

# Precision Voltage References

## Standard Series Mode References

Part Number	Output Voltage (V)	Initial Accuracy (%)	Supply Voltage Range (V)	I <sub>SY</sub> (μA)	Tempco (ppm/°C)	Output Current Source/Sink (mA)	0.1 Hz to 10 Hz Noise (μV p-p)	Low Dropout Device	Package						Price @ 1k (\$U.S.)
									SC70	SOT-23	MSOP	TSSOP	SOIC	Other <sup>1</sup>	
ADR130	0.5	0.35, 0.70	2.0 to 18	150	25, 50	4/2	3	•	•						0.92/1.51
ADR130	1	0.35, 0.70	2.0 to 18	150	25, 50	4/2	6	•	•						0.92/1.51
ADR280*	1.2	0.4	2.4 to 5.5	16	40	0.1	12.5 rms <sup>2</sup>		•	•					0.82
ADR3412	1.2	0.1	2.3 to 5.5	100	8	10/3	8			•					0.93
ADR127	1.25	0.12, 0.24	2.7 to 18	125	9, 25	5/2	9	•	•						1.11/1.83
ADR827	1.25	0.2, 0.4	2.7 to 15	400	15, 30	5/3	8	•			•				1.11/1.45
ADR3420	2.048	0.1	2.3 to 5.5	100	8	10/3	15	•		•					0.93
ADR4520	2.048	0.02, 0.04	3.0 to 15	950	2, 4	10/10	1	•					•		2.45/3.45
ADR430	2.048	0.05, 0.15	4.1 to 18	800	3, 10	10/10	3.5				•		•		2.96/4.34
ADR440	2.048	0.05, 0.15	3.0 to 18	3750	3, 10	10/5	1	•			•		•		2.78/3.91
ADR360	2.048	0.15, 0.29	2.35 to 15	190	9, 25	5/1	6.8	•		•					0.84/1.29
ADR420	2.048	0.05, 0.15	4.0 to 18	600	3, 10	10	1.75				•		•		2.88/4.43
REF191	2.048	0.1, 0.49	3.0 to 15	45	5, 25	25	20	•					•		1.44/2.59
ADR380	2.048	0.24	2.4 to 18	140	25	5	5	•		•					0.78
ADR225	2.5	0.4, 2.4	3.3 to 15	50	30, 80	10	25	•					•	•	73.00/83.00
ADR3425	2.5	0.1	2.7 to 5.5	100	8	10/3	18	•		•					0.93
ADR3525W	2.5	0.1	2.7 to 5.5	100	5, 8	10/3	18	•			•				1.14/1.90
ADR4525	2.5	0.02, 0.04	3.0 to 15	950	2, 4	10/10	1.25	•					•		2.45/3.45
ADR431	2.5	0.04, 0.12	4.5 to 18	800	3, 10	10/10	3.5				•		•		2.96/4.41
ADR441	2.5	0.04, 0.12	3.0 to 18	3750	3, 10	10/5	1.2	•			•		•		2.78/3.91
ADR361	2.5	0.12, 0.24	2.8 to 15	190	9, 25	5/1	8.25	•		•					0.82/1.29
ADR421	2.5	0.04, 0.12	4.5 to 18	600	3, 10	10	1.75				•		•		2.88/4.43
AD780	2.5	0.04, 0.2	4.0 to 36	1 mA	3, 7	10/10	4						•	•	4.18/6.32
