block diagram.

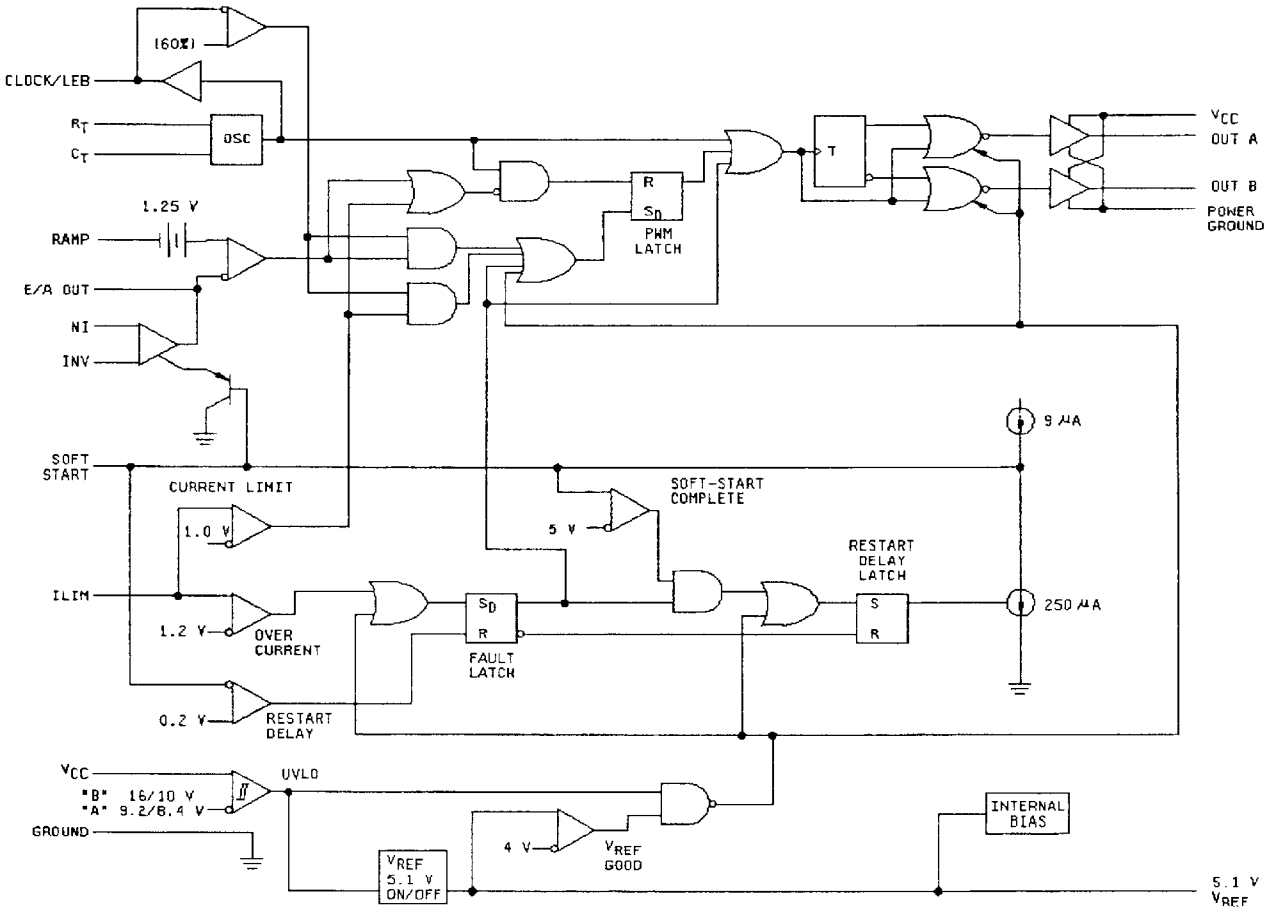



FIGURE 2. Block diagram - Continued.

3.5 Marking. Marking shall be in accordance with MIL-STD-883 (see 3.1 herein). The part shall be marked with the PIN listed in 1.2 herein. In addition, the manufacturer's part number may also be marked as listed in MIL-BUL-103 (see 6.6 herein).

3.6 Certificate of compliance. A certificate of compliance shall be required from a manufacturer in order to be listed as an approved source of supply in MIL-BUL-103 (see 6.6 herein). The certificate of compliance submitted to DESC-EC prior to listing as an approved source of supply shall affirm that the manufacturer's product meets the requirements of MIL-STD-883 (see 3.1 herein) and the requirements herein.

