MAX6225, MAX6241, MAX6250

Low-Noise, Precision, +2.5V/+4.096V/+5V Voltage References

Description

The MAX6225/MAX6241/MAX6250 are low-noise, precision voltage references with extremely low 1ppm/°C temperature coefficients and excellent ±0.02% initial accuracy. These devices feature buried-zener technology for lowest noise performance. Load-regulation specifications are guaranteed for source and sink currents up to 15mA. Excellent line and load regulation and low output impedance at high frequency make them ideal for high-resolution data-conversion systems up to 16 bits.

The MAX6225 is set for 2.500V output, the MAX6241 is set for 4.096V output, and the MAX6250 is set for 5.000V output. All three provide for the option of external trimming and noise reduction.

Key Features

- Low 1.0ppm/°C Temperature Coefficient
- Very Low 1.5µVp-p Noise (0.1Hz to 10Hz)
- ±0.02% Initial Accuracy
- ±15mA Output Source and Sink Current
- Low, 18mW Power Consumption (MAX6225)
- Industry-Standard Pinout
- Optional Noise Reduction and Voltage Trim
- Excellent Transient Response
- 8-Pin SO Package Available
- Low 20ppm/1000h Long-Term Stability
- Stable for All Capacitive Loads

Applications / Uses

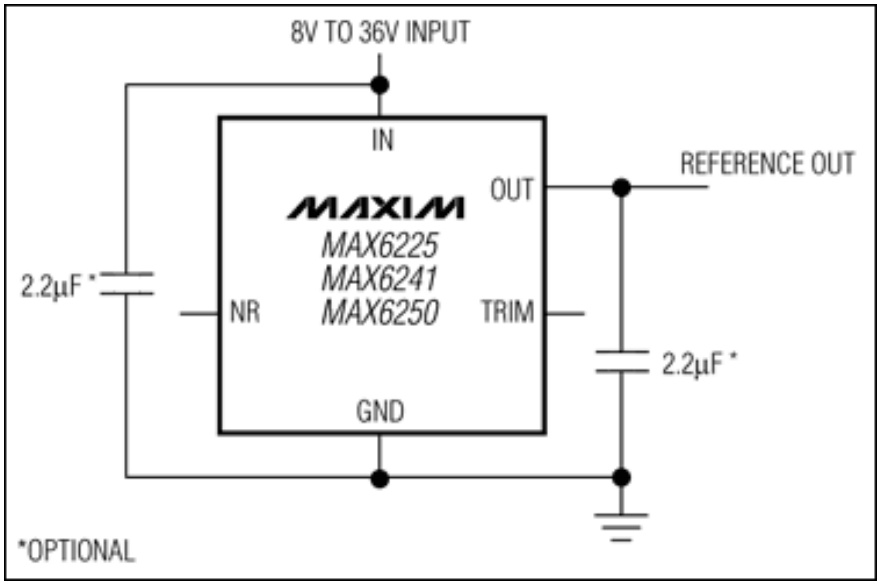
A/D Converters
Automated Test Equipment (ATE)
Digital Voltmeters
High-Accuracy Industrial and Process Control
High-Accuracy Reference Standard
High-Resolution Analog-to-Digital
Precision Current Sources

Key Specifications: Voltage References

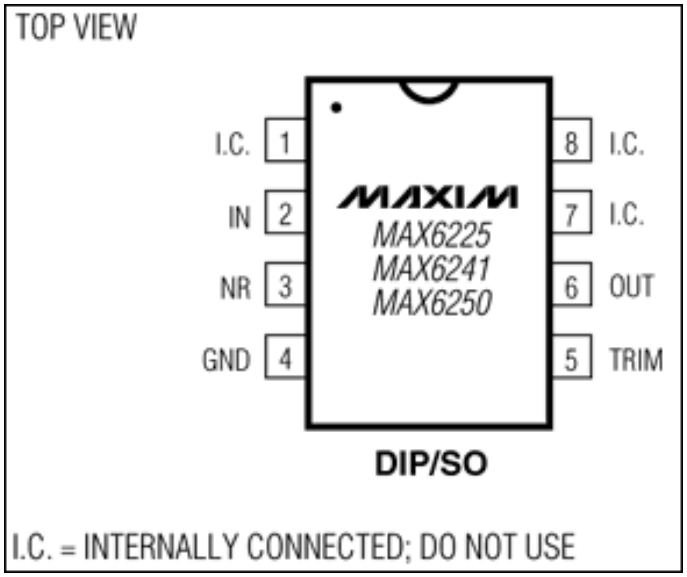
Part Number	Output Voltage (V)	Tempco (max) (ppm/°C)	Initial Accuracy (% max @ +25°C)	Supply Current - Series Only (max) (µA)	Supply Voltage - Series Only (min) (V)	Supply Voltage - Series Only (max) (V)	Noise 0.1Hz to 10Hz (µVp-p typ)	Features	Package	Operating Temp. Range (°C)	
MAX6225A	2.5	2	0.04	3,000	8	36	2.8	• Series	Ceramic DIP/8 PDIP/8 SOIC/8	-55 to +125 -40 to +85 0 to +70	
MAX6225B	2.5	5	0.12	3,000			2.8				
MAX6241A	4.096	2	0.02	3,200			2.4				
MAX6241B	4.096	5	0.1	3,200			2.4				
MAX6250A	5.0	2	0.02	3,300			3				
MAX6250B	5.0	5	0.1	3,300			3				
See All Voltage References (160)											

