# DIODES, VOLTAGE REGULATORS,

# BASED ON SERIES BZX85C

## ESCC Detail Specification No. 5102/002

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Pages 1 to 18

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## ESA/SCC Detail Specification No. 5102/002

space components
coordination group

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## DOCUMENTATION CHANGE NOTICE

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| | | DCN | | None |
| | | Table 1(a) | : For Type Variant 11, High Temperature $I_R$ limit changed to 20µA. | 22197 |
| | | Table 1(b) | : $P_D$ changed to 1.3W; | 22172 |
| | | | $T_{stg}$ changed to -65 to +150°C | 22172 |
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| | | Table 3 | : Note 3 added to Table and Notes | 22172 |
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| | | Para. 4.2.3 | : Radiographic Inspection deviation amended | 21049 |
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| | | P5. Para. 1.7 | : Paragraph added | 21083 |

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**FIGURES**

**APPENDICES** (Applicable to specific Manufacturers only)
None.

## 1. GENERAL

### 1.1 SCOPE

This specification details the ratings, physical and electrical characteristics, test and inspection data for Diodes, Voltage Regulator, based on Series BZX 85.

It shall be read in conjunction with ESA/SCC Generic Specification No. 5000, the requirements of which are supplemented herein.

### 1.2 COMPONENT TYPE VARIANTS

Variants of the basic diodes specified herein, which are also covered by this specification, are given in Table 1(a).

### 1.3 MAXIMUM RATINGS

The maximum ratings, which shall not be exceeded at any time during use or storage, applicable to the diodes specified herein, are scheduled in Table 1(b).

### 1.4 PARAMETER DERATING INFORMATION

The derating information applicable to the diodes specified herein is shown in Figure 1.

### 1.5 PHYSICAL DIMENSIONS

The physical dimensions of the diodes specified herein are shown in Figure 2.

### 1.6 FUNCTIONAL DIAGRAM

The functional diagram, showing lead identification, of the diodes specified herein, is shown in Figure 3.

### 1.7 HIGH TEMPERATURE TEST PRECAUTIONS

For tin-lead plated or solder-dipped lead finish, all tests to be performed at a temperature that exceeds +125°C shall be carried out in a 100% inert atmosphere.

## 2. APPLICABLE DOCUMENTS

The following documents form part of this specification and shall be read in conjunction with it:

(a) ESA/SCC Generic Specification No. 5000 for Discrete Semiconductors.

(b) MIL-STD-750, Test Methods and Procedures for Semiconductor Devices.