3.7 Certificate of conformance. A certificate of conformance as required in MIL-STD-883 (see 3.1 herein) shall be provided with each lot of microcircuits delivered to this drawing.

3.8 Notification of change. Notification of change to DESC-EC shall be required in accordance with MIL-STD-883 (see 3.1 herein).

3.9 Verification and review. DESC, DESC's agent, and the acquiring activity retain the option to review the manufacturer's facility and applicable required documentation. Offshore documentation shall be made available onshore at the option of the reviewer.

4. QUALITY ASSURANCE PROVISIONS

4.1 Sampling and inspection. Sampling and inspection procedures shall be in accordance with MIL-STD-883 (see 3.1 herein).

4.2 Screening. Screening shall be in accordance with method 5004 of MIL-STD-883, and shall be conducted on all devices prior to quality conformance inspection. The following additional criteria shall apply:

a. Burn-in test, method 1015 of MIL-STD-883.

(1) Test condition A, B, C, or D. The test circuit shall be maintained by the manufacturer under document revision level control and shall be made available to the preparing or acquiring activity upon request. The test circuit shall specify the inputs, outputs, biases, and power dissipation, as applicable, in accordance with the intent specified in test method 1015 of MIL-STD-883.

(2) $T_A$ = +125°C, minimum.

b. Interim and final electrical test parameters shall be as specified in table II herein, except interim electrical parameter tests prior to burn-in are optional at the discretion of the manufacturer.

4.3 Quality conformance inspection. Quality conformance inspection shall be in accordance with method 5005 of MIL-STD-883 including groups A, B, C, and D inspections. The following additional criteria shall apply.

4.3.1 Group A inspection.

a. Tests shall be as specified in table II herein.

b. Subgroups 7 and 8 in table I, method 5005 of MIL-STD-883 shall be omitted.

4.3.2 Groups C and D inspections.

a. End-point electrical parameters shall be as specified in table II herein.

b. Steady-state life test conditions, method 1005 of MIL-STD-883.

(1) Test condition A, B, C, or D. The test circuit shall be maintained by the manufacturer under document revision level control and shall be made available to the preparing or acquiring activity upon request. The test circuit shall specify the inputs, outputs, biases, and power dissipation, as applicable, in accordance with the intent specified in test method 1005 of MIL-STD-883.

(2) $T_A$ = +125°C, minimum.

(3) Test duration: 1,000 hours, except as permitted by method 1005 of MIL-STD-883.

TABLE II. Electrical test requirements.

| MIL-STD-883 test requirements | Subgroups (per method 5005, table I) |
|---|---|
| Interim electrical parameters (method 5004) | 1 |
| Final electrical test parameters (method 5004) | 1*, 2, 3, 4, |
| Group A test requirements (method 5005) | 1, 2, 3, 4, 5, 6, 9**, 10**, 11** |
| Groups C and D end-point electrical parameters (method 5005) | 1, 2, 3 |

* PDA applies to subgroup 1.
** Subgroups 9, 10, and 11 are guaranteed if not tested.

5. PACKAGING

5.1 Packaging requirements. The requirements for packaging shall be in accordance with MIL-STD-883 (see 3.1 herein).

6. NOTES

6.1 Intended use. Microcircuits conforming to this drawing are intended for use for Government microcircuit applications (original equipment), design applications, and logistics purposes.

6.2 Replaceability. Microcircuits covered by this drawing will replace the same generic device covered by a contractor-prepared specification or drawing.

6.3 Configuration control of SMD's. All proposed changes to existing SMD's will be coordinated with the users of record for the individual documents. This coordination will be accomplished in accordance with MIL-STD-973 using DD Form 1692, Engineering Change Proposal.

6.4 Record of users. Military and industrial users shall inform Defense Electronics Supply Center when a system application requires configuration control and the applicable SMD. DESC will maintain a record of users and this list will be used for coordination and distribution of changes to the drawings. Users of drawings covering microelectronics devices (FSC 5962) should contact DESC-EC, telephone (513) 296-6047.

6.5 Comments. Comments on this drawing should be directed to DESC-EC, Dayton, Ohio 45444-5270, or telephone (513) 296-5377.

6.6 Approved sources of supply. Approved sources of supply are listed in MIL-BUL-103. The vendors listed in MIL-BUL-103 have agreed to this drawing and a certificate of compliance (see 3.6 herein) has been submitted to and accepted by DESC-EC.