Notes:
**This pricing is BUDGETARY, for comparing similar parts. Prices are in U.S. dollars and subject to change. Quantity pricing may vary substantially and international prices may differ due to local duties, taxes, fees, and exchange rates. For volume-specific prices and delivery, please see the price and availability page or contact an authorized distributor.

Diagram



Typical Operating Circuit



Typical Operating Circuit

Application Notes

Application Note 754: Selecting the Right Series Voltage Reference for Absolute-Accuracy Voltage-Output DAC Designs - MAX6225, MAX6241, MAX6250

Application Note 2879: Selecting the Optimum Voltage Reference - MAX6225, MAX6241, MAX6250

Application Note 4300: Calculating the Error Budget in Precision Digital-to-Analog Converter (DAC) Applications - MAX6225, MAX6241

Evaluation Kits

none

Design Guides

Reference (PDF)

Reliability Reports

Show FIT data for:
Reliability Report: MAX6225xxxA.pdf MAX6250xxxA.pdf

Request Reliability Report for:

Software / Models

none

Ordering Information

Notes:

1. Other options and links for purchasing parts are listed at:
2. Didn't Find What You Need? Ask our applications engineers. Expert assistance in finding parts, usually within one business day.
3. Part number suffixes: T or T&R = tape and reel; + = RoHS/lead-free; # = RoHS/lead-exempt. More: SeeFull Data Sheet or Part Naming Conventions.
4. * Some packages have variations, listed on the drawing. "PkgCode/Variation" tells which variation the product uses. Note that "+", "#", "-" in the part number suffix describes RoHS status. Package drawings may show a different suffix character.

Devices: 1-75 of 75

MAX6225	Free Sample	Buy	Package: TYPE PINS FOOTPRINT DRAWING CODE/VAR *	Temp	RoHS/Lead-Free? Materials Analysis
MAX6225AMJA			Ceramic DIP;8 pin; Dwg: 21-0045 (PDF) Use pkgcode/variation: J8-2*	-55°C to +125°C	RoHS/Lead-Free: No Materials Analysis
MAX6225ACPA			PDIP;8 pin; Dwg: 21-0043 (PDF) Use pkgcode/variation: P8-3*	0°C to +70°C	RoHS/Lead-Free: No Materials Analysis
MAX6225ACPA+			PDIP;8 pin; Dwg: 21-0043 (PDF) Use pkgcode/variation: P8+3*	0°C to +70°C	RoHS/Lead-Free: Lead Free Materials Analysis
MAX6225AEPA+			PDIP;8 pin; Dwg: 21-0043 (PDF) Use pkgcode/variation: P8+3*	-40°C to +85°C	RoHS/Lead-Free: Lead Free Materials Analysis
MAX6225AEPA			PDIP;8 pin; Dwg: 21-0043 (PDF) Use pkgcode/variation: P8-3*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6225BCPA+			PDIP;8 pin; Dwg: 21-0043 (PDF) Use pkgcode/variation: P8+3*	-55°C to +125°C	RoHS/Lead-Free: Lead Free Materials Analysis
MAX6225BEPA+			PDIP;8 pin; Dwg: 21-0043 (PDF) Use pkgcode/variation: P8+3*	-55°C to +125°C	RoHS/Lead-Free: Lead Free Materials Analysis
MAX6225BEPA			PDIP;8 pin; Dwg: 21-0043 (PDF) Use pkgcode/variation: P8-3*	-55°C to +125°C	RoHS/Lead-Free: No Materials Analysis
MAX6225BCPA			PDIP;8 pin; Dwg: 21-0043 (PDF) Use pkgcode/variation: P8-3*	-55°C to +125°C	RoHS/Lead-Free: No Materials Analysis

