<table>
<thead>
<tr>
<th>LTR</th>
<th>DESCRIPTION</th>
<th>DATE (YR-MO-DA)</th>
<th>APPROVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Add device types 05 and 06. Correct coupling diagram, figure 4. Add common mode input voltage and test circuit. Table I, change $I_{S1H}$, Editorial changes throughout.</td>
<td>91-05-17</td>
<td>W. Heckman</td>
</tr>
<tr>
<td>B</td>
<td>Changes made in accordance with 5962-R034-92.</td>
<td>91-11-06</td>
<td>Gregory Lude</td>
</tr>
<tr>
<td>C</td>
<td>Update drawing to the latest requirements. -slid</td>
<td>05-08-24</td>
<td>Raymond Monnin</td>
</tr>
<tr>
<td>D</td>
<td>Added device type 07. -slid</td>
<td>06-05-25</td>
<td>Raymond Monnin</td>
</tr>
<tr>
<td>E</td>
<td>Added device type 08. -slid</td>
<td>09-02-04</td>
<td>Robert M. Heber</td>
</tr>
<tr>
<td>F</td>
<td>Updated drawing to the latest requirements of MIL-PRF-38534. -slid</td>
<td>15-03-17</td>
<td>Charles F. Saffle</td>
</tr>
<tr>
<td>G</td>
<td>Updated drawing to the latest requirements of MIL-PRF-38534. -slid</td>
<td>20-05-14</td>
<td>James R. Exchmeyer</td>
</tr>
</tbody>
</table>
1. SCOPE

1.1 Scope. This drawing describes device requirements for class H hybrid microcircuits to processed in accordance with MIL-PRF-38534.

1.2 PIN. The PIN is as shown in the following example:

<table>
<thead>
<tr>
<th>Drawing number</th>
<th>Device type (see 1.2.1)</th>
<th>Case outline (see 1.2.2)</th>
<th>Lead finish (see 1.2.3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5962-89592</td>
<td>01</td>
<td>X</td>
<td>A</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Device type</th>
<th>Generic number</th>
<th>Circuit function</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 and 03</td>
<td>ARX3407</td>
<td>Single channel, driver-receiver (MIL-STD-1553 A and B) low power, receiver standby high</td>
</tr>
<tr>
<td>02 and 04</td>
<td>ARX3404</td>
<td>Single channel, driver-receiver (universal transceiver) low power, receiver standby high</td>
</tr>
<tr>
<td>05</td>
<td>ARX3467</td>
<td>Single channel, driver-receiver (MIL-STD-1553 A and B) low power, receiver standby low</td>
</tr>
<tr>
<td>06</td>
<td>ARX3464</td>
<td>Single channel, driver-receiver (universal transceiver) low power, receiver standby low</td>
</tr>
<tr>
<td>07</td>
<td>ACT4406N</td>
<td>Single channel, driver-receiver (universal transceiver) low power, receiver standby high</td>
</tr>
<tr>
<td>08</td>
<td>ACT4404N</td>
<td>Single channel, driver-receiver (universal transceiver) low power, receiver standby low</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Outline letter</th>
<th>Descriptive designator</th>
<th>Terminals</th>
<th>Package style</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>See figure 1</td>
<td>24</td>
<td>Hybrid package</td>
</tr>
<tr>
<td>Y</td>
<td>See figure 1</td>
<td>24</td>
<td>Flat package</td>
</tr>
</tbody>
</table>

1.2.3 Lead finish. The lead finish is as specified in MIL-PRF-38534.

1.3 Absolute maximum ratings. 2/

Supply voltage ranges:
- \( V_{CC} \) ............................................. -0.3 V dc to +18 V dc
- \( V_{EE} \) ............................................. +0.3 V dc to - 18 V dc
- +5 V supply ............................................ -0.3 V dc to +7 V dc
Logic input voltage range ............................................. -0.3 V dc to +5.5 V dc
Receiver differential input voltage ................................. 40 Vp-p
Receiver common mode input voltage range ........................... -10 V to +10 V
Driver peak output current ........................................... ±300 mA
Storage temperature range ............................................. -65°C to +150°C
Lead temperature (soldering, 10 seconds) ............................. +300°C
Junction temperature \( (T_{J}) \) .................................... +160°C

1/ The device types 02 and 04 are no longer available, device type 07 can be used as a substitute.

