Linear Voltage Regulator Selector Guide

Single Output Low-Dropout Linear Regulators (LDOs)

Device	I_{out} (mA)	Dropout* (Typ, mV)	I_q** (Typ, µA)	P_{SRR}**** (dB)	Max Input Voltage (V)	Package(s)-Pins	V_{out}	Features
MC33761	80	160	180	85	12	SOT-23-5	2.5, 2.8, 2.9, 3, 5 V	Enable, Ultra low noise, Ultra High PSRR
MC78LCxx	80	1 V	1.1	--	12	SOT-23-5, SOT-89-3	1.5, 1.8, 2.5, 2.7, 2.8, 3, 3.3, 4, 5 V	Ultra low Iq
NCP502	80	850	40	55	12	SC-70-5, SOT-23-5	1.5, 1.8, 2.5, 2.7, 2.8, 2.9, 3, 3.1, 3.3, 3.4, 3.5, 3.6, 3.7, 5 V	Enable
NCP512	80	160	40	60	6	SC-70-5	1.3, 1.5, 1.8, 2.2, 2.5, 2.7, 2.8, 3, 3.1, 3.3, 5 V	Enable
NCP553	80	650	2.8	25	12	SC82AB-4	1.5, 1.8, 2.5, 2.7, 2.8, 3, 3.3, 5 V	Ultra low Iq, No cap
NCP562	80	190	2.5	25	6	SC82AB-4	1.5, 1.8, 2.5, 2.7, 2.8, 3, 3.3, 3.5, 5 V	Enable, Ultra low Iq
NCP563	80	190	2.5	25	6	SC82AB-4	1.5, 1.8, 2.5, 2.7, 2.8, 3, 3.3, 5 V	Ultra low Iq
LM2931A/C/AC	100	160	400 (@ 10 mA)	90	40	SO-8, TO-92-3, TO-220-3/5, DPAK-3, D2PAK-3/5	Adj, 5 V	Ultra High PSSR
LP2950C/AC	100	350	75	47 (@ 0.1 mA, 5 V)	30	DPAK-3, TO-92-3	3, 3.3, 5 V	Tight line & load Reg.
LP2951C/AC	100	350	75	47 (@ 0.1 mA, 5 V)	30	SO-8, Micro8™, DIP-8	Adj, 3, 3.3, 5 V	Enable, Error output
L4949	100	300	150	--	28	SO-8, DIP-8	5 V	Reset, Input Vol. Sense
NCP612	100	200	40	60	6	SC-70-5	1.5, 1.8, 2.5, 2.7, 2.8, 3, 3.1, 3.3, 3.7, 5 V	Enable
NCP662	100	230	2.5	25	6	SC82AB-4	1.5, 1.8, 2.5, 2.7, 2.8, 3, 3.3, 5 V	Enable, Ultra low Iq
NCP663	100	230	2.5	25	6	SC82AB-4	1.5, 1.8, 2.5, 2.7, 2.8, 3, 3.3, 5 V	Ultra low Iq
MC78FC	120	500 (@ 40 mA)	1.1	20	10	SOT-89-3	3, 3.3, 4, 5 V	Ultra low Iq
CAT6217	150	90	55	64	6.5	TSOT-23	1.5, 1.8, 2.5, 2.8, 2.85, 3.3 V	Enable, Optimal Bypass Cap
MC78PC	150	200 (@ 100 mA)	35	70	9	SOT-23-5	1.8, 2.5, 2.8, 3, 3.3, 5 V	Enable, Ultra low noise
NCP3985	150	100	70	70	6	TSOP-5	1.8, 2.5, 2.75, 2.8, 3, 3.3 V	Enable, Ultra low Dropout, High PSRR, Low Noise
NCP400	150	160 (@ 100 mA)	37	50	5.5	Flip-Chip-6	1.8 V	Enable, Reset
NCP500	150	150	175	62	6	SOT-23-5, DFN-6	1.8, 1.85, 2.5, 2.6, 2.7, 2.8, 3, 3.3, 5 V	Enable, Fast transient
NCP511	150	90 (@ 100 mA)	40	60	6	SOT-23-5	1.5, 1.8, 2.5, 2.7, 2.8, 3, 3.3, 5 V	Enable
NCP551	150	40 (@ 10 mA)	4	25	12	SOT-23-5	1.5, 1.8, 2.5, 2.7, 2.8, 2.9, 3, 3.1, 3.2, 3.3, 5 V	Enable, Ultra low Iq
NCP561	150	130	4	20	6	SOT-23-5	1.5, 1.8, 2.5, 2.7, 2.8, 3, 3.3, 5 V	Ultra low Iq
NCP623	150	180	170	90	12	Micro8, DFN-6	2.5, 2.8, 3, 3.3, 4, 5 V	Enable, Ultra low noise, Ultra High PSRR
NCP582	150	220	75	70	6.5	SOT-563-6, SC82AB-4	1.5, 1.8, 2.5, 2.8, 2.9, 3, 3.3 V	Enable, Ultra low noise
NCP583	150	250	1	45	6.5	SOT-563-6, SC82AB-4	1.5, 1.8, 2.5, 2.6, 2.8, 2.9, 3, 3.1, 3.3 V	Enable, Ultra low Iq
NCP600	150	75	100 (@ 150 mA)	62	6.5	DFN-6, SOT-23-5	Adj, 1.3, 1.5, 1.8, 2.5, 2.8, 3, 3.3, 3.5, 5 V	Enable, Fast turn-ON
NCP629	150	75	135 (@ 150 mA)	62	6.5	Flip-Chip-5	1.5, 1.8, 2.8, 3, 3.3, 3.5, 5 V	0.6 mm max height
NCP698	150	370	2.5	--	6	SC82AB-4	1.3, 1.5, 1.8, 2.5, 2.8, 3.0, 3.3, 3.5, 5 V	Enable, Ultra Low Iq