## TABLE 1(a) - TYPE VARIANTS

| Variant (1) | Based onType (2) | $V_Z$ Nom. V (3) | $V_Z$ Min. V (4) | $V_Z$ Max. V (5) | $I_Z$ (mA) (6) | $I_{Zmax}$ (mA) (7) | $Z_{Zmax}$ (Ω) (8) | $V_R$ (V) (9) | $I_R$ (max. µA) (10) | $I_R$ (µA) Tamb = +150°C (11) | $Z_K$ (max. Ω) (12) | $I_{ZK}$ (mA) (13) | Lead Material and Finish (14) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | BZX 85 - C2V7 | 2.7 | 2.5 | 2.9 | 80 | 370 | 20 | 1.0 | 150 | Max. 300 | 400 | 1.0 | C3 or C4 |
| 02 | BZX 85- C3V0 | 3.0 | 2.8 | 3.2 | 80 | 340 | 20 | 1.0 | 100 | " 300 | 400 | 1.0 | C3 or C4 |
| 03 | BZX 85 - C3V3 | 3.3 | 3.1 | 3.5 | 80 | 320 | 20 | 1.0 | 40 | " 200 | 400 | 1.0 | C3 or C4 |
| 04 | BZX 85 - C3V6 | 3.6 | 3.4 | 3.8 | 60 | 290 | 20 | 1.0 | 20 | " 50 | 500 | 1.0 | C3 or C4 |
| 05 | BZX 85 - C3V9 | 3.9 | 3.7 | 4.1 | 60 | 280 | 15 | 1.0 | 10 | " 20 | 500 | 1.0 | C3 or C4 |
| 06 | BZX 85 - C4V3 | 4.3 | 4.0 | 4.6 | 50 | 250 | 13 | 1.0 | 3.0 | " 10 | 500 | 1.0 | C3 or C4 |
| 07 | BZX 85 - C4V7 | 4.7 | 4.4 | 5.0 | 45 | 215 | 13 | 1.0 | 3.0 | " 10 | 600 | 1.0 | C3 or C4 |
| 08 | BZX 85 - C5V1 | 5.1 | 4.8 | 5.4 | 45 | 200 | 10 | 1.5 | 1.0 | " 10 | 500 | 1.0 | C3 or C4 |
| 09 | BZX 85 - C5V6 | 5.6 | 5.2 | 6.0 | 45 | 190 | 7.0 | 2.0 | 1.0 | " 10 | 400 | 1.0 | C3 or C4 |
| 10 | BZX 85 - C6V2 | 6.2 | 5.8 | 6.6 | 35 | 170 | 4.0 | 3.0 | 1.0 | " 10 | 300 | 1.0 | C3 or C4 |
| 11 | BZX 85 - C6V8 | 6.8 | 6.4 | 7.2 | 35 | 155 | 3.5 | 4.0 | 1.0 | " 20 | 300 | 1.0 | C3 or C4 |
| 12 | BZX 85 - C7V5 | 7.5 | 7.0 | 7.9 | 35 | 140 | 3.0 | 4.5 | 1.0 | " 10 | 200 | 0.5 | C3 or C4 |
| 13 | BZX 85 - C8V2 | 8.2 | 7.7 | 8.7 | 25 | 130 | 5.0 | 6.2 | 1.0 | " 10 | 200 | 0.5 | C3 or C4 |
| 14 | BZX 85 - C9V1 | 9.1 | 8.5 | 9.6 | 25 | 120 | 5.0 | 6.8 | 1.0 | " 10 | 200 | 0.5 | C3 or C4 |
| 15 | BZX 85 - C10 | 10 | 9.4 | 10.6 | 25 | 105 | 7.0 | 7.5 | 0.5 | " 10 | 200 | 0.5 | C3 or C4 |
| 16 | BZX 85 - C11 | 11 | 10.4 | 11.6 | 20 | 97 | 8.0 | 8.2 | 0.5 | " 10 | 300 | 0.5 | C3 or C4 |
| 17 | BZX 85 - C12 | 12 | 11.4 | 12.7 | 20 | 88 | 9.0 | 9.1 | 0.5 | " 10 | 350 | 0.5 | C3 or C4 |
| 18 | BZX 85 - C13 | 13 | 12.4 | 14.1 | 20 | 79 | 10 | 10 | 0.5 | " 10 | 400 | 0.5 | C3 or C4 |
| 19 | BZX 85 - C15 | 15 | 13.8 | 15.6 | 15 | 71 | 15 | 11 | 0.5 | " 10 | 500 | 0.5 | C3 or C4 |
| 20 | BZX 85 - C16 | 16 | 15.3 | 17.1 | 15 | 66 | 15 | 12 | 0.5 | " 10 | 500 | 0.5 | C3 or C4 |
| 21 | BZX 85 - C18 | 18 | 16.8 | 19.1 | 15 | 62 | 20 | 13 | 0.5 | " 10 | 500 | 0.5 | C3 or C4 |
| 22 | BZX 85 - C20 | 20 | 18.8 | 21.2 | 10 | 56 | 24 | 15 | 0.5 | " 10 | 600 | 0.5 | C3 or C4 |
| 23 | BZX 85 - C22 | 22 | 20.8 | 23.3 | 10 | 52 | 25 | 16 | 0.5 | " 10 | 600 | 0.5 | C3 or C4 |
| 24 | BZX 85 - C24 | 24 | 22.8 | 25.6 | 10 | 47 | 25 | 18 | 0.5 | " 10 | 600 | 0.5 | C3 or C4 |
| 25 | BZX 85 - C27 | 27 | 25.1 | 28.9 | 8.0 | 41 | 30 | 20 | 0.5 | " 10 | 750 | 0.25 | C3 or C4 |

