

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: **PIN-PROGRAMMABLE PRECISION VOLT REFERENCE**

<u>Device Type</u>	<u>Generic Number</u>
01	MX584S(x)/883B
02	MX584T(x)/883B

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

<u>Outline Letter</u>	<u>Mil-Std-1835</u>	<u>Case Outline</u>	<u>Package Code</u>
MAXIM SMD			
H G	MACY1-X3	8 Lead TO-99 Can	G99
Q P	GDIP1-T8 or CDIP2-T8	8 Lead Cerdip	J8

Absolute Maximum Ratings

Input Voltage to GND	40V
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 6.1mW/°C above +70°C)	533mW
8-Pin Cerdip(derate 8.0mW/°C above +70°C)	640mW
Junction Temperature T _J	+150°C
Thermal Resistance, Junction to Case, θ_{JC} :	
8-Pin TO-99 Can	45°C/W
8-Pin Cerdip	55°C/W
Thermal Resistance, Junction to Ambient, θ_{JA} :	
8-Pin TO-99 Can	150°C/W
8-Pin Cerdip	125°C/W

Recommended Operating Conditions

Supply Voltage Range (V _{IN})	4.5V min to 30V max
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 _{CC} =+15V, 10V output, I _L =0mA Unless otherwise specified	Group A Subgroup	Device type	Limits Min 1/ /	Limits Max 1/ /	Units
Quiescent Current	I _Q	V _{IN} =38V, V _O =10V	1	All	0	1.0	mA
Output Voltage Error	V _{OUT1}	10V Output	1	01	9.97	10.03	mV
				02	9.99	10.01	
	V _{OUT2}	7.5V Output	1	01	7.478	7.522	
				02	7.492	7.508	
V _{OUT3}	5.0V Output	1	01	4.985	5.015		
			02	4.994	5.006		
Line Regulation	VR _{LINE1}	12.5V ≤ V _{IN} ≤ 15V, V _O =10V	1 2,3	All		±0.05	% / V
NOTE 1	VR _{LINE2}	15V ≤ V _{IN} ≤ 30V, V _O =10V	1 2,3			±0.02 ±0.05	
Load Regulation	VR _{LOAD} 1,2,3,4	I _L =0mA to 5mA, Output=10V, 7.5V, 5V, 2.5V	1 2,3	All		±50 ±100	ppm/mA
Output Short Circuit Current	I _{OS}	V _O =10V	1,2,3	All		-55	mA
Output Voltage Temperature Coefficient	ΔV _{OUT1} /ΔT	10V Output	2,3	01		±0.3	%FS
				02		±0.15	
	ΔV _{OUT2} /ΔT	7.5V Output	2,3	01		±0.3	
				02		±0.15	
ΔV _{OUT3} /ΔT	5.0V Output	2,3	01		±0.3		
			02		±0.15		
ΔV _{OUT4} /ΔT	2.5V Output	2,3	01		±0.3		
			02		±0.2		
Output Noise	N _O	V _O =10V, 0.1Hz ≤ BW ≤ 10Hz	4	All		50	μVp-p
		V _O =10V, 10Hz ≤ BW ≤ 100kHz				150	μV rms
Settling Time 0.1% of final value (power up)	t _{S(p)}	V _O =10V, I _L =0mA NOTE 2	9	All		1000	μs
		V _O =10V, I _L =5mA NOTE 2				1000	

NOTE 1: The limiting terms “min” (minimum) and “max” (maximum) shall be considered to apply to magnitudes only. Negative current is defined as conventional current flow out of a device.

NOTE 2: Guaranteed, if not tested, to the limits specified in Table 1.

ORDERING INFORMATION:

Device	Maxim Part Number	SMD Number
01	MX584SH/883B	5962-3812803MGC
01	MX584SQ/883B	5962-3812803MPA
02	MX584TH/883B	5962-3812804MGC
02	MX584TQ/883B	5962-3812804MPA

PIN CONFIGURATIONS:

PIN	J8/G99
1	10.0V
2	5.0V
3	2.5V
4	GND
5	STROBE
6	V _{BG}
7	CAP
8	V _{CC}

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, 4, 9
Group A Test Requirements Method 5005	1, 2, 3, 4, 9
Group C and D End-Point Electrical Parameters Method 5005	1

* PDA applies to Subgroup 1 only.