* Voltage dropout was measured at full load for Vout = 3.3 V where applicable unless noted.
** Iq was measured at 0 or 0.1 mA load unless noted.
**** PSRR was measured at f = 120 Hz for Vout = 3.3 @ full load unless otherwise noted.

Note 1: These electrical characteristics are determined by an external MOSFET used in conjunction with the LDO controller.
Contact an ON Semiconductor Sales Representative for other voltage options or for automotive grade regulators.

Single Output Low-Dropout Linear Regulators (LDOs) continued

Device	I_{out} (mA)	Dropout* (Typ, mV)	I_q** (Typ, µA)	P_{SRR}**** (dB)	Max Input Voltage (V)	Package(s)-Pins	V_{out}	Features
NCP699	150	320	40	55	6	SOT-23-5	1.3, 1.4, 1.5, 1.8, 2.5, 2.8, 2.9, 3, 3.1, 3.3, 4.5, 5 V	Enable
NCP5426	150	150	120	70 (@ 30 mA)	12	SOT-23-5	1.3 V	Enable, Vibrator driver
NCP584	200	100	3.5	75	6.5	SOT-23-5	0.9, 1.2, 1.5, 1.8, 2.5, 2.6, 2.8, 3, 3.1, 3.3 V	Enable, Tri-mode
NCP700	200	100	70	80	6	SOT-23-5, DFN-6	1.8, 2.5, 2.75, 2.8, 3, 3.3 V	Enable, Ultra low noise, Ultra High PSRR
CAT6218	300	180	55	64	6.5	TSOT-23-5	1.5, 1.8, 2.4, 2.5, 2.7, 2.8, 2.85, 3.0, 3.2, 3.3 V	Enable, Zero shutdown current
MC33275	300	260	125	75	13	SO-8, DPAK-3, SOT-223-3, DFN-8	2.5, 3, 3.3, 5 V	Tight line & load Reg.
MC33375	300	260	125	75	13	SO-8, SOT-223-3	1.8, 2.5, 3, 3.3, 5 V	Enable
NCP585	300	230	3.5	75 (@ 50 mA)	6.5	SOT-23-5, HSON-6	0.9, 1.0, 1.2, 1.25, 1.5, 1.8, 2.5, 2.8, 3, 3.3 V	Enable, Tri-mode
NCP2860	300	150	355	70	6	Micro8	Adj, 2.77 V	Low noise, Enable, Flag
NCP603	300	157	145	62	6.5	TSOP-5	Adj, 1.3, 1.5, 1.8, 2.5, 2.8, 3, 3.3, 3.5, 5 V	Enable
CAT6219	500	300	55	64	6.5	TSOT-23-5, TDFN-6	Adj, 1.8, 2.85, 3.3, V	Enable
NCP5500	500	230	300	75 (@ 100 mA)	18	DPAK-5, SO-8	Adj, 1.5, 3.3, 5 V	Enable, low noise
NCP5501	500	230	300	75 (@ 100 mA)	18	DPAK-3	1.5, 3.3, 5 V	Low noise
NCP3334	500	340 (max)	190 (max)	75	16	SO-8	Adj	Enable, High accuracy
NCP3335A	500	340 (max)	190 (max)	75	16	Micro8, DFN-10	Adj, 1.5, 1.8, 2.5, 2.8, 2.85, 3.0, 3.3, 5 V	Enable, Ultra High accuracy
