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SCOPE: MICROPROCESSOR MONITOR

Device Type	Generic Number	SMD Number
01	MAX1232MJA/883B	5962-9451401MPA
01	MAX1232MLP/883B	5962-9451401M2C

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-T8 or CDIP2-T8	8 LEAD CERDIP	J8
LP	2	CQCC1-N20	20 Pin Ceramic LCC	L20

Absolute Maximum Ratings

Supply Voltage to Ground (V_{CC} to GND) ..... -0.3V to +6V
Maximum Current to any Terminal 10mA

Input Voltage to $\overline{ST}$, TOL, $\overline{PB\ RST}$, TD ..... -0.3V to (V_{CC}+0.3V)
Lead Temperature (soldering, 10 seconds) ..... +300°C
Storage Temperature ..... -65°C to +160°C

Continuous Power Dissipation ..... T_A=+70°C
8 lead CERDIP(derate 8.0mW/°C above +70°C) 640mW
20 lead LCC(derate 9.1mW/°C above +70°C) 727mW
Junction Temperature T_J ..... +150°C
Thermal Resistance, Junction to Case, ΘJC:
Case Outline 8 lead CERDIP ..... 55°C/W
Case Outline 20 lead LCC ..... 20°C/W
Thermal Resistance, Junction to Ambient, ΘJA:
Case Outline 8 lead CERDIP ..... 125°C/W
Case Outline 20 lead LCC ..... 110°C/W

Recommended Operating Conditions.
Ambient Operating Range (T_A) ..... -55°C to +125°C

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

PARAMETER	Symbol	CONDITIONS -55 °C <=T_A<= +125°C V_{CC}=+4.5V to +5.5V Unless otherwise specified	Group A Subgroup	Device type	Limits Min 1/	Limits Max 1/	Units
High Level Input Voltage, $\overline{ST}$ and $\overline{PBRST}$	V_{IH}	NOTE 2	1,2,3	01	2.0		V
Low Level Input Voltage, $\overline{ST}$ and $\overline{PBRST}$	V_{IL}		1,2,3	01		0.8	V
Input Leakage Current TOL and $\overline{ST}$ pins	I_{IL}		1,2,3	01	-1.0	1.0	µA
High Output Current RST pin	I_{OH}	V_{OH}=2.4V	1,2,3	01	-1.0		mA
Low Output Current RST and $\overline{RST}$ pins	I_{OL}	V_{OL}=0.4V	1,2,3	01	2.0		mA
Operating Current	I_{CC}	Measured with outputs open	1,2,3	01		200	µA
Supply Current, 5% trip-point	V_{CC}TP	All voltages referenced to ground, T_{OL}=V_{CC}	1,2,3	01	4.50	4.74	V
Supply Current, 10% trip-point	V_{CC}TP	All voltages referenced to ground, T_{OL}=V_{CC}	1,2,3	01	4.25	4.49	V
Pushbutton Reset Input	t_{PB}	NOTE 3	9,10,11	01	20		ms
Pushbutton Reset Delay	t_{PBD}	NOTE 4	9,10,11	01	1.0	20	ms
Reset Active Time	t_{RST}		9,10,11	01	250	1000	ms
$\overline{ST}$ Pulse Width	t_{PW}		9,10,11	01	75		ns
$\overline{ST}$ Timeout Period	t_{TD}	TD pin=0V TD pin=open TD pin=V_{CC}	9,10,11	01	62.5 250 500	250 1000 2000	ms
Supply Voltage Detect RST Low to RST High	t_{RPD}	V_{CC} falling	9,10,11	01		100	ns
Supply Voltage Detect RST Open to RST Low	t_{RPU}	V_{CC} rising, tR≤5µs	9,10,11	01	250	1000	ms

NOTE 1: The algebraic convention, whereby the most negative value is a minimum and the most positive is a maximum, is used in this table. Negative current shall be defined as conventional flow out of a device terminal.

NOTE 2: The pushbutton reset input ($\overline{PB\ RST}$)pin is internally pulled up to V_{CC} with an internal impedance of 40kΩ.

NOTE 3: The pushbutton reset input ($\overline{PB\ RST}$)pin must be held low for a minimum of 20ms to guarantee reset.

NOTE 4: For Subgroups 10 and 11, if not tested, shall be guaranteed to the limits specified in Table 1.

Package	ORDERING INFORMATION:	SMD
8 pin CERDIP	MAX1232MJA/883B	5962-9451401MPA
20 pin LCC	MAX1232MLP/883B	5962-9451401M2C

TERMINAL CONNECTIONS AND FUNCTION:

NAME	FUNCTION	J8	20LCC
$\overline{\text{PB RST}}$	Pushbutton Reset Input. A debounced active-low input that ignores pulses less than 1ms in duration and is guaranteed to recognize inputs of 20ms or greater.	1	2
TD	Time Delay Set. The watchdog timebase select input (t_{TD}=150ms for TD=0V, t_{TD}=600ms for TD=open, t_{TD}=1.2 sec. for TD=V_{CC}.	2	5
TOL	Tolerance Input. Connect to GND for 5% tolerance or to V_{CC} for 10% tolerance.	3	7
GND	Ground.	4	10
RST	Reset Output (Active High) - goes active: 1. If VCC falls below the selected reset voltage threshold. 2. $\overline{\text{PB RST}}$ is forced low. 3. If ST is not strobed within the minimum timeout period. 4, During power-up	5	12
$\overline{\text{RST}}$	Reset Output (Active Low, Open Drain) - see RST.	6	15
$\overline{\text{ST}}$	Strobe Input. Input for watchdog timer.	7	17
V_{CC}	The +5V Power-Supply Input	8	20
NC	No connect		1,3,4,6,8,9 11,13,14 16,18,19

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, 9
Group A Test Requirements Method 5005	1, 2, 3, 9, 10, 11
Group C and D End-Point Electrical Parameters Method 5005	1

* PDA applies to Subgroup 1 only.