**SCOPE: PROGRAMMABLE VOLTAGE DETECTOR**

| Device Type | Generic Number | SMD Number |
|---|---|---|
| 01 | MAX8211(x)/883B | 5962-9081101 |
| 02 | MAX8212(x)/883B | 5962-9081102 |

**Case Outline(s).** The case outlines shall be designated in Mil-Std-1835 and as follows:

| Outline Letter | | Mil-Std-1835 | Case Outline | Package Code |
|---|---|---|---|---|
| Maxim | SMD | | | |
| JA | P | GDIP1-T08 or CDIP2-T08 | 8 Lead CERDIP | J08 |
| FB | X | CDFP3-F10 | 10 Pin Flatpack | F10 |
| TV | G | MACY1-8X | 8 Lead Can | G99 |

**Absolute Maximum Ratings**

Supply Voltage ..... -0.5 to +18V
Output Voltage ..... -0.5 to +18V
Hysteresis Voltage ..... +0.5V to -18V with respect to $V^+$ +0.5V
Threshold Input Voltage ..... -0.5V to ($V^+$ +0.5V)
Current Into Any Terminal ..... ±50mA

Lead Temperature (soldering, 10 seconds) ..... +300°C
Storage Temperature ..... -65°C to +150°C

Continuous Power Dissipation ..... $T_A$=+70°C
8 lead CERDIP(derate 8.0mW/°C above +70°C) ..... 640mW
10 lead Flatpack(derate 5.3mW/°C above +70°C) ..... 421mW
8 lead Can(derate 6.67mW/°C above +70°C) ..... 533mW
Junction Temperature $T_J$ ..... +150°C
Thermal Resistance, Junction to Case, ΘJC:
Case Outline 8 lead CERDIP..... 55°C/W
Case Outline 10 lead Flatpack ..... 85°C/W
Case Outline 8 lead Can ..... 45°C/W
Thermal Resistance, Junction to Ambient, ΘJA:
Case Outline 8 lead CERDIP..... 125°C/W
Case Outline 10 lead Flatpack ..... 190°C/W
Case Outline 8 lead Can ..... 150°C/W

**Recommended Operating Conditions**

Ambient Operating Range ($T_A$) ..... -55°C to +125°C
Supply Voltage Range ($V^+$) ..... 2.0V to 16.5V

Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

**TABLE 1. ELECTRICAL TESTS:**

| TEST | Symbol | CONDITIONS<br>-55 °C <=$T_A$<= +125°C<br>$V^+$=+5.0V<br>Unless otherwise specified | Group A Subgroup | Device type | Limits Min | Limits Max | Units |
|---|---|---|---|---|---|---|---|
| Supply Current | $I^+$ | $V^+$=2V, 5V, 16.5V, $V_{TH}$=GND, $V^+$ | 1 | All | | 15 | µA |
| | | $V^+$=2.2V, 5V,16.5V, $V_{TH}$=GND, $V^+$ | 2,3 | | | 20 | |
| Threshold Trip Voltage | $V_{THP}$ | $V^+$=16.5V, $I_{OUT}$=4mA<br>$V^+$=2.0V, $I_{OUT}$=500µA | 1 | All | 1.11 | 1.19 | V |
| | | $V^+$=16.5V, $I_{OUT}$=3mA<br>$V^+$=2.2V, $I_{OUT}$=500µA | 2,3 | All | 1.05 | 1.25 | |
| Threshold Input Current | $I_{TH}$ | $V_{TH}$=GND, $V^+$ | 1<br>2,3 | All | | 10<br>20 | nA |
| Output Leakage Current | $I_{OLK}$ | $V_{OUT}$=16.5V, $V_{TH}$=1.3V<br>$V_{OUT}$=5V, $V_{TH}$=1.3V | 1,2,3 | 01 | | 30<br>10 | µA |
| | | $V_{OUT}$=16.5V, $V_{TH}$=0.9V<br>$V_{OUT}$=5V, $V_{TH}$=0.9V | 1,2,3 | 02 | | 30<br>10 | |
| Output Saturation Voltage | $V_{SAT}$ | $I_{OUT}$=2mA, $V_{TH}$=1.0V | 1 | 01 | | 0.4 | V |
| | | $I_{OUT}$=2mA, $V_{TH}$=1.3V | | 02 | | 0.4 | |
| Maximum Available Output Current | $I_{OH}$ | $V_{TH}$=1.0V | 1,2,3 | 01 | 4.0 | | mA |
| | | $V_{TH}$=1.3V | | 02 | 12 | | |
| Hysteresis Leakage Current | $I_{HYS}$ | $V^+$=16.5V, $V_{HYS}$=GND, $V_{TH}$=0.9V | 1,2,3 | All | | 3 | µA |
| Hysteresis Saturation Voltage | $V_{HYS}$ (max) | $I_{HYS}$=0.5mA, $V_{TH}$=1.3V measured with respect to $V^+$ | 1 | All | | -0.2 | V |
| Maximum Available Hysteresis Current | $I_{HYS}$ (max) | $V_{TH}$=1.3V, $V_{HYS}$=0V | 1 | All | 2 | | mA |