MAX6241ACSA+T			SOIC;8 pin; Dwg: 21-0041 (PDF) Use pkgcode/variation: S8+5*	0°C to +70°C	RoHS/Lead-Free: Lead Free Materials Analysis
MAX6241AESA+			SOIC;8 pin; Dwg: 21-0041 (PDF) Use pkgcode/variation: S8+5*	-40°C to +85°C	RoHS/Lead-Free: Lead Free Materials Analysis
MAX6241AESA+T			SOIC;8 pin; Dwg: 21-0041 (PDF) Use pkgcode/variation: S8+5*	-40°C to +85°C	RoHS/Lead-Free: Lead Free Materials Analysis
MAX6241AESA			SOIC;8 pin; Dwg: 21-0041 (PDF) Use pkgcode/variation: S8-5*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6241AESA-T			SOIC;8 pin; Dwg: 21-0041 (PDF) Use pkgcode/variation: S8-5*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6241BESA-T			SOIC;8 pin; Dwg: 21-0041 (PDF) Use pkgcode/variation: S8-5*	-55°C to +125°C	RoHS/Lead-Free: No Materials Analysis
MAX6241BCSA-T			SOIC;8 pin; Dwg: 21-0041 (PDF) Use pkgcode/variation: S8-5*	-55°C to +125°C	RoHS/Lead-Free: No Materials Analysis
MAX6241BCSA+			SOIC;8 pin; Dwg: 21-0041 (PDF) Use pkgcode/variation: S8+5*	-55°C to +125°C	RoHS/Lead-Free: Lead Free Materials Analysis
MAX6241BESA			SOIC;8 pin; Dwg: 21-0041 (PDF) Use pkgcode/variation: S8-5*	-55°C to +125°C	RoHS/Lead-Free: No Materials Analysis
MAX6241BCSA+T			SOIC;8 pin; Dwg: 21-0041 (PDF) Use pkgcode/variation: S8+5*	-55°C to +125°C	RoHS/Lead-Free: Lead Free Materials Analysis
MAX6241BCSA			SOIC;8 pin; Dwg: 21-0041 (PDF) Use pkgcode/variation: S8-5*	-55°C to +125°C	RoHS/Lead-Free: No Materials Analysis
MAX6241BESA+			SOIC;8 pin; Dwg: 21-0041 (PDF) Use pkgcode/variation: S8+5*	-55°C to +125°C	RoHS/Lead-Free: Lead Free Materials Analysis
MAX6241BESA+T			SOIC;8 pin; Dwg: 21-0041 (PDF) Use pkgcode/variation: S8+5*	-55°C to +125°C	RoHS/Lead-Free: Lead Free Materials Analysis
MAX6250	**Free Sample**	**Buy**	**Package: TYPE PINS FOOTPRINT DRAWING CODE/VAR ***	**Temp**	**RoHS/Lead-Free? Materials Analysis**

MAX6250AESA-T			SOIC;8 pin; Dwg: 21-0041 (PDF) Use pkgcode/variation: S8-5*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6250AESA+T			SOIC;8 pin; Dwg: 21-0041 (PDF) Use pkgcode/variation: S8+5*	-40°C to +85°C	RoHS/Lead-Free: Lead Free Materials Analysis
MAX6250BCSA			SOIC;8 pin; Dwg: 21-0041 (PDF) Use pkgcode/variation: S8-5*	-55°C to +125°C	RoHS/Lead-Free: No Materials Analysis
MAX6250BCSA-T			SOIC;8 pin; Dwg: 21-0041 (PDF) Use pkgcode/variation: S8-5*	-55°C to +125°C	RoHS/Lead-Free: No Materials Analysis
MAX6250BCSA+			SOIC;8 pin; Dwg: 21-0041 (PDF) Use pkgcode/variation: S8+5*	-55°C to +125°C	RoHS/Lead-Free: Lead Free Materials Analysis
MAX6250BCSA+T			SOIC;8 pin; Dwg: 21-0041 (PDF) Use pkgcode/variation: S8+5*	-55°C to +125°C	RoHS/Lead-Free: Lead Free Materials Analysis
MAX6250BESA+			SOIC;8 pin; Dwg: 21-0041 (PDF) Use pkgcode/variation: S8+5*	-55°C to +125°C	RoHS/Lead-Free: Lead Free Materials Analysis
MAX6250BESA-T			SOIC;8 pin; Dwg: 21-0041 (PDF) Use pkgcode/variation: S8-5*	-55°C to +125°C	RoHS/Lead-Free: No Materials Analysis
MAX6250BESA			SOIC;8 pin; Dwg: 21-0041 (PDF) Use pkgcode/variation: S8-5*	-55°C to +125°C	RoHS/Lead-Free: No Materials Analysis
MAX6250BESA+T			SOIC;8 pin; Dwg: 21-0041 (PDF) Use pkgcode/variation: S8+5*	-55°C to +125°C	RoHS/Lead-Free: Lead Free Materials Analysis