## TABLE 1(a) - TYPE VARIANTS (Cont'd)

| Variant (1) | Based onType (2) | $V_Z$ Nom. V (3) | $V_Z$ Min. V (4) | $V_Z$ Max. V (5) | $I_Z$ (mA) (6) | $I_{Zmax}$ (mA) (7) | $Z_{Zmax}$ (Ω) (8) | $V_R$ (V) (9) | $I_R$ (max. µA) (10) | $I_R$ (µA) Tamb = +150°C (11) | $Z_K$ (max. Ω) (12) | $I_{ZK}$ (mA) (13) | Lead Material and Finish (14) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 26 | BZX 85 - C30 | 30 | 28 | 32 | 8.0 | 36 | 30 | 22 | 0.5 | Max. 10 | 1000 | 0.25 | C3 or C4 |
| 27 | BZX 85 - C33 | 33 | 31 | 35 | 8.0 | 33 | 35 | 24 | 0.5 | " 10 | 1000 | 0.25 | C3 or C4 |
| 28 | BZX 85 - C36 | 36 | 34 | 38 | 8.0 | 30 | 40 | 27 | 0.5 | " 10 | 1000 | 0.25 | C3 or C4 |
| 29 | BZX 85 - C39 | 39 | 37 | 41 | 6.0 | 28 | 50 | 30 | 0.5 | " 10 | 1000 | 0.25 | C3 or C4 |
| 30 | BZX 85 - C3 | 43 | 40 | 46 | 6.0 | 26 | 50 | 33 | 0.5 | " 10 | 1000 | 0.25 | C3 or C4 |
| 31 | BZX 85 - C47 | 47 | 44 | 50 | 4.0 | 23 | 90 | 36 | 0.5 | " 10 | 1500 | 0.25 | C3 or C4 |
| 32 | BZX 85 - C51 | 51 | 48 | 54 | 4.0 | 21 | 115 | 39 | 0.5 | " 10 | 1500 | 0.25 | C3 or C4 |
| 33 | BZX 85 - C56 | 56 | 52 | 60 | 4.0 | 19 | 120 | 43 | 0.5 | " 10 | 2000 | 0.25 | C3 or C4 |
| 34 | BZX 85 - C62 | 62 | 58 | 66 | 4.0 | 16 | 125 | 47 | 0.5 | " 10 | 2000 | 0.25 | C3 or C4 |
| 35 | BZX 85 - C68 | 68 | 64 | 72 | 4.0 | 15 | 130 | 51 | 0.5 | " 10 | 2000 | 0.25 | C3 or C4 |
| 36 | BZX 85 - C75 | 75 | 70 | 80 | 4.0 | 14 | 135 | 56 | 0.5 | " 10 | 2000 | 0.25 | C3 or C4 |
| 37 | BZX 85 - C82 | 82 | 77 | 87 | 2.7 | 12 | 200 | 62 | 0.5 | " 10 | 3000 | 0.25 | C3 or C4 |
| 38 | BZX 85 - C91 | 91 | 85 | 96 | 2.7 | 10 | 250 | 68 | 0.5 | " 10 | 3000 | 0.25 | C3 or C4 |
| 39 | BZX 85 - C100 | 100 | 96 | 106 | 2.7 | 9.4 | 350 | 75 | 0.5 | " 10 | 3000 | 0.25 | C3 or C4 |
| 40 | BZX 85 - C110 | 110 | 104 | 116 | 2.7 | 8.6 | 450 | 82 | 0.5 | " 10 | 4000 | 0.25 | C3 or C4 |
| 41 | BZX 85 - C120 | 120 | 114 | 127 | 2.0 | 7.8 | 550 | 91 | 0.5 | " 10 | 4500 | 0.25 | C3 or C4 |
| 42 | BZX 85 - C130 | 130 | 124 | 141 | 2.0 | 7.0 | 700 | 100 | 0.5 | " 10 | 5000 | 0.25 | C3 or C4 |
| 43 | BZX 85 - C150 | 150 | 138 | 156 | 2.0 | 6.4 | 1000 | 110 | 0.5 | " 10 | 6000 | 0.25 | C3 or C4 |
| 44 | BZX 85 - C160 | 160 | 153 | 171 | 1.5 | 5.8 | 1100 | 120 | 0.5 | " 10 | 6500 | 0.25 | C3 or C4 |
| 45 | BZX 85 - C180 | 180 | 168 | 191 | 1.5 | 5.2 | 1200 | 130 | 0.5 | " 10 | 7000 | 0.25 | C3 or C4 |
| 46 | BZX 85 - C200 | 200 | 188 | 212 | 1.5 | 4.7 | 1500 | 150 | 0.5 | " 10 | 8000 | 0.15 | C3 or C4 |

