REVISIONS

LTR	DESCRIPTION	DATE (YR-MO-DA)	APPROVED
A	Add flat package. Change CAGE code to 67268.	87-10-09	R. P. Evans
B	Add device type 02. Editorial changes throughout.	93-09-22	M. A. Frye

查询"5962-87516B"供应商

THE ORIGINAL FIRST PAGE OF THIS DRAWING HAS BEEN REPLACED.

REV																			
SHEET																			
REV																			
SHEET																			

REV STATUS OF SHEETS	REV	B	B	B	B	B	B	B	B	B					
	SHEET	1	2	3	4	5	6	7	8	9					

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
Donald R. Osborne

CHECKED BY
D. A. DiCenzo

APPROVED BY
N. A. Hauck

DRAWING APPROVAL DATE
87/01/13

REVISION LEVEL
B

DEFENSE ELECTRONICS SUPPLY CENTER
DAYTON, OHIO 45444

MICROCIRCUIT, LINEAR, DUAL DIFFERENTIAL HIGH-SPEED COMPARATOR, MONOLITHIC SILICON

SIZE	CAGE CODE	
A	67268	5962-87516

SHEET 1 OF 9

DESC FORM 193
JUL 91

5962-E440-93

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

9004708 0010624 339

Powered by ICminer.com Electronic-Library Service CopyRight 2003

查询"5962-8751601CA"供应商

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:

5962-87516	01	C	X
Drawing number	Device type (see 1.2.1)	Case outline (see 1.2.2)	Lead finish (see 1.2.3)

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

Device type	Generic number	Circuit function
01	521	Dual differential comparator
02	522	Dual differential comparator (open-collector)

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
C	GDIP1-T14 or CDIP2-T14 or CDIP3-T14	14	Dual-in-line
D	GDFP1-F14 or CDFP2-F14	14	Flat pack

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.

Positive supply voltage (V+) - - - - - - - - - - - - - - - +7 V dc
Negative supply voltage (V-) - - - - - - - - - - - - - - - -7 V dc
Differential input voltage (V_{IDR})- - - - - - - - - - - - ±6 V dc
Input voltage (V_{IN})
  Common mode- ±5 V dc
  Strobe/gate- +5.25 V dc
Maximum power dissipation (P_D) - - - - - - - - - - - - - 600 mW 1/
Storage temperature range (T_{STG}) - - - - - - - - - - - - -65°C to +150°C
Lead temperature (soldering, 60 seconds) - - - - - - - - +300°C
Thermal resistance, junction-to-case (O_{JC}) - - - - - - - See MIL-STD-1835
Junction temperature (T_J)- - - - - - - - - - - - - - - - +150°C

1.4 Recommended operating conditions.

Positive supply voltage (V+) - - - - - - - - - - - - - - - +4.5 V dc to +5.5 V dc
Negative supply voltage (V-) - - - - - - - - - - - - - - - -4.5 V dc to -5.5 V dc
Operating ambient temperature range (T_A) - - - - - - - - -55°C to +125°C
Common mode voltage range (V_{ICR}) - - - - - - - - - - - - ±3 V dc

1/ Must withstand the added P_D due to short circuit test; e.g., I_{OS}.

Powered by ICminer.com Electronic-Library Service CopyRight 2003

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.

查询"5962-8751601CA"供应商

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.

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 PIN 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.

Powered by ICminer.com Electronic-Library Service CopyRight 2003

查询"5962-8751601CA"供应商

TABLE I. Electrical performance characteristics.

Test	Symbol	Conditions $-55°C \le T_C \le +125°C$ unless otherwise specified	Group A subgroups	Device type	Limits Min	Limits Max	Unit
Input offset voltage	V_{IO}	V+ = +4.5 V V- = -4.5 V	1	01,02		7.5	mV
			2, 3			15	
Input bias current	I_{IB}	V+ = +5.5 V V- = -5.5 V	1	01,02		20	µA
			2, 3			40	
Input offset current	I_{IO}	V+ = +5.5 V V- = -5.5 V	1	01,02		5	µA
			2, 3			12	
Low level input voltage	V_{IL}	V+ = +4.5 V V- = -4.5 V	1	01,02		0.8	V
			2, 3			0.7	
High level input voltage	V_{IH}	V+ = +4.5 V V- = -4.5 V	1, 2, 3	01,02	2.0		V
Input current high 1G or 2G strobe	I_{IH}	V+ = +5.5 V V- = -5.5 V V_{IH} = 2.7 V	1, 2, 3	01,02		50	µA
Common strobe S						100	
Input current low 1G or 2G strobe	I_{IL}	V+ = +5.5 V V- = -5.5 V V_{IL} = 0.5 V	1, 2, 3	01,02		-2.0	mA
Common strobe S						-4.0	
Output leakage current	I_{OH}	V+ = +4.5 V V- = -4.5 V V_{OUT} = +5.5 V	1, 2, 3	02		250	µA
Output voltage high	V_{OH}	V_{STROBE} = 2.0 V V+ = +4.5 V V- = -4.5 V I_{OH} = -1 mA	1, 2, 3	01	2.5		V

See footnotes at end of table.

Powered by ICminer.com Electronic-Library Service CopyRight 2003

TABLE I. Electrical performance characteristics.