Low-Noise, Precision, +2.5V/+4.096V/+5V Voltage References

General Description

The MAX6225/MAX6241/MAX6250 are low-noise, precision voltage references with extremely low 1ppm/°C temperature coefficients and excellent ±0.02% initial accuracy. These devices feature buried-zener technology for lowest noise performance. Load-regulation specifications are guaranteed for source and sink currents up to 15mA. Excellent line and load regulation and low output impedance at high frequency make them ideal for high-resolution data-conversion systems up to 16 bits.

The MAX6225 is set for 2.500V output, the MAX6241 is set for 4.096V output, and the MAX6250 is set for 5.000V output. All three provide for the option of external trimming and noise reduction.

Applications

High-Resolution Analog-to-Digital and Digital-to-Analog Converters

High-Accuracy Reference Standard

High-Accuracy Industrial and Process Control

Digital Voltmeters

ATE Equipment

Precision Current Sources

Features

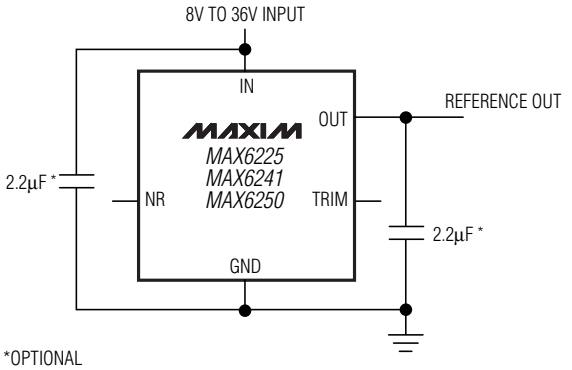
- **Low 1.0ppm/°C Temperature Coefficient**
- **Very Low 1.5µVp-p Noise (0.1Hz to 10Hz)**
- **±0.02% Initial Accuracy**
- **±15mA Output Source and Sink Current**
- **Low, 18mW Power Consumption (MAX6225)**
- **Industry-Standard Pinout**
- **Optional Noise Reduction and Voltage Trim**
- **Excellent Transient Response**
- **8-Pin SO Package Available**
- **Low 20ppm/1000hr Long-Term Stability**
- **Stable for All Capacitive Loads**

Ordering Information

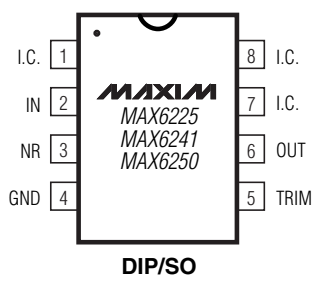
PART	TEMP. RANGE	PIN-PACKAGE	MAX TEMPCO (ppm/°C)
MAX6225ACPA	0°C to +70°C	8 Plastic DIP	2.0
MAX6225BCPA	0°C to +70°C	8 Plastic DIP	5.0
MAX6225ACSA	0°C to +70°C	8 SO	2.0
MAX6225BCSA	0°C to +70°C	8 SO	5.0
MAX6225AEPA	-40°C to +85°C	8 Plastic DIP	3.0
MAX6225BEPA	-40°C to +85°C	8 Plastic DIP	7.0
MAX6225AESA	-40°C to +85°C	8 SO	3.0
MAX6225BESA	-40°C to +85°C	8 SO	7.0
MAX6225AMJA	-55°C to +125°C	8 CERDIP	5.0
MAX6225BMJA	-55°C to +125°C	8 CERDIP	8.0

Ordering Information continued at end of data sheet.

Typical Operating Circuit



Pin Configuration



DIP/SO

I.C. = INTERNALLY CONNECTED; DO NOT USE

Low-Noise, Precision, +2.5V/+4.096V/+5V Voltage References

ABSOLUTE MAXIMUM RATINGS

(Voltages Referenced to GND)
IN .....-0.3V to +40V
OUT, TRIM .....-0.3V to +12V
NR .....-0.3V to +6V
OUT Short-Circuit to GND Duration (V_{IN} ≤ 12V).....Continuous
OUT Short-Circuit to GND Duration (V_{IN} ≤ 40V) 5s
OUT Short-Circuit to IN Duration (V_{IN} ≤ 12V) .....Continuous
Continuous Power Dissipation (T_A = +70°C)
8-Pin Plastic DIP (derate 9.09mW/°C above +70°C) 727mW
8-Pin SO (derate 5.88mW/°C above +70°C).....471mW
8-Pin CERDIP (derate 8.00mW/°C above +70°C).....640mW

Operating Temperature Ranges
MAX62_ _ _C_ A.....0°C to +70°C
MAX62_ _ _E_ A.....-40°C to +85°C
MAX62_ _ _MJA .....-55°C to +125°C
Storage Temperature Range .....-65°C to +150°C
Lead Temperature (soldering, 10s).....+300°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.