NCP605	500	170	145 (@ 500mA)	62	6.5	DFN-6	Adj, 1.5, 1.8, 2.5, 2.8, 3.0, 3.3, 5 V	Enhanced ESD protection
NCP606	500	170	145 (@ 500mA)	62	6.5	DFN-6	Adj, 1.5, 1.8, 2.5, 2.8, 3.0, 3.3, 5 V	Enable, Enhanced ESD protection
MC33269	800	1.1 V	5.5 mA	55	20	SO-8, DPAK-3, SOT-223-3, TO-220-3	Adj, 3.3, 5, 12 V	Current limit protection
MC34268	800	950 (@ 490 mA)	3.0 mA	55 (min)	15	SO-8, DPAK-3, SOT-223-3	2.85 V	SCSI-2 Active Terminator
NCP1117	1.0 A	1.07 V (@ 800 mA)	3.6 mA	64 (@ 500 mA)	20	DPAK-3, SOT-223-3	Adj, 1.5, 1.8, 1.9, 2, 2.5, 2.85, 3.3, 5, 12 V	Current limit protection
NCP1117LP***	1.0 A	1.3 V	550 (@ 10 mA)	60	18	SOT-223	Adj, 1.5, 1.8, 2.5, 3.3, 5 V	Low I_q
NCP5661	1.0 A	1.0 V	1.3 mA (@ 1 A)	70	18	DPAK-5, DFN-6	Adj, 1.2, 1.5, 1.8, 2.5, 2.8, 3.0, 3.3 V	Enable, fast transient, flag
NCP690***	1.0 A	240 [2]	145	62 [3]	6.5	DFN-6	Adj, 1.5, 1.8, 2.5, 5 V	Very low dropout
NCP692***	1.0 A	240 [2]	145	62 [3]	6.5	DFN-6	Adj, 1.5, 1.8, 2.5, 5 V	Very low dropout, Enable
NCP565	1.5 A	900	1.5 mA (@ 1.5 A)	85	18	D2PAK-3/5, SOT-223-3, DFN-6	Adj, 1.2, 1.5, 2.8, 3.0, 3.3 V	Fast transient, Ultra High PSRR
NCP566	1.5 A	900	1.5 mA (@ 1.5 A)	85	9	SOT-223-3	1.2, 1.8, 2.5 V	Fast transient, Ultra High PSRR
NCP1086	1.5 A	1.05 V	5 mA (@ 10 mA)	80	7	D2PAK-3, TO-220-3, SOT-223-3	Adj, 3.3 V	Fast transient, Ultra High Accuracy
NCP5662	2.0 A	1.0 V	1.3 mA (@ 2 A)	70	18	D2PAK-5, DFN-8	Adj, 1.2, 1.5, 1.8, 2.5, 2.8, 3.0, 3.3 V	Enable, fast transient, flag

* Voltage dropout was measured at full load for Vout = 3.3 V where applicable unless noted.
** Iq was measured at 0 or 0.1 mA load unless noted.
*** Coming soon.
**** PSRR was measured at f = 120 Hz for Vout = 3.3 @ full load unless otherwise noted.

Note 1: These electrical characteristics are determined by an external MOSFET used in conjunction with the LDO controller.
Note 2: @ V_{out} = 1.8 V
Note 3: @ V_{out} = 1.25 V
Contact an ON Semiconductor Sales Representative for other voltage options or for automotive grade regulators.