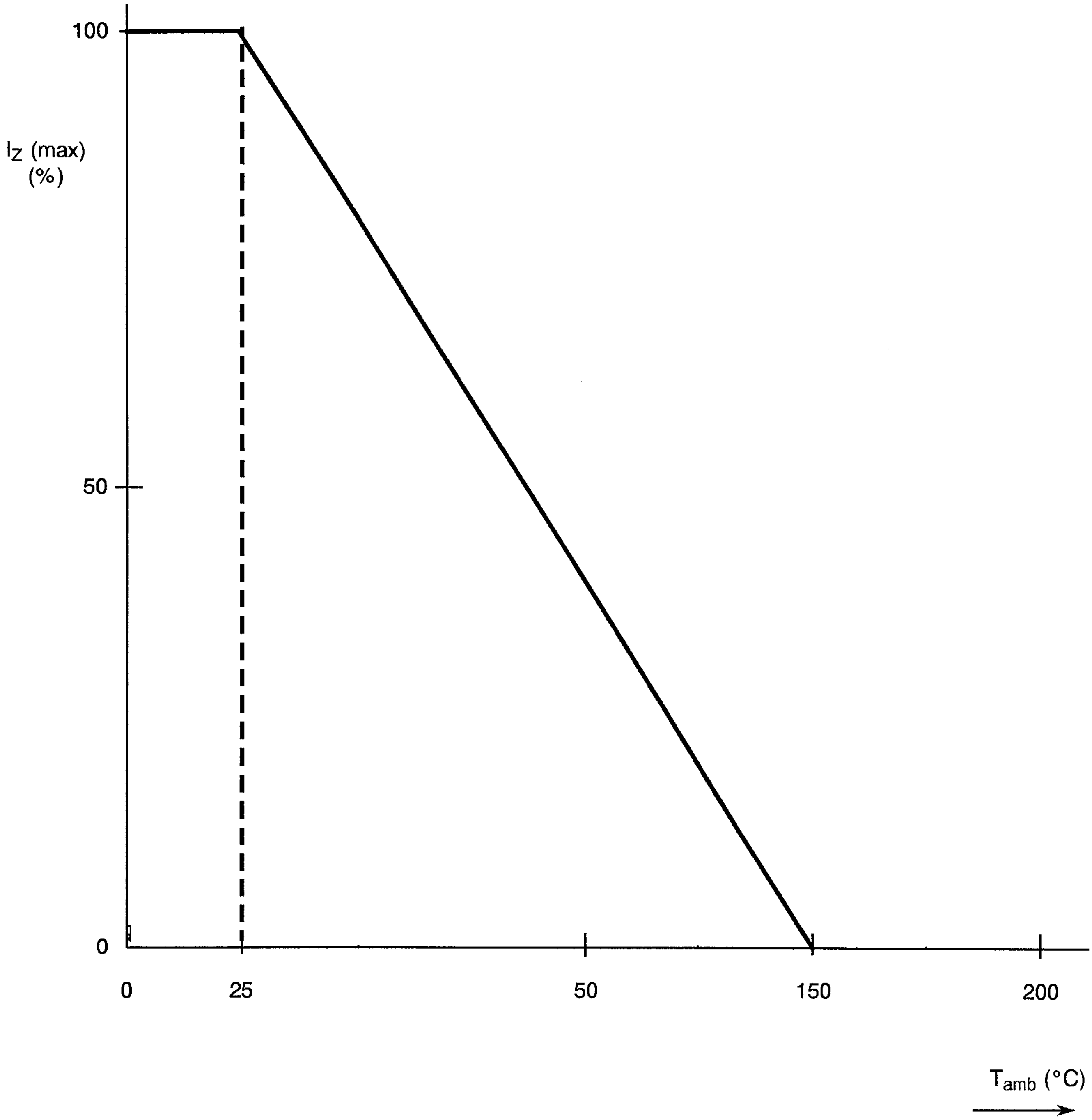
## TABLE 1(b) - MAXIMUM RATINGS

| No. | CHARACTERISTICS | SYMBOL | MAXIMUM RATINGS | UNIT | REMARKS |
|---|---|---|---|---|---|
| 1 | Power Dissipation | $P_{tot}$ | 1.3 | W | $T_{amb} \leq +25°C$<br>See Note |
| 2 | Operating Temperature Range | $T_{op}$ | −55 to +150 | °C | $T_{amb}$ |