NOTE 1: $V_{TH}$≤8Vfor normal operation, except under stress testing.

**TERMINAL CONNECTIONS**:

| For both MAX8211 and MAX8212 | | | |
|---|---|---|---|
| | J8 | F10 | TO99 |
| 1 | NC | NC | THRESH |
| 2 | HYST | HYST | OUT |
| 3 | THRESH | THRESH | NC |
| 4 | OUT | OUT | GND |
| 5 | GND | GND | NC |
| 6 | NC | NC | NC |
| 7 | NC | NC | V+(case) |
| 8 | V+ | V+ | HYST |
| 9 | | NC | |
| 10 | | NC | |

| Device Type | Package | ORDERING INFORMATION: | SMD Number |
|---|---|---|---|
| 01 | 8 pin CERDIP | MAX8211MJA/883B | 5962-9081101MPA |
| 01 | 10 lead Flatpack | MAX8211MFB/883B | 5962-9081101MXC |
| 01 | 8 pin Can | MAX8211MTV/883B | 5962-9081101MGC |
| 02 | 8 pin CERDIP | MAX8212MJA/883B | 5962-9081202MPA |
| 02 | 10 lead Flatpack | MAX8212MFB/883B | 5962-9081202MXC |
| 02 | 8 pin Can | MAX8212MTV/883B | 5962-9081202MGC |

**QUALITY ASSURANCE**

Sampling and inspection procedures shall be in accordance with MIL-Prf-38535, Appendix A as specified in Mil-Std-883.

Screening shall be in accordance with Method 5004 of Mil-Std-883. Burn-in test Method 1015:

1. Test Condition, A, B, C, or D.
2. TA = +125°C minimum.
3. Interim and final electrical test requirements shall be specified in Table 2.

Quality conformance inspection shall be in accordance with Method 5005 of Mil-Std-883, including Groups A, B, C, and D inspection.

Group A inspection:

1. Tests as specified in Table 2.
2. Selected subgroups in Table 1, Method 5005 of Mil-Std-883 shall be omitted.

Group C and D inspections:

a. End-point electrical parameters shall be specified in Table 1.
b. Steady-state life test, Method 1005 of Mil-Std-883:
   1. Test condition A, B, C, D.
   2. TA = +125°C, minimum.
   3. Test duration, 1000 hours, except as permitted by Method 1005 of Mil-Std-883.

**TABLE 2. ELECTRICAL TEST REQUIREMENTS**

| Mil-Std-883 Test Requirements | Subgroups per Method 5005, Table 1 |
|---|---|
| Interim Electric Parameters Method 5004 | 1 |
| Final Electrical Parameters Method 5005 | 1*, 2, 3 |
| Group A Test Requirements Method 5005 | 1, 2, 3 |
| Group C and D End-Point Electrical Parameters Method 5005 | 1 |

* PDA applies to Subgroup 1 only.