Single Output Low-Dropout Linear Regulators (LDOs) continued

Device	I_{out} (mA)	Dropout* (Typ, mV)	I_q** (Typ, µA)	P_{SRR}**** (dB)	Max Input Voltage (V)	Package(s)-Pins	V_{out}	Features
CS5253/B	3.0 A	400	--	80	13	D2PAK-5	Adj, 2.5 V	Control, Sense, Ultra High PSRR
NCP630	3.0 A	1.0 V	0.4 mA (@ 300 mA)	88	12	D2PAK-5	Adj, 3.47 V	Enable, Fast transient, Ultra High PSRR
NCP5663	3.0 A	1.0 V	1.3 mA (@ 3 A)	70	18	D2PAK-5	Adj, 1.5, 1.8 V	Enable, fast transient, flag
NCP5666	3.0 A	1.0 V	1.8 mA (@ 3 A)	70	18	D2PAK-5	2.5, 5 V	Enable, Fast transient
NCP5667	3.0 A	1.0 V	2.4 mA (@ 3A)	70	18	D2PAK-3	5 V	Enhanced ESD protection
NCP102 (Controller)	Note 1	Note 1	1.4 mA (@ Vcc = 5V)	50 (min)	15	TSOP-6	Adj down to 0.8 V	Enable, MLCC and POSCAP Compatible

* Voltage dropout was measured at full load for Vout = 3.3 V where applicable unless noted.
** Iq was measured at 0 or 0.1 mA load unless noted.
**** PSRR was measured at f = 120 Hz for Vout = 3.3 @ full load unless otherwise noted.

Note 1: These electrical characteristics are determined by an external MOSFET used in conjunction with the LDO controller.
Contact an ON Semiconductor Sales Representative for other voltage options or for automotive grade regulators.

Multiple Output Low-Dropout Linear Regulators (LDOs)

Device	I_{out} (mA)	Dropout* (Typ, mV)	I_q** (Typ, A)	Max Input Voltage (V)	Package(s)	V_{out}	Features
NCP4672 (Dual)	30, 80	150, -- (@ 20mA)	1.0 mA	18	SO-8	3.5/1.8 V	Programmable delay, Reset
MC33762 (Dual)	80, 80	160, 160	180	12	Micro8	2.5/2.5, 2.8/2.8, 3/3 V	Enable, Fast off to on, low noise
NCP4523 (Triple)	150, 80, 80	220, 160, 160	210	7	SSOP-8	2.8/2.8/2.8, 3/3/3, 2.35/2.8/2.8 V	Tight line & load Reg., High PSSR
MC33765 (5 Outputs)	30, 40, 50, 150, 60	110, 110, 110, 170, 110	470	5.3	TSSOP-16	5x2.8 V	Enable, Byp Pin, Ultra Low noise
NCP5504 (Dual)	250, 250	250, 250	370	18	DPAK-5	3.3/Adj V	Low noise, High PSSR
CAT6221 (Dual)	300, 300	210	100	6.5	TSOT-23-6	Options 1.5 to 3.3 V	Enable, Zero shutdown current
NCP590 (Dual)	300, 300	165, 165	115	5.5	2x2 DFN-8	Combinations ranging from 0.8 to 5V	Enable, Ultra High Accuracy, Ultra Low Dropout

* Voltage dropout was measured at full load for Vout = 3.3 V where applicable unless noted.
** Iq was measured at 0 or 0.1 mA load unless noted.

Note 1: These electrical characteristics are determined by an external MOSFET used in conjunction with the LDO controller.

Linear Regulators

Device	I_{out} (mA)	Dropout* (Typ, mV)	Max Input Voltage (V)	Package(s)	V_{out}	Features
LM317L	100	2	40	SO-8, TO-92-3	Adj.	Current & thermal protection
MC33160	100	2	40	SO-16, DIP-16	5 V	Enable, sense, reset
MC34160	100	2	40	SO-16, DIP-16	5 V	Enable, sense, reset
MC78LxxA	100	1.7	40	SO-8, TO-92-3	5, 8, 9, 12, 15, 18, 24 V	Current & thermal protection
MC79Lxx/A	100	1.7 (@ 40 mA)	-40	SO-8, TO-92-3	-(5, 12, 15, 18, 24) V	Current & thermal protection
MC33565 (Controller)	Note 1	Note 1	7	SO-8, Micro8	3.3 V	Controller, Auxiliary control, Sense
LM317M	500	2.2	40	TO-220-3, DPAK-3, SOT-223-3	Adj.	Current & thermal protection
MC78Mxx/A	500	2	40	TO-220-3, DPAK-3	5, 6, 8, 9, 12, 15, 18, 20, 24 V	Current & thermal protection
MC79Mxx/A	500	1.1	-35	TO-220-3, DPAK-3	-(5, 8, 12, 15) V	Current & thermal protection
MC78xx/A/AE	1.0 A	2	40	D2PAK-3, TO-220-3, DPAK-3	5, 6, 8, 9, 12, 15, 18, 24 V	Current & thermal protection
MC79xx/A	1.0 A	1.3	-40	TO-220-3, D2PAK-3	-(5, 5.2, 6, 8, 12, 15, 18, 24) V	Current & thermal protection
LM317	1.5 A	2.25	40	D2PAK-3, TO-220-3	Adj.	Current & thermal protection
LM337	1.5 A	2.4	-40	TO-220-3, D2PAK-3	Adj.	Current & thermal protection

