

50ppm/°C, SOT23, 3-Terminal, 1.2V Voltage Reference

ABSOLUTE MAXIMUM RATINGS

Supply Voltage (V_{IN})-0.3V to +12V
 V_{OUT} -0.3V to ($V_{IN} + 0.3V$)
 Output Short-Circuit DurationContinuous to Either Supply
 Continuous Power Dissipation ($T_A = +70^\circ\text{C}$)
 SOT23 (derate 4mW/°C above $+70^\circ\text{C}$)320mW

Operating Temperature Range-40°C to +85°C
 Storage Temperature Range-65°C to +160°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.

DC ELECTRICAL CHARACTERISTICS

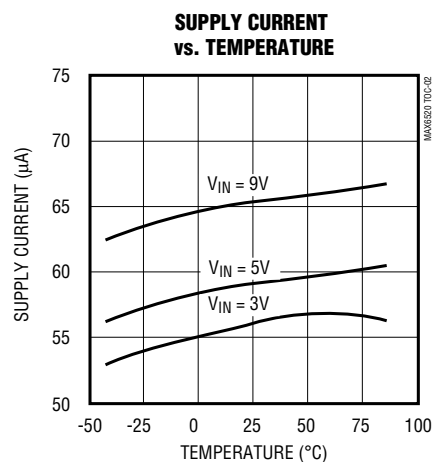
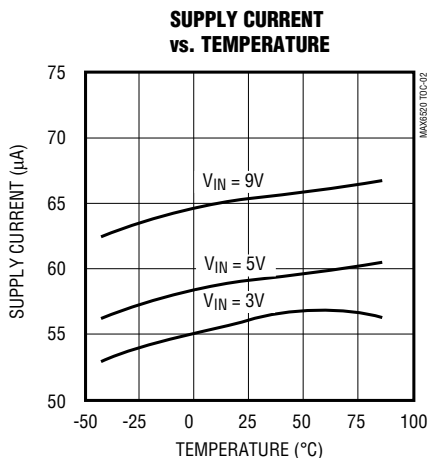
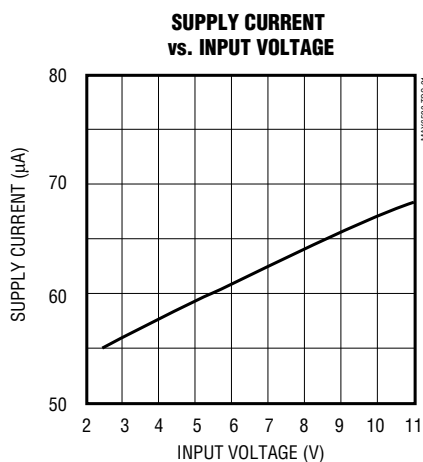
($V_{IN} = 2.4V$, $I_{LOAD} = 0mA$, $T_A = +25^\circ\text{C}$, unless otherwise noted.)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Output Voltage	V_{OUT}	MAX6520EUR				
		$T_A = +25^\circ\text{C}$	1.188	1.200	1.212	V
		$T_A = T_{MIN}$ to T_{MAX}	1.176		1.224	V
Output Voltage Temperature Coefficient	TCV_{OUT}	MAX6520EUR, $T_A = T_{MIN}$ to T_{MAX}		25	50	ppm/°C
Output Voltage Noise	e_n	0.1Hz to 10Hz		10		$\mu\text{Vp-p}$
		10Hz to 10kHz		400		
Line Regulation	V_{OUT}/V_{IN}	$V_{IN} = 2.4V$ to $11V$, $T_A = T_{MIN}$ to T_{MAX} (Note 1)		2	30	$\mu\text{V/V}$
Load Regulation	V_{OUT}/I_{OUT}	$I_{LOAD} = -50\mu\text{A}$ to $400\mu\text{A}$ (Note 1)		0.1	1	$\mu\text{V}/\mu\text{A}$
Quiescent Supply Current	I_Q	$T_A = +25^\circ\text{C}$		50	58	μA
		$T_A = T_{MIN}$ to T_{MAX} (Note 1)			70	
Change in Supply Current vs. Input Voltage	I_Q/V_{IN}	$V_{IN} = 2.4V$ to $11V$		1.5	5	$\mu\text{A/V}$
Short-Circuit Output Current	I_{SC}	V_{OUT} shorted to GND		4.3		mA
		V_{OUT} shorted to V_{IN}		400		μA

Note 1: Production testing done at $T_A = +25^\circ\text{C}$, over temperature limits guaranteed by parametric correlation data.

Typical Operating Characteristics

($V_{IN} = 3V$, $I_{LOAD} = 0mA$, $T_A = +25^\circ\text{C}$, unless otherwise noted.)

