Not Recommended for New Designs

This product was manufactured for Maxim by an outside wafer foundry using a process that is no longer available. It is not recommended for new designs. The data sheet remains available for existing users.

A Maxim replacement or an industry second-source may be available. Please see the QuickView data sheet for this part or contact technical support for assistance.

For further information, contact Maxim's Applications Tech Support.

SCOPE: **10V PRECISION VOLT REFERENCE**

Device Type	**Generic Number**
01	MAX674M(x)/883B

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**			
TV	G	MACY1-X3	8 Lead TO-99 Can	G99
JA	P	GDIP1-T8 or CDIP2-T8	8 Lead CERDIP	J8
LP	2	CQCC3-N20	20 Leadless Chip	L20

Absolute Maximum Ratings

Input Voltage 40V
Output Short-circuit Duration (to GND or V_{IN}) ..... Indefinite

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

Continuous Power Dissipation ..... T_A=+70°C
8-Pin TO-99 Can(derate 6.7mW/°C above +70°C) 533mW
8-Pin CERDIP(derate 8.0mW/°C above +70°C) 640mW
20 Pin Leadless Chip(derate 9.1mW/°C above +70°C) 727mW
Junction Temperature T_J ..... +150°C
Thermal Resistance, Junction to Case, ΘJC:
8-Pin TO-99 Can ..... 45°C/W
8-Pin CERDIP ..... 55°C/W
20-Pin LCC ..... 20°C/W
Thermal Resistance, Junction to Ambient, ΘJA:
8-Pin TO-99 Can ..... 150°C/W
8-Pin CERDIP ..... 125°C/W
20-Pin 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

TEST	Symbol	CONDITIONS -55 °C ≤T_A≤ +125°C V_{IN}=+15V Unless otherwise specified	Group A Subgroup	Device type	Limits Min	Limits Max	Units
Output Voltage Tolerance		I_L=0mA	1,2,3	All		±15	mV
Output Voltage Change with Temperature	TCV_O		4,5,6	All		20	ppm/°C
Output Adjustment Range	V_{TRIM}	RP=10kΩ	1	All	±300		mV
Line Regulation		V_{IN}=13V to 33V NOTE 1	1 2,3	All		0.01 0.02	%/V
Load Regulation		I_L=0mA to 10mA NOTE 1	1 2,3	All		0.002 0.004	%/mA
Quiescent Supply Current	I_Q	No Load	1 2,3	All		1400 2000	µA
Noise	en p-p	0.1Hz to 10Hz NOTE 2	4	All		150	µVp-p
Sink Current	I_S		1	All	-0.3		mA
Load Current	I_L	NOTE 3	1 2,3	All		10 8	mA
Short-circuit Current	I_{SC}	V_O=0	1	All		40	mA

NOTE 1: Line and Load Regulation specifications include the effect of self heating.
NOTE 2: Noise is sample tested.
NOTE 3: Minimum Load Current is guaranteed by Load Regulation test.

PIN CONFIGURATION

PIN	**J8/G99**	**L20**	**L20**	
1	NC	NC	11	NC
2	V_{IN}	NC	12	TRIM
3	NC	NC	13	NC
4	GND	NC	14	NC
5	TRIM	V_{IN}	15	V_{OUT}
6	V_{OUT}	NC	16	NC
7	NC	NC	17	NC
8	NC	NC	18	NC
9		NC	19	NC
10		GND	20	NC

ORDERING INFORMATION

Device	**Package**	**Maxim Part Number**	**SMD NUMBER**
01	J8	MAX674MJA/883B	5962-9468102MPA
01	G99 Can	MAX674MTV/883B	5962-9468102MGC
01	LCC20	MAX674MLP/883B	5962-9468102M2C

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, 4
Group C and D End-Point Electrical Parameters Method 5005	1

* PDA applies to Subgroup 1 only.