| 3 | Storage Temperature Range | $T_{stg}$ | −65 to +150 | °C | |
| 4 | Soldering Temperature | $T_{sol}$ | +260 | °C | Time: ≤10 seconds;<br>Distance from case: ≥ 1.5mm |

**NOTES**

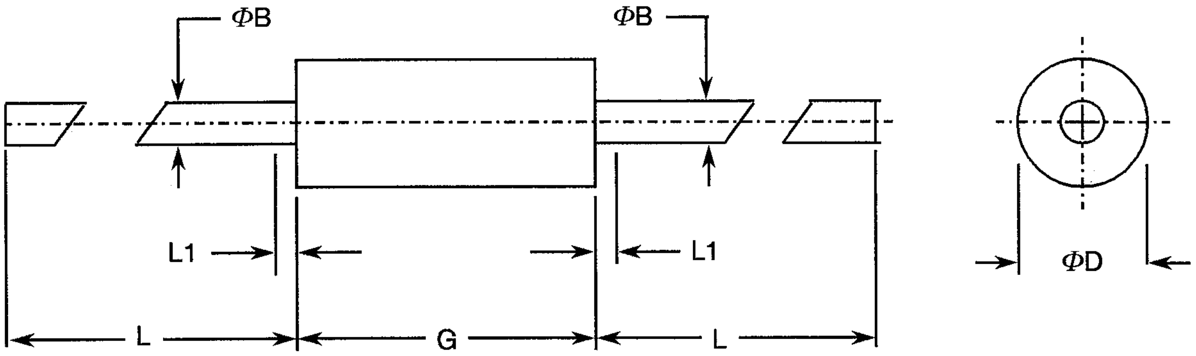
1. The leads shall be maintained at ambient temperature 4.0mm from the body.