查询"5962-8751601CA"供应商

Test	Symbol	Conditions $-55°C \le T_C \le +125°C$ unless otherwise specified		Group A subgroups	Device type	Limits Min	Limits Max	Unit
Output voltage low	V_{OL}	V+ = +4.5 V V- = -4.5 V	I_{OL} = 10 mA	2, 3	01,02		0.5	V
			I_{OL} = 20 mA	1			0.5	
Supply current positive	I_{CC+}	V+ = +5.5 V V- = -5.5 V V_{STROBE} = 0 V		1	01,02		35	mA
				2, 3			50	
Supply current negative	I_{CC-}			1, 2, 3			-28	
Short circuit output current	I_{SC}	V+ = +5.5 V V- = -5.5 V		1, 2, 3	01	-35	-115	mA
Propagation delay 1/ Input A or B to output Low to high	t_{PLH1}	V+ = +5.0 V V- = -5.0 V R_L = 280 Ω C_L = 15 pF T_A = +25 °C		9	01		12	ns
					02		15	
High to low	t_{PHL1}				01		9	
					02		12	
Propagation delay 2/ STROBE G or S to output Low to high	t_{PLH2}				01		10	
					02		13	
High to low	t_{PHL2}				01		6	
					02		9	

1/ Response time measured from 0 V point of ±100 mVp-p 10 MHz square wave to the 1.5 V point of the output.

2/ Response time measured from 1.5 V point of input to 1.5 V of the output.

Powered by ICminer.com Electronic-Library Service CopyRight 2003

查询"5962-8751601CA"供应商

Case outlines	C, D
Device types	01, 02
Terminal number	Terminal symbol
1	INPUT 1A
2	INPUT 1B
3	NC
4	OUTPUT 1Y
5	STROBE 1G
6	STROBE S
7	GROUND
8	STROBE 2G
9	OUTPUT 2Y
10	NC
11	INPUT 2B
12	INPUT 2A
13	V-
14	V+

FIGURE 1. Terminal connections.

Powered by ICminer.com Electronic-Library Service CopyRight 2003

查询"5962-8751601CA"供应商

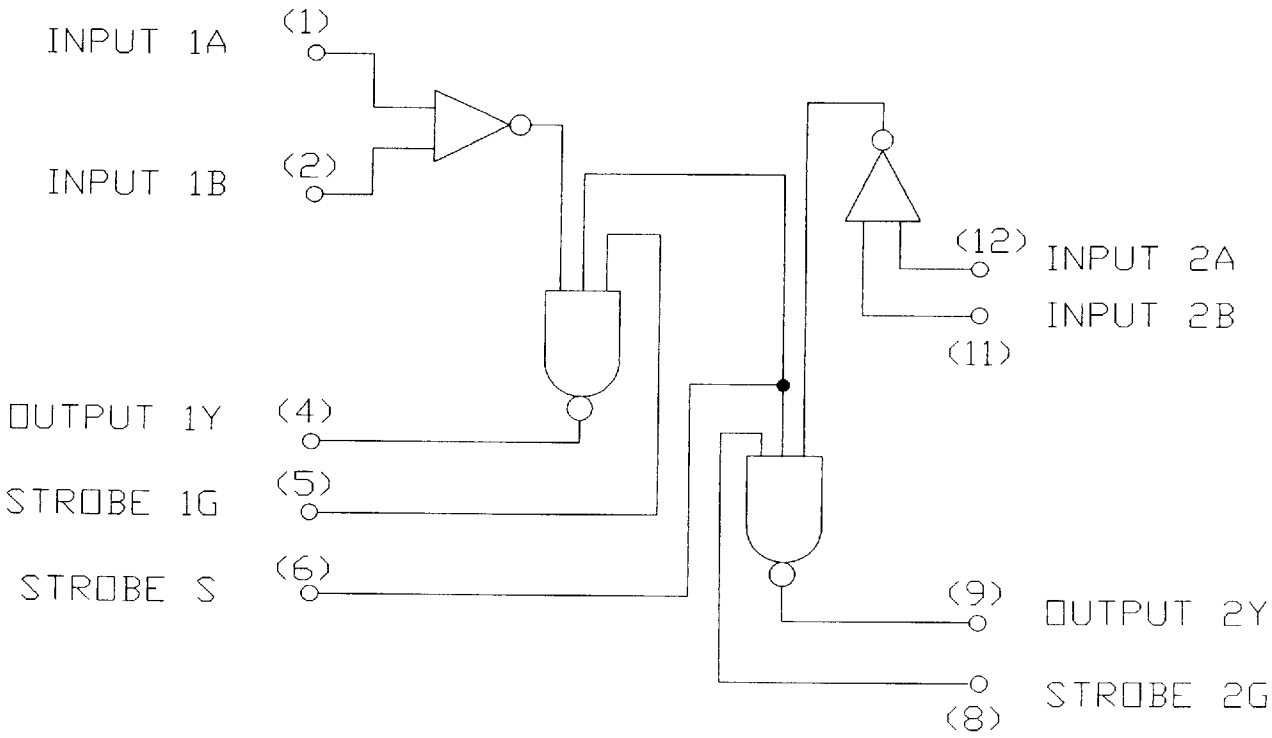

FIGURE 2. Block diagram.

Powered by ICminer.com Electronic-Library Service CopyRight 2003

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.

查询"5962-8751601CA"供应商

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.

TABLE II. Electrical test requirements.

MIL-STD-883 test requirements	Subgroups (in accordance with method 5005, table I)
Interim electrical parameters (method 5004)	---
Final electrical test parameters (method 5004)	1*, 2, 3
Group A test requirements (method 5005)	1, 2, 3, 9
Groups C and D end-point electrical parameters (method 5005)	1

* PDA applies to subgroup 1.

Powered by ICminer.com Electronic-Library Service CopyRight 2003

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.

查询"5962-8751601CA"供应商

4.3.1 Group A inspection.

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

b. Subgroups 4, 5, 6, 7, 8, 10, and 11 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.

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, 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.

Powered by ICminer.com Electronic-Library Service CopyRight 2003