2/ Stresses above the absolute maximum ratings may cause permanent damage to the device. Extended operation at the maximum levels may degrade performance and affect reliability.
Power dissipation ($P_D$) total hybrid:
100 percent duty cycle ($T_C = +25^\circ$C):
- Device types 01, 03, and 05 ........................................... 3.0 W
- Device types 02, 04, 06, 07, and 08 ................................. 3.24 W

Standby mode, all devices ........................................... 1.06 W

Power dissipation ($P_D$) hottest die:
100 percent duty cycle:
- Device types 01, 03, and 05 ........................................... 484 mW $/1/2/$
- Device types 02, 04, 06 ................................................ 545 mW $/2/3/$

Standby mode, all devices ................................. Derates to zero

Thermal resistance:
Junction-to-case ($\theta_{JC}$) hottest die:
- Device types 01, 02, 05, and 06 ........................................ 88°C/W
- Device types 03 and 04 .............................................. 58°C/W
- Device types 07 and 08 .............................................. 5°C/W

Case-to-ambient, all devices ........................................... 21°C/W

Maximum junction-to-case temperature rise for the hottest die at 100 percent duty cycle:
- Device types 01 and 05 .............................................. 42.6°C
- Device types 02 and 06 .............................................. 47.9°C
- Device type 03 .......................................................... 28°C
- Device type 04 .......................................................... 31.6°C
- Device types 07 and 08 .............................................. 16.25°C

1.4 Recommended operating conditions.

Supply voltage ranges:
- $V_{CC}$ ............................................................... +11.4 V dc to +15.75 V dc
- $V_{EE}$ ............................................................... -11.4 V dc to -15.75 V dc
- +5 V supply .......................................................... +4.5 V dc to +5.5 V dc

Logic input voltage range ............................................. 0 V dc to +5.0 V dc
Receiver differential voltage ........................................ 40 Vp-p
Receiver common mode voltage range ................................ -10 V to +10 V

Driver peak output current:
- Device types 01, 02, 05, 06, 07, and 08 ................................ ±180 mA
- Device types 03 and 04 .............................................. ±120 mA

Maximum serial data rate ............................................ 1.0 MHz

Case operating temperature range ($T_C$) ................................ -55°C to +125°C

2. APPLICABLE DOCUMENTS

2.1 Government specification, standards, and handbooks. The following specification, standards, and handbooks form a part of this drawing to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

DEPARTMENT OF DEFENSE SPECIFICATIONS


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1/ Duty cycle at 1.0 MHz for device types 01 and 05. Derate to 82 percent maximum at $T_C = +125^\circ$C for a maximum junction temperature of +160°C in the hottest die.

2/ Duty cycle for device types 03, 04, 07, and 08 needs no derating over the full operating temperature range.

3/ Duty cycle at 1.0 MHz for device types 02 and 06. Derate to 73 percent maximum at $T_C = +125^\circ$C for a maximum junction temperature of +160°C in the hottest idle.
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 takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. **REQUIREMENTS**

3.1 **Item requirements.** The individual item performance requirements for device classes D, E, G, H, and K shall be in accordance with MIL-PRF-38534. Compliance with MIL-PRF-38534 shall include the performance of all tests herein or as designated in the device manufacturer's Quality Management (QM) plan or as designated for the applicable device class. The manufacturer may eliminate, modify or optimize the tests and inspections herein, however the performance requirements as defined in MIL-PRF-38534 shall be met for the applicable device class. In addition, the modification in the QM plan shall not affect the form, fit, or function of the device for the applicable device class.

3.2 **Design, construction, and physical dimensions.** The design, construction, and physical dimensions shall be as specified in MIL-PRF-38534 and herein.

3.2.1 **Case outline(s).** The case outline(s) shall be in accordance with 1.2.4 herein and figure 1.

3.2.2 **Terminal connections.** The terminal connections shall be as specified on figure 2.

3.2.3 **Test circuit.** The test circuit shall be as specified on figure 3.

3.2.4 **Timing waveforms.** The timing waveforms shall be as specified in figure 4.