## FIGURE 1 - PARAMETER DERATING INFORMATION



Maximum Working Current ($I_Z$ max) versus Temperature

## FIGURE 2 - PHYSICAL DIMENSIONS



Millimetre dimensions are derived from basic inch dimensions.

| SYMBOL | INCHES | | MILLIMETRES | | NOTES |
|---|---|---|---|---|---|
| | MIN. | MAX. | MIN. | MAX. | |
| ΦB | .028 | .034 | .712 | .863 | - |
| ΦB | .080 | .107 | 2.04 | 2.71 | 1 |
| G | .142 | .205 | 3.60 | 5.20 | 1 |
| L | 1.10 | - | 28.0 | - | - |
| L1 | - | .050 | - | 1.27 | 2 |

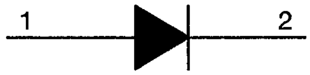
**NOTES**

1. Package contour optional within cylinder of diameter ΦD and length G. Slugs, if any, shall be included within this cylinder but shall not be subject to the minimum limit of ΦD.

2. Lead diameter not controlled in this zone to allow for flash, lead finish build-up, and minor irregularities other than slugs.

## FIGURE 3 - FUNCTIONAL DIAGRAM

1. Anode
2. Cathode



**NOTES**

1. The cathode end shall be marked with a coloured ring.

## 3. TERMS, DEFINITIONS, ABBREVIATIONS, SYMBOLS AND UNITS

For the purpose of this specification, the terms, definitions, abbreviations, symbols and units specified in ESA/SCC Basic Specification No. 21300 shall apply.

## 4. REQUIREMENTS

### 4.1 GENERAL

The complete requirements for procurement of the diodes specified herein are stated in this specification and ESA/SCC Generic Specification No. 5000 for Discrete Semiconductors. Deviations from the Generic Specification applicable to this specification only, are listed in Para. 4.2.

Deviations from the applicable Generic Specification and this Detail Specification, formally agreed with specific Manufacturers on the basis that the alternative requirements are equivalent to the ESA/SCC requirements and do not affect the components' reliability, are listed in the appendices attached to this specification.

### 4.2 DEVIATIONS FROM GENERIC SPECIFICATION

### 4.2.1 Deviations from Special In-process Controls

Not applicable.

### 4.2.2 Deviations from Final Production Tests (Chart II)

(a) Bond Strength Test: Shall not be performed.

(b) Die Shear Test: Shall not be performed.

(c) Particle Impact Noise Detection (PIND) Test: Not applicable.

### 4.2.3 Deviations from Burn-in and Electrical Measurements (Chart III)

(a) H.T.R.B. Test: Shall not be performed.

(b) Radiographic Inspection: Not applicable.

### 4.2.4 Deviations from Qualification Tests (Chart IV)

(a) Bond Strength Test: Shall not be performed.

(b) Die Shear Test: Shall not be performed.

### 4.2.5 Deviations from Lot Acceptance Tests (Chart V)

None.

## 4.3 MECHANICAL REQUIREMENTS

### 4.3.1 Dimension Check

The dimensions of the diodes specified herein shall be checked. They shall conform to those shown in Figure 2.

### 4.3.2 Weight

The maximum weight of the diodes specified herein shall be 0.5 grammes.

### 4.3.4 Terminal Strength

The requirements for terminal strength testing are specified in Section 9 of ESA/SCC Generic Specification No. 5000. The test conditions shall be as follows:-

Test Condition : 'A'.
Applied Force : 5.0 Newtons.
Duration : 10 seconds

## 4.4 MATERIALS AND FINISHES

The materials and finishes shall be as specified herein. Where a definite material is not specified, a material which will enable the diodes specified herein to meet the performance requirements of this specification shall be used. Acceptance or approval of any constituent material does not guarantee acceptance of the finished product.

### 4.4.1 Case

Glass, hermetically sealed.

### 4.4.2 Lead Material and Finish

The lead material shall be Type 'C' with Type '3 or 4' finish in accordance with the requirements of ESA/SCC Basic Specification No. 23500.

## 4.5 MARKING

### 4.5.1 General

The marking of all components delivered to this specification shall be in accordance with the requirements of ESA/SCC Basic Specification No. 21700. Each component shall be marked in respect of:-

(a) Lead Identification.

(b) The SCC Component Number.

(c) Traceability Information.

### 4.5.2 Lead Identification

Lead identification shall be as shown in Figures 2 and 3 of this specification.