ADR03	2.5	0.1, 0.2	4.5 to 36	1 mA	3, 9, 10, 25	10	6		•	•			•		1.05/2.28
AD580	2.5	0.4	4.5 to 30	1.5 mA	10, 25, 40, 85	10	8							•	4.62/8.14
AD584	2.5	0.1, 0.14, 0.3	5.0 to 30	1 mA	10, 15, 30	5	50							•	3.17/6.26
REF43	2.5	0.1, 0.6	4.5 to 40	450	10, 25	20/1.2	7						•	•	3.84/10.66
REF192	2.5	0.08, 0.2, 0.4	3.0 to 15	45	5, 10, 25	25	25	•			•		•		1.44/2.59
ADR291*	2.5	0.08, 0.12, 0.24	3.0 to 15	15	10, 20, 30	5	8	•			•		•		2.56/5.66
ADR391	2.5	0.16, 0.24	2.8 to 15	140	9, 25	5	5	•		•					0.88/1.35
AD680	2.5	0.2, 0.4	4.5 to 36	280	20, 25, 30	10	10						•	•	1.84/3.47
ADR381	2.5	0.24	2.8 to 18	140	25	5	5	•		•					0.78
AD1582	2.5	0.08, 0.8	2.7 to 12	70	50, 100	5/5	70	•		•					0.62/0.86
REF03	2.5	0.6	4.5 to 33	1.4 mA	50	10/0.5	6						•	•	1.25
ADR3430	3	0.1	3.2 to 5.5	100	8	10/3	22	•		•					0.93
ADR3530W	3	0.1	3.2 to 5.5	100	5, 8	10/3	22	•			•				1.14/1.90
ADR4530	3	0.02, 0.04	3.1 to 15	950	2, 4	10/10	1.6	•					•		2.45/3.45
ADR433	3	0.05, 0.13	5.0 to 18	800	3, 10	10/10	3.75				•		•		3.85/4.41
ADR363	3	0.1, 0.2	3.3 to 15	190	9, 25	5/1	8.7	•		•					0.82/1.29
ADR423	3	0.04, 0.13	5.0 to 18	600	3, 10	10	2				•		•		2.88/4.43
ADR06	3	0.1, 0.2	5.0 to 36	1 mA	3, 9, 25	10	10		•	•			•		1.05/2.17
ADR443	3	0.04, 0.13	3.5 to 18	3750	3, 10	10/5	1.4	•			•		•		2.78/3.91
REF193	3	0.33	3.3 to 15	45	25	25	30	•					•		1.43
AD1583	3	0.1, 1.0	3.2 to 12	70	50, 100	5/5	85	•		•					0.62/0.86
ADR3433	3.3	0.1	3.5 to 5.5	100	8	10/3	25	•		•					0.93
ADR3533W	3.3	0.1	3.5 to 5.5	100	5, 8	10/3	25	•			•				1.14/1.90
ADR4533	3.3	0.02, 0.04	3.4 to 15	950	2, 4	10/10	2.1	•					•		2.45/3.45
REF196	3.3	0.3	3.5 to 15	45	25	25	33	•			•		•		1.44
ADR366	3.3	0.12, 0.25	3.6 to 15	190	9, 25	5/1	9.3	•		•					0.78/1.22
ADR3440	4.096	0.1	4.3 to 5.5	100	8	10/3	29	•		•					0.93
ADR3540W	4.096	0.1	4.3 to 5.5	100	5, 8	10/3	29	•			•				1.14/1.90
ADR4540	4.096	0.02, 0.04	4.2 to 15	950	2, 4	10/10	2.7	•					•		2.45/3.45
ADR434	4.096	0.04, 0.12	6.1 to 18	800	3, 10	10/10	6.25				•		•		3.85/4.41