ELECTRICAL CHARACTERISTICS—MAX6225

(V_{IN} = +10V, I_{OUT} = 0mA, T_A = T_{MIN} to T_{MAX}, unless otherwise noted. Typical values are at T_A = +25°C.)

PARAMETER	SYMBOL	CONDITIONS	T_A	MIN	TYP	MAX	UNITS
Input Voltage Range	V_{IN}		C, E, M	8		36	V
Output Voltage	V_{OUT}	MAX6225A	+25°C	2.499	2.500	2.501	V
		MAX6225B	+25°C	2.497	2.500	2.503	
Output Voltage Temperature Coefficient (Note 1)	TCV_{OUT}	MAX6225AC_A	C		1.0	2.0	ppm/°C
		MAX6225AE_A	E		1.5	3.0	
		MAX6225AMJA	M		2.0	5.0	
		MAX6225BC_A	C		2.5	5.0	
		MAX6225BE_A	E		2.5	7.0	
		MAX6225BMJA	M		2.5	8.0	
Line Regulation (Note 2)	ΔV_{OUT} / ΔV_{IN}	8V ≤ V_{IN} ≤ 10V	+25°C		10	18	ppm/V
			C			30	
			E			35	
			M			45	
		10V ≤ V_{IN} ≤ 36V	+25°C		2	5	
			C			7	
			E			8	
			M			10	

ELECTRICAL CHARACTERISTICS—MAX6225 (continued)

(V_{IN} = +10V, I_{OUT} = 0mA, T_A = T_{MIN} to T_{MAX}, unless otherwise noted. Typical values are at T_A = +25°C.)

PARAMETER	SYMBOL	CONDITIONS	T_A	MIN	TYP	MAX	UNITS
Load Regulation (Note 2)	$\Delta V_{OUT}/\Delta I_{OUT}$	Sourcing: 0mA ≤ I_{OUT} ≤ 15mA	C		1	6	ppm/mA
			E		1	7	
			M		3	15	
		Sinking: -15mA ≤ I_{OUT} ≤ 0mA	C		1	6	
			E		1	7	
			M		10	30	
Supply Current	I_{IN}		+25°C		1.8	2.7	mA
			C, E, M			3.0	
Trim-Adjustment Range	ΔV_{OUT}	Figure 1	C, E, M	±15	±25		mV
Turn-On Settling Time	t_{ON}	To ±0.01% of final value	+25°C		5		µs
Output Noise Voltage (Note 3)	e_n	0.1Hz ≤ f ≤ 10Hz	+25°C		1.5		μV_{p-p}
		10Hz ≤ f ≤ 1kHz	+25°C		1.3	2.8	μV_{RMS}
Temperature Hysteresis		(Note 4)	+25°C		20		ppm
Long-Term Stability	ΔV_{OUT} / t		+25°C		20		ppm/ 1000hr

Low-Noise, Precision, +2.5V/+4.096V/+5V Voltage References

ELECTRICAL CHARACTERISTICS—MAX6241

(V_{IN} = +10V, I_{OUT} = 0mA, T_A = T_{MIN} to T_{MAX}, unless otherwise noted. Typical values are at T_A = +25°C.)