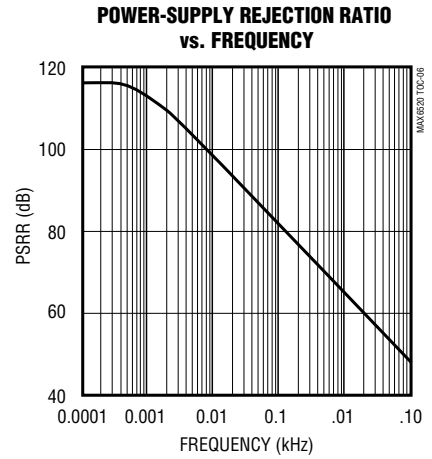
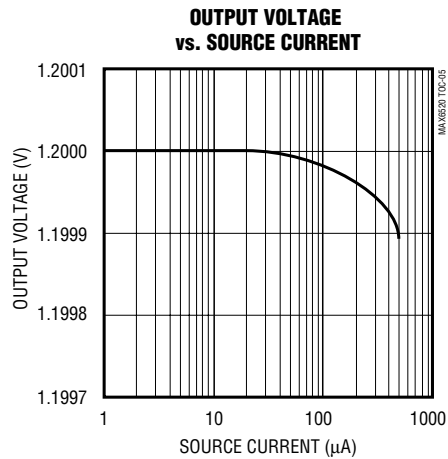
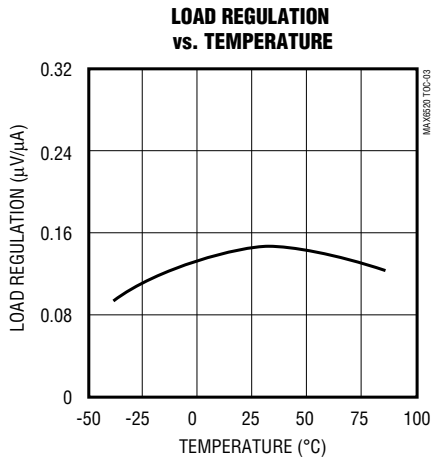


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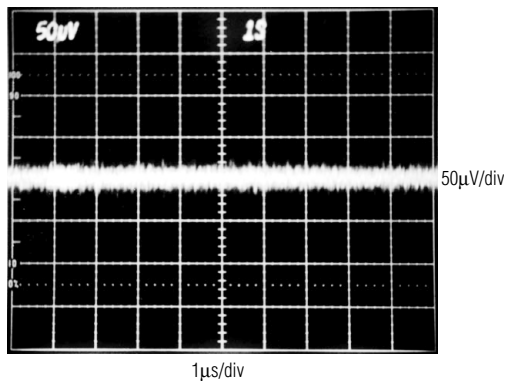
MAX6520

Typical Operating Characteristics (continued)

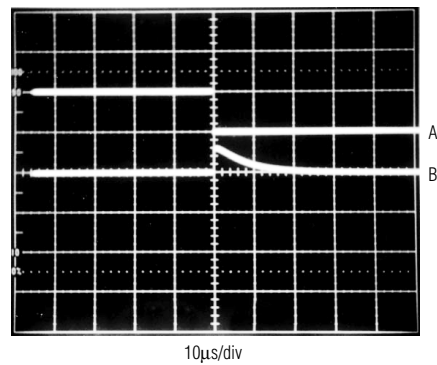
($V_{IN} = 3V$, $I_{LOAD} = 0mA$, $T_A = +25^\circ C$, unless otherwise noted.)



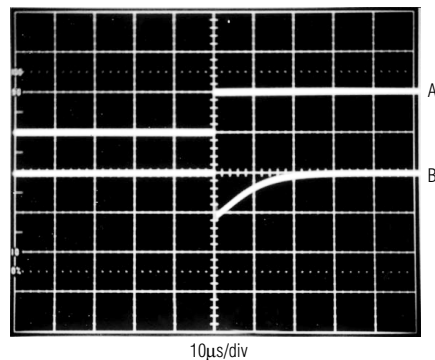
0.1Hz TO 100Hz NOISE



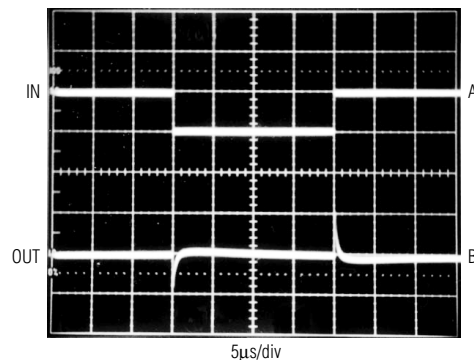
LOAD-TRANSIENT RESPONSE



LOAD-TRANSIENT RESPONSE



LINE-TRANSIENT RESPONSE



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Pin Description

PIN	NAME	FUNCTION
1	V _{IN}	Input Voltage
2	V _{OUT}	Reference Output
3	GND	Ground

Applications Information

Input Bypassing

For the best line-transient performance, decouple the input with a 0.1μF ceramic capacitor as shown in the *Typical Operating Circuit*. Locate the capacitor as close to the device pin as possible. Where transient performance is less important, no capacitor is necessary.