### 4.5.3 The SCC Component Number

Each component shall bear the SCC Component Number which shall be constituted and marked as follows:

510200202B

Detail Specification Number
Type Variant (see Table 1(a))
Testing Level (B or C, as applicable)

### 4.5.4 Traceability Information

Each component shall be marked in respect of traceability information in accordance with the requirements of ESA/SCC Basic Specification No. 21700.

### 4.5.5 Marking of Small Components

When it is considered that the component is too small to accommodate the marking as specified above, as much as space permits shall be marked. The order of precedence shall be as follows:-

(a) Lead Identification.

(b) The SCC Component Number.

(c) Traceability Information.

The marking information in full shall accompany each component in its primary package.

## 4.6 ELECTRICAL MEASUREMENTS

### 4.6.1 Electrical Measurements at Room Temperature

The parameters to be measured at room temperature are scheduled in Table 2. The measurements shall be performed at $T_{amb} = +22 \pm 3$ °C.

### 4.6.2 Electrical Measurements at High and Low Temperatures

The parameters to be measured at high and low temperatures are scheduled in Table 3.

### 4.6.3 Circuits for Electrical Measurements

Circuits for use in performing the electrical measurements listed in Tables 2 and 3 of this specification are shown in Figure 4.

## 4.7 BURN-IN TESTS

### 4.7.1 Parameter Drift Values

The parameter drift values applicable to burn-in are specified in Table 4 of this specification. Unless otherwise stated, the measurements shall be performed at $T_{amb} = +22 \pm 3$ °C. The parameter drift value (Δ) applicable to the parameters scheduled, shall not be exceeded. In addition to these drift value requirements, the appropriate limit value specified for a given parameter in Table 2 shall not be exceeded.

### 4.7.2 Conditions for Burn-in

The requirements for burn-in are specified in Section 7 of ESA/SCC Generic Specification No. 5000. The conditions for burn-in shall be as specified in Table 5 of this specification.

### 4.7.3 Electrical Circuits for Burn-in

Circuits for use in performing the burn-in tests are shown in Figure 5 of this specification.

## TABLE 2 - ELECTRICAL MEASUREMENTS AT ROOM TEMPERATURE - d.c. PARAMETERS

| No. | CHARACTERISTICS | SYMBOL | SPEC. AND TEST METHOD MIL-STD-750 | TEST CONDITION | LIMITS | | UNIT |
|---|---|---|---|---|---|---|---|
| | | | | | MIN. | MAX. | |
| 1 | Zener Voltage | $V_Z$ | Method 4022 | $I_Z = (1)$ mA | (2) | (3) | V |
| 2 | Reverse Current | $I_R$ | Method 4016 | $V_R = (4)$ V | - | (5) | µA |

**NOTES**

1. See Column 6 of Table 1(a).
2. See Column 4 of Table 1(a).
3. See Column 5 of Table 1(a).
4. See Column 9 of Table 1(a).
5. See Column 10 of Table 1(a).

## a.c. PARAMETERS

| No. | CHARACTERISTICS | SYMBOL | SPEC. AND TEST METHOD MIL-STD-750 | TEST CONDITION | LIMITS | | UNIT |
|---|---|---|---|---|---|---|---|
| | | | | | MIN. | MAX. | |
| 1 | Small Signal Breakdown Impedance | $Z_Z$ | 4051 | $I_Z = (1)$ | - | (2) | Ω |
| 2 | Knee Impedance | $Z_K$ | 4051 | $I_{ZK} = (4)$ | - | (3) | Ω |

**NOTES**

1. See Column 6 of Table 1(a).
2. See Column 8 of Table 1(a).
3. See Column 12 of Table 1(a).
4. See Column 13 of Table 1(a).

## FIGURE 4 - TEST CIRCUITS

Not applicable.