PARAMETER	SYMBOL	CONDITIONS	T_A	MIN	TYP	MAX	UNITS
Input Voltage Range	V_{IN}		C, E, M	8		36	V
Output Voltage	V_{OUT}	MAX6241A	+25°C	4.095	4.096	4.097	V
		MAX6241B	+25°C	4.092	4.096	4.100	
Output Voltage Temperature Coefficient (Note 1)	TCV_{OUT}	MAX6241AC_A	C		1.0	2.0	ppm/°C
		MAX6241AE_A	E		1.5	3.0	
		MAX6241AMJA	M		2.0	5.0	
		MAX6241BC_A	C		2.5	5.0	
		MAX6241BE_A	E		2.5	7.0	
		MAX6241BMJA	M		2.5	8.0	
Line Regulation (Note 2)	ΔV_{OUT} / ΔV_{IN}	8V ≤ V_{IN} ≤ 10V	+25°C		10	18	ppm/V
			C			30	
			E			35	
			M			45	
		10V ≤ V_{IN} ≤ 36V	+25°C		2	5	
			C			7	
			E			8	
			M			10	
Load Regulation (Note 2)	ΔV_{OUT} / ΔI_{OUT}	Sourcing: 0mA ≤ I_{OUT} ≤ 15mA	C		1	6	ppm/mA
			E		1	7	
			M		3	9	
		Sinking: -15mA ≤ I_{OUT} ≤ 0mA	C		1	6	
			E		1	7	
			M		7	18	
Supply Current	I_{IN}		+25°C		1.9	2.9	mA
			C, E, M			3.2	
Trim-Adjustment Range	ΔV_{OUT}	Figure 1	C, E, M	±24	±40		mV
Turn-On Settling Time	t_{ON}	To ±0.01% of final value	+25°C		8		µs
Output Noise Voltage (Note 3)	e_n	0.1Hz ≤ f ≤ 10Hz	+25°C		2.4		µVp-p
		10Hz ≤ f ≤ 1kHz	+25°C		2.0	4.0	μV_{RMS}
Temperature Hysteresis		(Note 4)	+25°C		20		ppm
Long-Term Stability	ΔV_{OUT} / t		+25°C		20		ppm/ 1000hr

ELECTRICAL CHARACTERISTICS—MAX6250

(V_{IN} = +10V, I_{OUT} = 0mA, T_A = T_{MIN} to T_{MAX}, unless otherwise noted. Typical values are at T_A = +25°C.)

PARAMETER	SYMBOL	CONDITIONS	T_A	MIN	TYP	MAX	UNITS
Input Voltage Range	V_{IN}		C, E, M	8		36	V
Output Voltage	V_{OUT}	MAX6250A	+25°C	4.999	5.000	5.001	V
		MAX6250B	+25°C	4.995	5.000	5.005	
Output Voltage Temperature Coefficient (Note 1)	TCV_{OUT}	MAX6250AC_A	C		1.0	2.0	ppm/°C
		MAX6250AE_A	E		1.5	3.0	
		MAX6250AMJA	M		2.0	5.0	
		MAX6250BC_A	C		2.5	5.0	
		MAX6250BE_A	E		2.5	7.0	
		MAX6250BMJA	M		2.5	8.0	
Line Regulation (Note 2)	$\Delta V_{OUT} / \Delta V_{IN}$	8V ≤ V_{IN} ≤ 10V	+25°C		10	18	ppm/V
			C			30	
			E			35	
			M			45	
		10V ≤ V_{IN} ≤ 36V	+25°C		2	5	
			C			7	
			E			8	
			M			10	
Load Regulation (Note 2)	$\Delta V_{OUT} / \Delta I_{OUT}$	Sourcing: 0mA ≤ I_{OUT} ≤ 15mA	C		1	6	ppm/mA
			E		1	7	
			M		2	9	
		Sinking: -15mA ≤ I_{OUT} ≤ 0mA	C		1	6	
			E		1	7	
			M		6	15	
Supply Current	I_{IN}		+25°C		2.0	3.0	mA
			C, E, M			3.3	
Trim-Adjustment Range	ΔV_{OUT}	Figure 1	C, E, M	±30	±50		mV
Turn-On Settling Time	t_{on}	To ±0.01% of final value	+25°C		10		µs
Output Noise Voltage (Note 3)	e_n	0.1Hz ≤ f ≤ 10Hz	+25°C		3.0		µVp-p
		10Hz ≤ f ≤ 1kHz	+25°C		2.5	5.0	μV_{RMS}
Temperature Hysteresis		(Note 4)	+25°C		20		ppm
Long-Term Stability	ΔV_{OUT} / t		+25°C		20		ppm/ 1000hr

Note 1: Temperature coefficient is measured by the box method; i.e., the maximum ΔV_{OUT} is divided by $\Delta T \times V_{OUT}$.

Note 2: Line regulation (ΔV_{OUT} / ($V_{OUT} \times \Delta V_{IN}$)) and load regulation ($\Delta V_{OUT}$ / ($V_{OUT} \times \Delta I_{OUT}$)) are measured with pulses and do not include output voltage changes due to die-temperature changes.

Note 3: Noise specifications are guaranteed by design.

Note 4: Temperature hysteresis is specified at T_A = +25°C by measuring V_{OUT} before and after changing temperature by +25°C using the PDIP package.