<sup>1</sup> DIP, TO-52, or TO-99 package offerings.

<sup>2</sup> 10 Hz to 10 kHz.

\* Not recommended for new designs.

## Standard Series Mode References (Continued)

Part Number	Output Voltage (V)	Initial Accuracy (%)	Supply Voltage Range (V)	I <sub>SY</sub> (μA)	Tempco (ppm/°C)	Output Current Source/Sink (mA)	0.1 Hz to 10 Hz Noise (μV p-p)	Low Dropout Device	Package						Price @ 1k (U.S.)
									SC70	SOT-23	MSOP	TSSOP	SOIC	Other <sup>1</sup>	
REF198	4.096	0.05, 0.12, 0.24	4.5 to 15	45	5, 10, 25	25	40	•				•	•		1.44/2.59
ADR292	4.096	0.07, 0.1, 0.15	4.5 to 15	15	10, 20, 30	5	12	•				•	•		2.56/5.66
ADR444	4.096	0.04, 0.13	4.6 to 18	3750	3, 10	10/5	1.8	•			•		•		2.78/3.91
ADR364	4.096	0.1, 0.2	4.4 to 15	190	9, 25	5/1	11	•		•					0.82/1.29
ADR392	4.096	0.12, 0.15	4.3 to 15	140	9, 25	5	7	•		•					0.88/1.35
AD1584	4.096	0.1, 0.98	4.3 to 12	70	50, 100	5/5	110	•		•					0.62/0.86
REF194	4.5	0.04, 0.2	4.75 to 15	45	5, 25	25	45	•					•		1.44/2.37
ADR3450	5	0.1	5.2 to 5.5	100	8	10/3	35	•		•					0.93
ADR3550W	5	0.1	5.2 to 5.5	100	5, 8	10/3	35	•				•			1.14/1.90
ADR4550	5	0.02, 0.04	5.1 to 15	950	2, 4	10/10	2.8	•					•		2.45/3.45
AD588	±5	0.02, 0.06, 0.1	±18	10 mA	1.5, 3	10/10	6						•	•	18.07
AD586	5	0.04	10.8 to 36	3 mA	2, 5, 10	10/10	4						•	•	3.77/5.07/6.96
ADR435	5	0.04, 0.12	7.0 to 18	800	3, 10	10/10	8					•		•	2.96/4.41
ADR425	5	0.04, 0.12	7.0 to 18	600	3, 10	10	3.4					•		•	2.88/4.43
ADR02	5	0.06, 0.1	7.0 to 36	1 mA	3, 9, 10, 25, 40	10	10		•	•			•		1.05/2.28
AD584	5	0.06, 0.12, 0.3	7.5 to 30	1 mA	5, 15, 30	5/5	50							•	3.17/6.26
REF195	5	0.04, 0.1, 0.2	5.15 to 15	45	5, 10, 25	25	50	•				•	•	•	1.44/2.37
ADR365	5	0.08, 0.16	5.3 to 15	190	9, 25	5/1	12.8	•		•					0.82/1.26
ADR445	5	0.04, 0.12	5.5 to 18	3750	3, 10	10/5	2.25	•				•		•	2.78/3.91
ADR293	5	0.06, 0.2	6.0 to 15	20	8, 25	5	15					•		•	1.90/5.66
REF02	5	0.3	8.0 to 36	1.4 mA	8.5, 25, 65	10	15						•	•	1.25/2.23
ADR395	5	0.1, 0.12	5.3 to 15	140	9, 25	5	8	•		•					0.88/1.35
AD1585	5	0.1, 1.0	5.2 to 12	70	50, 100	5/5	140	•		•					0.62/0.86
AD584	7.5	0.05, 0.1, 0.27	10 to 30	1 mA	5, 15, 30	5/5	50							•	3.17/6.26
AD588	±10	0.05, 0.01, 0.03	12 to 36	10 mA	1.5, 3	10/10	6						•	•	18.07
AD688	±10	0.015, 0.03	±13.5 to 18	12 mA	3, 8	10/10	6						•	•	9.37/30.19
ADR01	10	0.05, 0.1	12 to 36	1 mA	3, 9, 10, 25	10	20		•	•			•		1.05/2.17
AD587	10	0.05, 0.1	13.5 to 36	4 mA	10, 20	10/10	4						•	•	3.45/3.91
AD581	10	0.05, 0.1, 0.3	13 to 30	1 mA	5, 10, 15, 30	5	40							•	7.14
AD584	10	0.05, 0.1, 0.3	12.5 to 30	1 mA	5, 15, 30	5/5	50							•	3.17/6.26
REF01	10	0.3	12 to 36	1.4 mA	8.5, 25, 65	10	30						•	•	1.24

<sup>1</sup> DIP, TO-52, or TO-99 package offerings.

<sup>2</sup> 10 Hz to 10 kHz.

\* Not recommended for new designs.

## Shunt Mode References

Part Number	Output Voltage (V)	Initial Accuracy (%)	Current Range		Tempco (ppm/°C)	Output Impedance (Ω)	0.1 Hz to 10 Hz Noise (μV p-p)	Package						Price @ 1k (U.S.)	
			Min (μA)	Max (mA)				SC70	SOT-23	MSOP	TSSOP	SOIC	Other <sup>1</sup>		
ADR510	1	0.35	100	10	85	0.3	4			•					0.61
AD589	1.2	1.2	50	5	10, 50, 100	0.6							•	•	1.36
ADR512	1.2	0.3	100	10	60	0.3	4			•					0.61
AD1580	1.225	0.08, 0.8	50	10	50, 100	0.5		•							0.62/0.86
ADR1581	1.25	0.08, 0.8	60	10	50, 100	0.5	4.5			•					0.61/0.84
ADR1500	1.2875	0.2	50	10	220	1	5	•							1.03
ADR5040	2.048	0.1, 0.2	50	15	75, 100	0.2	16.8	•	•						0.30/0.38
ADR5041	2.5	0.1, 0.2	50	15	75, 100	0.2	19.2	•	•						0.30/0.38
ADR525	2.5	0.2, 0.4	50	15	40, 70	0.27	18	•	•						0.49/0.93
ADR5043	3	0.1, 0.2	50	15	75, 100	0.2	25.8	•	•						0.30/0.38
ADR530	3	0.2, 0.4	50	15	40, 70	0.27	22	•	•						0.49/1.01
ADR5044	4.096	0.1, 0.2	50	15	75, 100	0.2	32.2	•	•						0.30/0.38
ADR5045	5	0.1, 0.2	50	15	75, 100	0.2	39.6	•	•						0.30/0.38
ADR550	5	0.2, 0.4	50	15	40, 70	0.27	48	•	•						0.49/0.93

<sup>1</sup> DIP, TO-52, or TO-99 package offerings.