3.2.5 **Coupling diagram.** The coupling diagram shall be as specified in figure 5.

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 specified 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 defined in table I.

3.5 **Marking of device(s).** Marking of device(s) shall be in accordance with MIL-PRF-38534. The device shall be marked with the PIN listed in 1.2 herein. In addition, the manufacturer's vendor similar PIN may also be marked.

3.6 **Data.** In addition to the general performance requirements of MIL-PRF-38534, the manufacturer of the device described herein shall maintain the electrical test data (variables format) from the initial quality conformance inspection group A lot sample, for each device type listed herein. Also, the data should include a summary of all parameters manually tested, and for those which, if any, are guaranteed. This data shall be maintained under document revision level control by the manufacturer and be made available to the preparing activity (DLA Land and Maritime - VA) upon request.

3.7 **Certificate of compliance.** A certificate of compliance shall be required from a manufacturer in order to supply to this drawing. The certificate of compliance (original copy) submitted to DLA Land and Maritime - VA shall affirm that the manufacturer's product meets the performance requirements of MIL-PRF-38534 and herein.
<table>
<thead>
<tr>
<th>Test</th>
<th>Symbol</th>
<th>Conditions 1/ -55°C ≤ Tc ≤+125°C unless otherwise specified</th>
<th>Group A subgroups</th>
<th>Device types</th>
<th>Limits</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receiver</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output low voltage</td>
<td>V_{OL}</td>
<td>I_{OL} = 10 mA</td>
<td>1,2,3</td>
<td>01-06</td>
<td>0.5</td>
<td>V</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I_{OL} = 4 mA</td>
<td></td>
<td></td>
<td>07,08</td>
<td></td>
</tr>
<tr>
<td>Output high voltage</td>
<td>V_{OH}</td>
<td>I_{OH} = -0.4 mA</td>
<td>1,2,3</td>
<td>All</td>
<td>2.5</td>
<td>V</td>
</tr>
<tr>
<td>Differential input voltage level</td>
<td>V_{i}</td>
<td>1 MHz sine wave</td>
<td>4,5,6</td>
<td>All</td>
<td>40</td>
<td>V_p-p</td>
</tr>
<tr>
<td>Common mode input voltage range</td>
<td>V_{ICR}</td>
<td>1 MHz sine wave</td>
<td>4,5,6</td>
<td>All</td>
<td>10</td>
<td>V_p-p</td>
</tr>
<tr>
<td>Differential input impedance</td>
<td>Z_{IN}</td>
<td>1 MHz sine wave</td>
<td>4,5,6</td>
<td>All</td>
<td>10</td>
<td>kΩ</td>
</tr>
<tr>
<td>Input capacitance</td>
<td>C_{IN}</td>
<td>1 MHz sine wave</td>
<td>2/4</td>
<td>All</td>
<td>5</td>
<td>pF</td>
</tr>
<tr>
<td>Threshold voltage</td>
<td>V_{TH}</td>
<td>3/4/</td>
<td>4,5,6</td>
<td>01-06</td>
<td>0.6</td>
<td>1.05</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>07,08</td>
<td>0.6</td>
<td>1.10</td>
</tr>
<tr>
<td>Receiver delay</td>
<td>t_{DR}</td>
<td>Input zero crossing Input zero crossing 2/ to DATA or DATA, see figure 4</td>
<td>9,10,11</td>
<td>All</td>
<td>450</td>
<td>ns</td>
</tr>
<tr>
<td>Receiver strobe</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input low voltage</td>
<td>V_{SIL}</td>
<td>1,2,3</td>
<td>All</td>
<td>0.7</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Input high voltage</td>
<td>V_{SH}</td>
<td>1,2,3</td>
<td>All</td>
<td>2.0</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Input low current</td>
<td>I_{SIL}</td>
<td>V_{SIL} = 0.4 V</td>
<td>1,2,3</td>
<td>All</td>
<td>-0.4</td>
<td>mA</td>
</tr>
<tr>
<td>Input high current</td>
<td>I_{SH}</td>
<td>V_{SH} = 2.7 V</td>
<td>1,2,3</td>
<td>All</td>
<td>80</td>
<td>μA</td>
</tr>
<tr>
<td>Strobe delay</td>
<td>t_{DS}</td>
<td>Turn-on or turn-off, 2/ see figure 4</td>
<td>9,10,11</td>
<td>All</td>
<td>200</td>
<td>ns</td>
</tr>
</tbody>
</table>

See footnotes at end of table.
TABLE I. Electrical performance characteristics - Continued.