Output Bypass

The MAX6520 performs well without an output decoupling capacitor. If your application requires an output charge reservoir (e.g., to decouple the reference from the input of a DAC), then make sure that the total output capacitive load does not exceed 10nF.

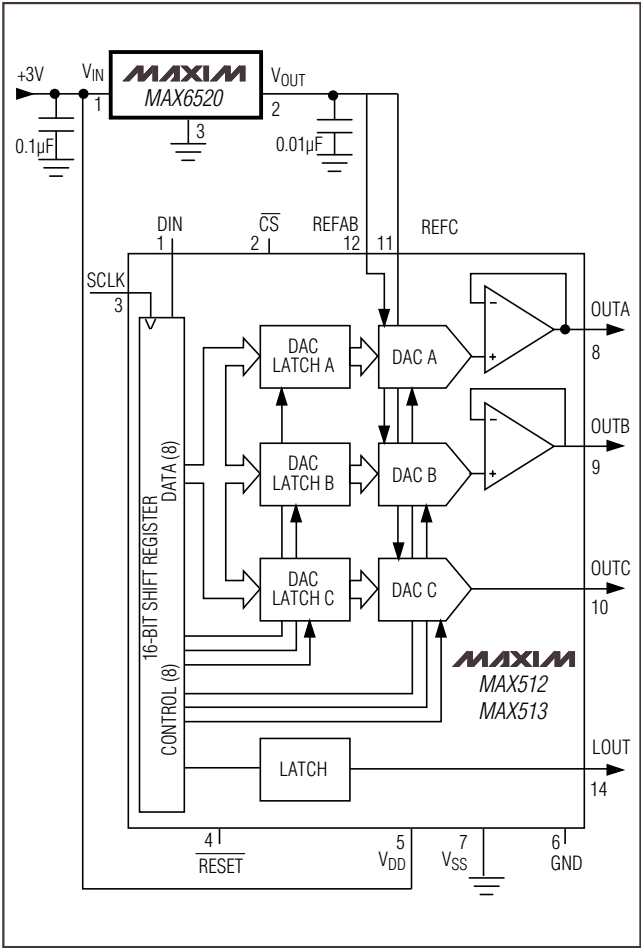


Figure 1. 3V, Triple, 8-Bit Serial DAC

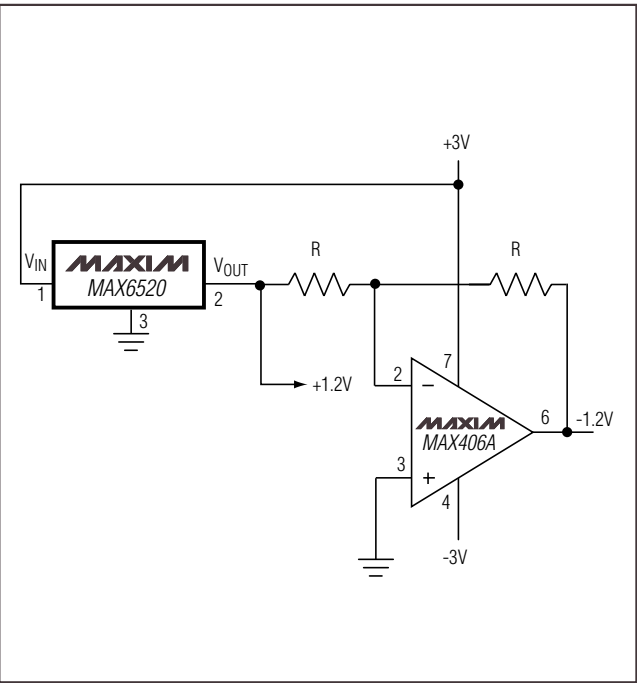


Figure 2. Low-Power ±1.2V Reference

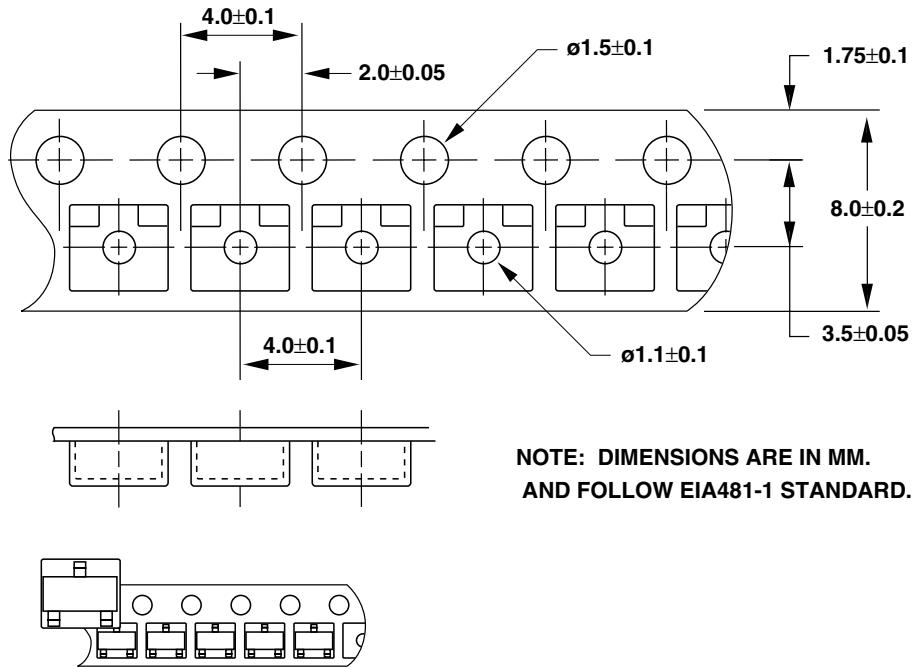
Chip Information

TRANSISTOR COUNT: 39

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Tape-and-Reel Information

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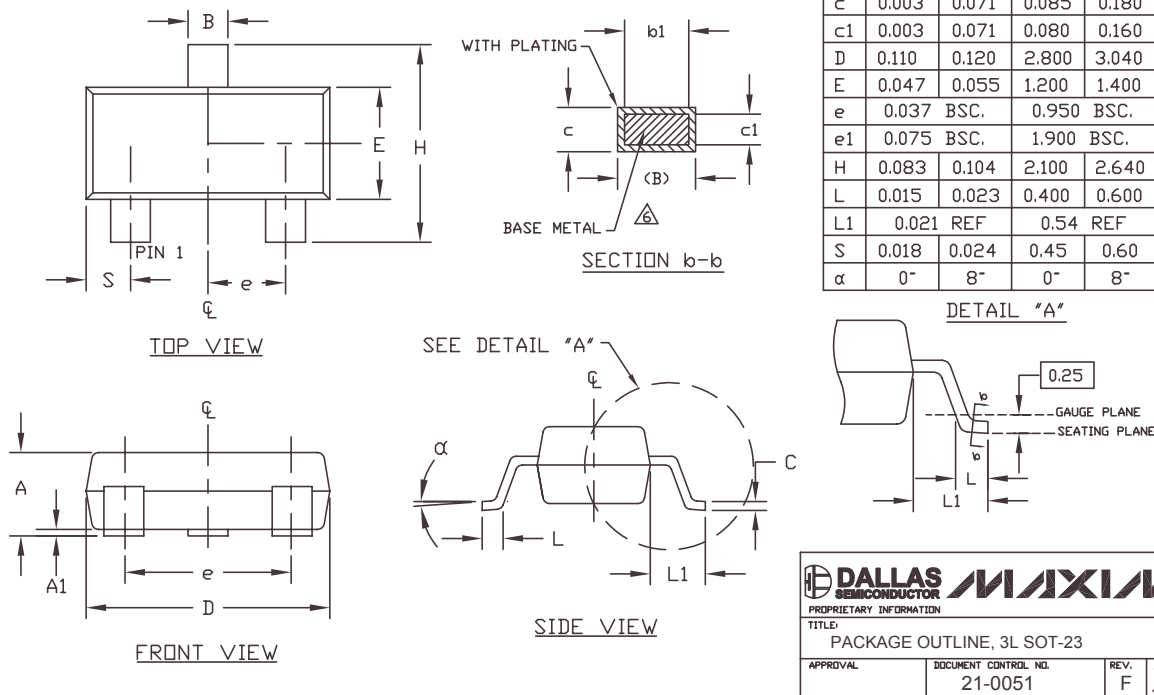
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Package Information

(The package drawing(s) in this data sheet may not reflect the most current specifications. For the latest package outline information go to www.maxim-ic.com/packages.)

NOTES:

1. D&E DO NOT INCLUDE MOLD FLASH.
 2. MOLD FLASH OR PROTRUSIONS NOT TO EXCEED .15mm (.006").
 3. CONTROLLING DIMENSION: MILLIMETERS.
 4. REFERENCE JEDEC TO236-VARIATION AB.
 5. LEADS TO BE COPLANAR WITHIN 0.10mm.
- △ DIMENSIONS MEASURED AT FLAT SECTION OF LEAD BETWEEN 0.08mm AND 0.15mm FROM LEAD TIP.



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