## TABLE 3 - ELECTRICAL MEASUREMENTS AT HIGH AND LOW TEMPERATURES

| No. | CHARACTERISTICS | SYMBOL | SPEC. AND TEST METHOD MIL-STD-750 | TEST CONDITIONS | LIMITS | | UNIT |
|---|---|---|---|---|---|---|---|
| | | | | | MIN. | MAX. | |
| 1 | Reverse Current | $I_R$ | Method 4016.2 | $T_{amb} = +150°C$<br>$V_R = (1)$ | - | (2) | nA |

**NOTES**
1. See Column 9 of Table 1(a).
2. See Column 11 of Table 1(a).

## TABLE 4 - PARAMETER DRIFT VALUES

| No. | CHARACTERISTICS | SYMBOL | SPEC. AND TEST METHOD | TEST CONDITIONS | CHANGE LIMITS (Δ) | UNIT |
|---|---|---|---|---|---|---|
| 1 | Zener Voltage | $V_Z$ | Method 4022 | $I_Z = (1)$ mA | ±5.0 | % |
| 2 | Reverse Current | $I_R$ | Method 4016 | $V_R = (2)$ | ±100<br>or (3)<br>100 | %<br><br>nA |

**NOTES**
1. See Column 6 of Table 1(a).
2. See Column 9 of Table 1(a).
3. Whichever is greater.

## TABLE 5 - CONDITIONS FOR BURN-IN

| No. | CHARACTERISTIC | SYMBOL | CONDITION | UNIT |
|---|---|---|---|---|
| 1 | Ambient Temperature | $T_{amb}$ | +25 (See Note , Table 1(b)) | °C |
| 2 | Working Current | $I_{Zmax}$ | See Table 1(a), Column 7 | mA |

## FIGURE 5 - ELECTRICAL CIRCUIT FOR BURN-IN

Not applicable.

## 4.8 ENVIRONMENTAL AND ENDURANCE TESTS (CHARTS IV AND V OF ESA/SCC GENERIC SPECIFICATION NO. 5000)

### 4.8.1 Electrical Measurements on Completion of Environmental Tests

The parameters to be measured on completion of environmental tests are scheduled in Table 2. The measurements shall be performed at $T_{amb} = +22 \pm 3$ °C.

### 4.8.2 Electrical Measurements at Intermediate Points and on Completion of Endurance Tests

The parameters to be measured at intermediate points and on completion of endurance testing are scheduled in Table 6.

### 4.8.3 Conditions for Operating Life Tests (Part of Endurance Testing)

The requirements for operating life testing are specified in Section 9 of ESA/SCC Generic Specification No. 5000. The conditions for operating life testing shall be the same as specified in Table 5 for the burn-in test.

### 4.8.4 Electrical Circuits for Operating Life Tests

The circuit to be used for performance of the operating life test shall be the same as shown in Figure 5 for burn-in.

### 4.8.5 Conditions for High Temperature Storage Test (Part of Endurance Testing)

The requirements for the high temperature storage test are specified in ESA/SCC Generic Specification No. 5000. The temperature to be applied shall be the maximum storage temperature specified in Table 1(b) of this specification.

## TABLE 6 - ELECTRICAL MEASUREMENTS AT INTERMEDIATE POINTS AND ON COMPLETION OF ENDURANCE TESTING

| No. | CHARACTERISTICS | SYMBOL | SPEC. AND TEST METHOD | TEST CONDITIONS | LIMITS | | UNIT |
|---|---|---|---|---|---|---|---|
| | | | | | MIN. | MAX. | |
| 1 | Zener Voltage | $V_Z$ | MIL-STD-750<br>Method 4022 | $I_Z$ = (1) | (3) | (2) | V |
| 2 | Reverse Current | $I_R$ | MIL-STD-750<br>Method 4016 | $V_R$ = (4) | (5) | - | µA |

**NOTES**

1. See Column 6 of Table 1(a).
2. See Column 4 of Table 1(a).
3. See Column 5 of Table 1(a).
4. See Column 9 of Table 1(a).
5. See Column 10 of Table 1(a).