<table>
<thead>
<tr>
<th>Test</th>
<th>Symbol</th>
<th>Conditions 1/ -55°C ≤ Tc ≤ +125°C unless otherwise specified</th>
<th>Group A subgroups</th>
<th>Device types</th>
<th>Limits</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmitter</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input low voltage</td>
<td>$V_{IL}$</td>
<td>1,2,3 All</td>
<td></td>
<td></td>
<td>0.7</td>
<td>V</td>
</tr>
<tr>
<td>Input high voltage</td>
<td>$V_{IH}$</td>
<td>1,2,3 All</td>
<td></td>
<td></td>
<td>2.0</td>
<td>V</td>
</tr>
<tr>
<td>Input low current</td>
<td>$I_{IL}$</td>
<td>$V_{IL} = 0.4$ V</td>
<td>1,2,3 All</td>
<td></td>
<td>-0.4</td>
<td>mA</td>
</tr>
<tr>
<td>Input high current</td>
<td>$I_{IH}$</td>
<td>$V_{IH} = 2.7$ V</td>
<td>1,2,3 All</td>
<td></td>
<td>40</td>
<td>µA</td>
</tr>
<tr>
<td>Differential output</td>
<td>$V_O$</td>
<td>35Ω load 4/</td>
<td>1,2,3 All</td>
<td></td>
<td>6.5</td>
<td>8.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>140Ω load 5/</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Differential output</td>
<td>$V_{ON}$</td>
<td>Inhibited 35Ω load 4/</td>
<td>4,5,6 All</td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>140Ω load 5/</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Differential output</td>
<td>$Z_{OUT}$</td>
<td>1 MHz sine wave (transmitter off)</td>
<td>4,5,6 All</td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>impedance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output capacitance</td>
<td>$C_{OUT}$</td>
<td>1 MHz sine wave 2/</td>
<td>4</td>
<td>All</td>
<td>5</td>
<td>pf</td>
</tr>
<tr>
<td>Differential output</td>
<td>$V_{OS}$</td>
<td>35Ω load</td>
<td>4,5,6 All</td>
<td></td>
<td>-90</td>
<td>+90</td>
</tr>
<tr>
<td>offset voltage</td>
<td></td>
<td>140Ω load 5/ 6/</td>
<td></td>
<td></td>
<td>-360</td>
<td>+360</td>
</tr>
<tr>
<td>Receiver filter response</td>
<td>FILTER</td>
<td>$f = 2$ MHz</td>
<td>4,5,6 All</td>
<td></td>
<td>-4.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$f = 4$ MHz</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Rise time</td>
<td>$t_r$</td>
<td>35Ω load, see figure 4</td>
<td>9,10,11</td>
<td>All</td>
<td>01,03,05</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>02,04,06</td>
<td>220</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>07,08</td>
<td>200</td>
</tr>
</tbody>
</table>

See footnotes at end of table.
TABLE I. Electrical performance characteristics - Continued.