Low-Noise, Precision, +2.5V/+4.096V/+5V Voltage References

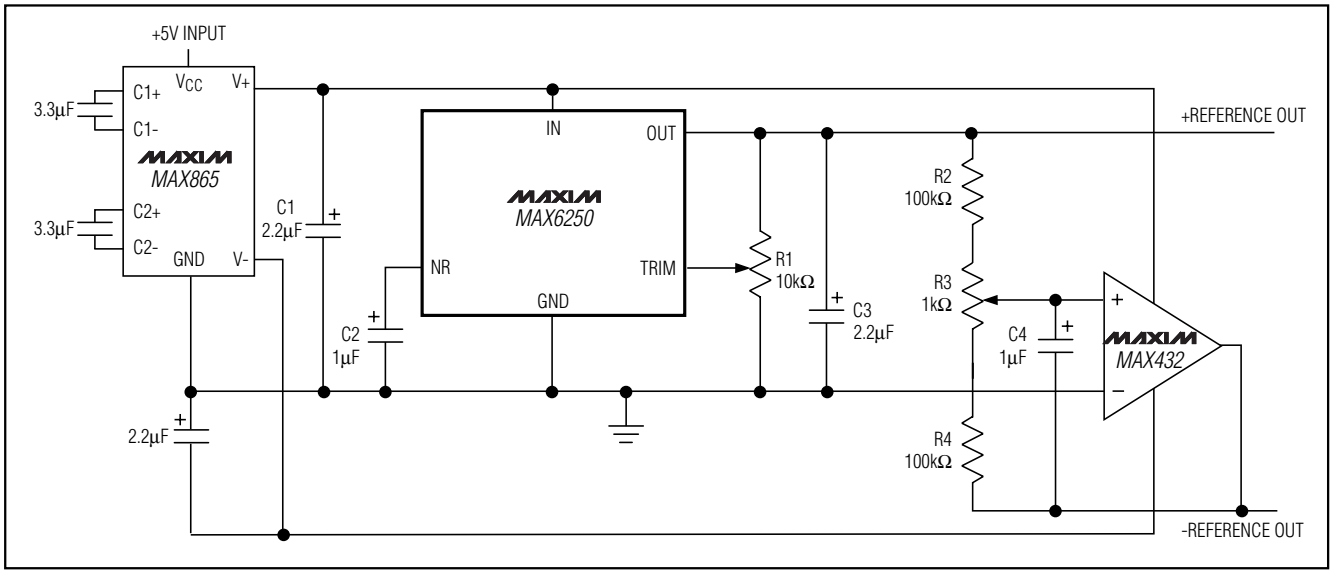


Figure 3. +5V and -5V References from a Single +5V Supply

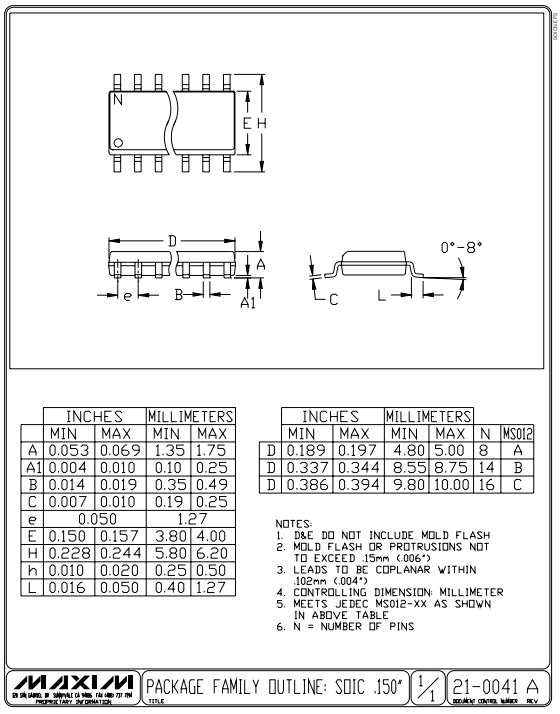
Ordering Information (continued)