<table>
<thead>
<tr>
<th>Test</th>
<th>Symbol</th>
<th>Conditions 1/ -55°C ≤ TC ≤ +125°C unless otherwise specified</th>
<th>Group A subgroups</th>
<th>Device type</th>
<th>Limits</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmitter - continued.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall time</td>
<td>t_F</td>
<td>35Ω load, see figure 4</td>
<td>9,10,11</td>
<td></td>
<td>01,03,05</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>02,04,06</td>
<td>220</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>07,08</td>
<td>200</td>
</tr>
<tr>
<td>Transmitter delay</td>
<td>t_DT</td>
<td>Transmitter-in to transmitter-out, see figure 4 2/</td>
<td>9,10,11</td>
<td></td>
<td>All</td>
<td>550</td>
</tr>
<tr>
<td>Transmitter inhibit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input low voltage</td>
<td>V_II_L</td>
<td>1,2,3</td>
<td>All</td>
<td></td>
<td>0.7</td>
<td>V</td>
</tr>
<tr>
<td>Input high voltage</td>
<td>V_II_H</td>
<td>1,2,3</td>
<td>All</td>
<td></td>
<td>2.0</td>
<td>V</td>
</tr>
<tr>
<td>Input low current</td>
<td>I_IL</td>
<td>V_SIL = 0.4 V</td>
<td>1,2,3</td>
<td></td>
<td>-0.4</td>
<td>mA</td>
</tr>
<tr>
<td>Input high current</td>
<td>I_IH</td>
<td>V_SIH = 2.7 V</td>
<td>1,2,3</td>
<td></td>
<td>40</td>
<td>μA</td>
</tr>
<tr>
<td>Transmitter inhibit delay</td>
<td>t_DIH</td>
<td>0-1 inhibited output, see figure 4 2/</td>
<td>9,10,11</td>
<td></td>
<td>01-06</td>
<td>450</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>07,08</td>
<td>500</td>
</tr>
<tr>
<td>Transmitter inhibit delay</td>
<td>t_DIL</td>
<td>1-0 active output, see figure 4 2/</td>
<td>9,10,11</td>
<td></td>
<td>01-06</td>
<td>450</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>07,08</td>
<td>500</td>
</tr>
<tr>
<td>Power supply</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+Supply (V_CC)</td>
<td>I_CC-SB</td>
<td>Standby mode</td>
<td>1,2,3</td>
<td></td>
<td>20</td>
<td>mA</td>
</tr>
<tr>
<td>-Supply (V_EE)</td>
<td>I_EE-SB</td>
<td></td>
<td></td>
<td></td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>+5 V supply</td>
<td>I_CC1-SB</td>
<td></td>
<td></td>
<td></td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>+Supply (V_CC)</td>
<td>I_CC-50</td>
<td>50% duty cycle</td>
<td>4,5,6</td>
<td></td>
<td>75</td>
<td>mA</td>
</tr>
<tr>
<td>-Supply (V_EE)</td>
<td>I_EE-50</td>
<td></td>
<td></td>
<td></td>
<td>92.5</td>
<td></td>
</tr>
<tr>
<td>+Supply (V_CC)</td>
<td>I_CC-100</td>
<td></td>
<td>4,5,6</td>
<td></td>
<td>130</td>
<td>mA</td>
</tr>
<tr>
<td>-Supply (V_EE)</td>
<td>I_EE-100</td>
<td></td>
<td></td>
<td></td>
<td>150</td>
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</tr>
</tbody>
</table>

See footnotes at end of table.
<table>
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<tr>
<th>Parameter shall be tested as part of initial characterization and after design and process changes. Parameters shall be guaranteed to the limits specified in Table I for all lots not specifically tested.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threshold determined by absence of output on receiver (i.e., full rejection).</td>
</tr>
<tr>
<td>Measured at point AA' of figure 5.</td>
</tr>
<tr>
<td>Measured at point BB' of figure 5.</td>
</tr>
<tr>
<td>Offset is measured 2.5 $\mu$s after the mid-bit zero crossing of the last parity bit of a 660 $\mu$s transmission cycle of contiguous words (no dead time in between words).</td>
</tr>
</tbody>
</table>

---

**TABLE I. Electrical performance characteristics - Continued.**

$1/ \quad (+14.9 \leq V_{CC} \leq +15.1 \text{ V dc}), \ (-14.9 \leq V_{EE} \leq -15.1 \text{ V dc}), \text{ and } (+4.9 \leq +5 \text{ V supply} \leq +5.1 \text{ V dc}).$

$2/ \quad$ Parameter shall be tested as part of initial characterization and after design and process changes. Parameters shall be guaranteed to the limits specified in Table I for all lots not specifically tested.

$3/ \quad$ Threshold determined by absence of output on receiver (i.e., full rejection).

$4/ \quad$ Measured at point AA' of figure 5.

$5/ \quad$ Measured at point BB' of figure 5.

$6/ \quad$ Offset is measured 2.5 $\mu$s after the mid-bit zero crossing of the last parity bit of a 660 $\mu$s transmission cycle of contiguous words (no dead time in between words).
FIGURE 1. Case outline(s).
NOTES (for case X and case Y):
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance for three place decimals shall be .005 (0.13 mm).

FIGURE 1. Case outline(s) - Continued.
<table>
<thead>
<tr>
<th>Device types</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case outlines</td>
<td>X and Y</td>
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<tr>
<td>Pin</td>
<td>Function</td>
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<tr>
<td>1</td>
<td>TX DATA OUT</td>
</tr>
<tr>
<td>2</td>
<td>TX DATA OUT</td>
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<tr>
<td>3</td>
<td>TX GND</td>
</tr>
<tr>
<td>4</td>
<td>+15 V</td>
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<tr>
<td>5</td>
<td>NO CONNECTION</td>
</tr>
<tr>
<td>6</td>
<td>NO CONNECTION</td>
</tr>
<tr>
<td>7</td>
<td>RX DATA OUT</td>
</tr>
<tr>
<td>8</td>
<td>RX STROBE</td>
</tr>
<tr>
<td>9</td>
<td>RX GND</td>
</tr>
<tr>
<td>10</td>
<td>RX DATA OUT</td>
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<tr>
<td>11</td>
<td>NO CONNECTION</td>
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<tr>
<td>12</td>
<td>NO CONNECTION</td>
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<tr>
<td>13</td>
<td>+15 V</td>
</tr>
<tr>
<td>14</td>
<td>NO CONNECTION</td>
</tr>
<tr>
<td>15</td>
<td>RX DATA IN</td>
</tr>
<tr>
<td>16</td>
<td>RX DATA IN</td>
</tr>
<tr>
<td>17</td>
<td>GND</td>
</tr>
<tr>
<td>18</td>
<td>CASE GND</td>
</tr>
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<td>19</td>
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<td>20</td>
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<tr>
<td>21</td>
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</tr>
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<td>22</td>
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<td>23</td>
<td>TX DATA IN</td>
</tr>
<tr>
<td>24</td>
<td>-15 V</td>
</tr>
</tbody>
</table>

**FIGURE 2.** Terminal connections.

---

**STANDARD MICROCIRCUIT DRAWING**

DLA LAND AND MARITIME
COLUMBUS, OHIO 43218-3990

<table>
<thead>
<tr>
<th>SIZE</th>
<th>5962-89592</th>
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<tbody>
<tr>
<td>A</td>
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<table>
<thead>
<tr>
<th>REVISION LEVEL</th>
<th>SHEET</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>11</td>
</tr>
</tbody>
</table>
COMMON-MODE TEST

UNIT UNDER TEST

OBSERVE NO TRANSMISSION OF DATA AT RX DATA AND RX DATA

FIGURE 3. Test circuit.
FIGURE 4. Timing waveforms.

Device types 01, 02, 03, 04, and 07.
Device types 05, 06, and 08.

FIGURE 4. Timing waveforms - Continued.
FIGURE 5. Coupling diagram.
TABLE II. Electrical test requirements.

<table>
<thead>
<tr>
<th>MIL-PRF-38534 test requirements</th>
<th>Subgroups (in accordance with MIL-PRF-38534, group A test table)</th>
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</thead>
<tbody>
<tr>
<td>Interim electrical parameters</td>
<td>1</td>
</tr>
<tr>
<td>Final electrical parameters</td>
<td>1*, 2, 3, 4, 5, 6, 9, 10, 11</td>
</tr>
<tr>
<td>Group A test requirements</td>
<td>1, 2, 3, 4, 5, 6, 9, 10, 11</td>
</tr>
<tr>
<td>Group C end-point electrical parameters</td>
<td>1, 2, 3, 4, 5, 6, 9, 10, 11</td>
</tr>
<tr>
<td>End-point electrical parameters for Radiation Hardness Assurance (RHA) devices</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

* PDA applies to subgroup 1.

3.8 Certificate of conformance. A certificate of conformance as required in MIL-PRF-38534 shall be provided with each lot of microcircuits delivered to this drawing.

4. VERIFICATION

4.1 Sampling and inspection. Sampling and inspection procedures shall be in accordance with MIL-PRF-38534 or as modified in the device manufacturer's Quality Management (QM) plan. The modification in the QM plan shall not affect the form, fit, or function as described herein.