PART	TEMP. RANGE	PIN-PACKAGE	MAX TEMPCO (ppm/°C)
MAX6241ACPA	0°C to +70°C	8 Plastic DIP	2.0
MAX6241BCPA	0°C to +70°C	8 Plastic DIP	5.0
MAX6241ACSA	0°C to +70°C	8 SO	2.0
MAX6241BCSA	0°C to +70°C	8 SO	5.0
MAX6241AEPA	-40°C to +85°C	8 Plastic DIP	3.0
MAX6241BEPA	-40°C to +85°C	8 Plastic DIP	7.0
MAX6241AESA	-40°C to +85°C	8 SO	3.0
MAX6241BESA	-40°C to +85°C	8 SO	7.0
MAX6241AMJA	-55°C to +125°C	8 CERDIP	5.0
MAX6241BMJA	-55°C to +125°C	8 CERDIP	8.0
MAX6250ACPA	0°C to +70°C	8 Plastic DIP	2.0
MAX6250BCPA	0°C to +70°C	8 Plastic DIP	5.0
MAX6250ACSA	0°C to +70°C	8 SO	2.0
MAX6250BCSA	0°C to +70°C	8 SO	5.0
MAX6250AEPA	-40°C to +85°C	8 Plastic DIP	3.0
MAX6250BEPA	-40°C to +85°C	8 Plastic DIP	7.0
MAX6250AESA	-40°C to +85°C	8 SO	3.0
MAX6250BESA	-40°C to +85°C	8 SO	7.0
MAX6250AMJA	-55°C to +125°C	8 CERDIP	5.0
MAX6250BMJA	-55°C to +125°C	8 CERDIP	8.0

Chip Information

TRANSISTOR COUNT: 435

Package Information

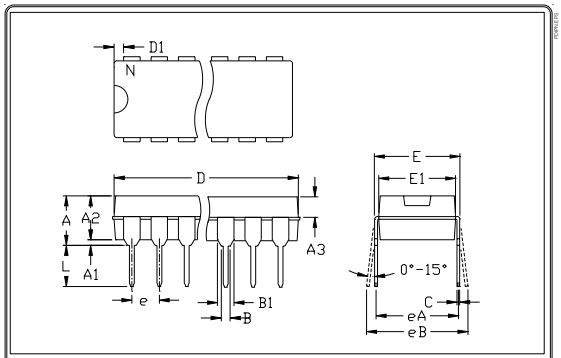


	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.053	0.069	1.35	1.75
A1	0.004	0.010	0.10	0.25
B	0.014	0.019	0.35	0.49
C	0.007	0.010	0.19	0.25
e	0.050		1.27	
E	0.150	0.157	3.80	4.00
H	0.228	0.244	5.80	6.20
h	0.010	0.020	0.25	0.50
L	0.016	0.050	0.40	1.27

	INCHES		MILLIMETERS			
	MIN	MAX	MIN	MAX	N	MS012
D	0.189	0.197	4.80	5.00	8	A
D	0.337	0.344	8.55	8.75	14	B
D	0.386	0.394	9.80	10.00	16	C

NOTES:
1. D&E DO NOT INCLUDE MOLD FLASH
2. MOLD FLASH OR PROTRUSIONS NOT TO EXCEED .15mm (.006")
3. LEADS TO BE COPLANAR WITHIN .102mm (.004")
4. CONTROLLING DIMENSION: MILLIMETER
5. MEETS JEDEC MS012-XX AS SHOWN IN ABOVE TABLE
6. N = NUMBER OF PINS

MAXIM | PACKAGE FAMILY OUTLINE: SOIC .150" | 1/1 | 21-0041 A



	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	---	0.200	---	5.08
A1	0.015	---	0.38	---
A2	0.125	0.175	3.18	4.45
A3	0.055	0.080	1.40	2.03
B	0.016	0.022	0.41	0.56
B1	0.045	0.065	1.14	1.65
C	0.008	0.012	0.20	0.30
D1	0.005	0.080	0.13	2.03
E	0.300	0.325	7.62	8.26
E1	0.240	0.310	6.10	7.87
e	0.100	---	2.54	---
eA	0.300	---	7.62	---
eB	---	0.400	---	10.16
L	0.115	0.150	2.92	3.81

	INCHES		MILLIMETERS			
	MIN	MAX	MIN	MAX	N	MS001
D	0.348	0.390	8.84	9.91	8	AB
D	0.735	0.765	18.67	19.43	14	AC
D	0.745	0.765	18.92	19.43	16	AA
D	0.885	0.915	22.48	23.24	18	AD
D	1.015	1.045	25.78	26.54	20	AE
D	1.14	1.265	28.96	32.13	24	AF
D	1.360	1.380	34.54	35.05	28	*5

NOTES:
1. D&E DO NOT INCLUDE MOLD FLASH
2. MOLD FLASH OR PROTRUSIONS NOT TO EXCEED .15mm (.006")
3. CONTROLLING DIMENSION: MILLIMETER
4. MEETS JEDEC MS001-XX AS SHOWN IN ABOVE TABLE
5. SIMILIAR TO JEDEC MO-058AB
6. N = NUMBER OF PINS

MAXIM | PACKAGE FAMILY OUTLINE: PDIP .300" | 1/1 | 21-0043 A