4.2 Screening. Screening shall be in accordance with MIL-PRF-38534. The following additional criteria shall apply:


      (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 either DLA Land and Maritime -VA or the acquiring activity upon request. Also, the test circuit shall specify the inputs, outputs, biases, and power dissipation, as applicable, in accordance with the intent specified in method 1015 of MIL-STD-883.

      (2) TA as specified in accordance with table I of method 1015 of MIL-STD-883.

   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 Conformance and periodic inspections. Conformance inspection (CI) and periodic inspection (PI) shall be in accordance with MIL-PRF-38534 and as specified herein.

4.3.1 Group A inspection (CI). Group A inspection shall be in accordance with MIL-PRF-38534 and as follows:

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

   b. Subgroups 7 and 8 shall be omitted.
4.3.2 Group B inspection (PI). Group B inspection shall be in accordance with MIL-PRF-38534.

4.3.3 Group C inspection (PI). Group C inspection shall be in accordance with MIL-PRF-38534 and as follows:

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


   (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 either DLA Land and Maritime - VA or the acquiring activity upon request. Also, the test circuit shall specify the inputs, outputs, biases, and power dissipation, as applicable, in accordance with the intent specified in method 1005 of MIL-STD-883.

   (2) TA as specified in accordance with table I of method 1005 of MIL-STD-883.

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

4.3.4 Group D inspection (PI). Group D inspection shall be in accordance with MIL-PRF-38534.

4.3.5 Radiation Hardness Assurance (RHA) inspection. RHA inspection is not currently applicable to this drawing.

5. PACKAGING

5.1 Packaging requirements. The requirements for packaging shall be in accordance with MIL-PRF-38534.

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 as specified in MIL-PRF-38534.

6.4 Record of users. Military and industrial users should inform DLA Land and Maritime when a system application requires configuration control and the applicable SMD. DLA Land and Maritime 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 microelectronic devices (FSC 5962) should contact DLA Land and Maritime-VA, telephone (614) 692-8108.

6.5 Comments. Comments on this drawing should be directed to DLA Land and Maritime-VA, Columbus, Ohio 43218-3990, or telephone (614) 692-1081.

6.6 Sources of supply. Sources of supply are listed in MIL-HDBK-103 and QML-38534. The vendors, listed in MIL-HDBK-103 and QML-38534, have submitted a certificate of compliance (see 3.7 herein) to DLA Land and Maritime-VA and have agreed to this drawing.
Approved sources of supply for SMD 5962-89592 are listed below for immediate acquisition information only and shall be added to MIL-HDBK-103 and QML-38534 during the next revisions. MIL-HDBK-103 and QML-38534 will be revised to include the addition or deletion of sources. The vendors listed below have agreed to this drawing and a certificate of compliance has been submitted to and accepted by DLA Land and Maritime - VA. This information bulletin is superseded by the next dated revisions of MIL-HDBK-103 and QML-38534. DLA Land and Maritime maintains an online database of all current sources of supply [https://landandmaritimeapps.dla.mil/programs/Smcr](https://landandmaritimeapps.dla.mil/programs/Smcr).

<table>
<thead>
<tr>
<th>Standard microcircuit drawing PIN 1/</th>
<th>Vendor CAGE number</th>
<th>Vendor similar PIN 2/</th>
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</thead>
<tbody>
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<td>5962-8959201XA</td>
<td>3/</td>
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<td>5962-8959201YC</td>
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<td>ACT4404N-201-1</td>
</tr>
</tbody>
</table>

1/ The lead finish shown for each PIN representing a hermetic package is the most readily available from the manufacturer listed for that part. If the desired lead finish is not listed contact the Vendor to determine its availability.

2/ Caution. Do not use this number for item acquisition. Items acquired to this number may not satisfy the performance requirements of this drawing.

3/ Not available from an approved source of supply.
## Vendor CAGE number and address

<table>
<thead>
<tr>
<th>Vendor CAGE number</th>
<th>Vendor name and address</th>
</tr>
</thead>
<tbody>
<tr>
<td>88379</td>
<td>Aeroflex Plainview, Incorporated (Aeroflex Microelectronics Solutions) 35 South Service Road Plainview, NY 11803-4193</td>
</tr>
</tbody>
</table>

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