* Voltage dropout was measured at full load for Vout = 3.3 V where applicable unless noted.

Note 1: These electrical characteristics are determined by an external MOSFET used in conjunction with the LDO controller.

Sales and Design Assistance from ON Semiconductor

ON Semiconductor Distribution Partners

AMSC Co.	www.amsc.co.jp	(81) 422 54 6622
Arrow Electronics	www.arrow.com	(800) 777-2776
Avnet	www.em.avnet.com	(800) 332-8638
Digi-Key	www.digikey.com	(800) 344-4539
EBV Elektronik	www.ebv.com/en/locations.html	(49) 8121 774-0
Fuji Electric Co.	www.fujiele.co.jp	(81) 3 3814 1411
Future & FAI Electronics	www.futureelectronics.com/contact	1-800-FUTURE1 (388-8731)
KH Electronics Inc.	www.khelec.com/kor	(82) 42 471 8521
Marubun	www.marubun.co.jp	(81) 3 3639 5630
Mitsui Electronics Inc.	www.btel.co.jp	(81) 3 6403 5900
Mouser Electronics	www.mouser.com	(800) 346-6873
Newark/Farnell	www.farnell.com/onsemi	(800) 4-NEWARK
NU Horizons	www.nuhorizons.com	(800) 275-8488
Promate Electronic Co.	www.promate.com.tw	(886) 2 2659 0303
Segyung Britestone Co.	www.britestone.com	(82) 2 3218 1511
Serial Microelectronics, HK	www.serialsys.com.hk	(852) 2790 8220
Taewon Inc.	www.taewon.net	(82) 2 6679 9000
Tokyo Electron Device Co.	hwww.teldevice.co.jp	(81) 45 443 4000
World Peace Industries Co.	www.wpi-group.com	(852) 2365 4860
WT Microelectronics Co.	www.wtmec.com	(852) 2950 0820
Yosun Electronics	www.yosun.com.tw	(886) 2 2659 8168

For a comprehensive listing of ON Semiconductor Sales Offices, please visit:

www.onsemi.com/salessupport

INTERNATIONAL

GREATER CHINA	Beijing	86-10-8518-2323
	Chengdu	86-28-8678-4078
	Hong Kong	852-2689-0088
	Shenzhen	86-755-8209-1128
	Shanghai	86-21-5131-7168
	Taipei, Taiwan	886-2-2377-9911
FRANCE	Paris	33 (0)1 39-26-41-00
GERMANY	Munich	49 (0) 89-93-0808-0
ISRAEL	Raanana	972 (0) 9-9609-111
ITALY	Milan	39 02 9239311
JAPAN	Tokyo	81-3-5773-3850
KOREA	Seoul	82-2-2190-3500
MALAYSIA	Penang	60-4-226-9368
SINGAPORE	Singapore	65-6391-1260
SLOVAKIA	Piestany	421 33 790 2450
UNITED KINGDOM	Slough	44 (0) 1753 70 1676

AMERICAS REP FIRMS

Alabama	Huntsville	e-Components	(256) 533-2444
Arizona	Tempe	Centaur	(480) 839-2320
Brazil	Countrywide	Ammon & Rizos	(+55) 11-4688-1960
California	Bay Area	L2	(408) 433-9388
	Calabasas	Centaur	(818) 878-5800
	Irvine	Centaur	(949) 261-2123
	San Diego	Centaur	(858) 278-4950
	Simi Valley	Centaur	(805) 579-0519
Canada	Eastern Canada	Astec	(905) 607-1444
	Western Canada	Sifore	(503) 977-6267
Connecticut	Statewide	Genesis Associates	(781) 270-9540
Delaware	Statewide	S.J. Mid-Atlantic	(856) 866-1234
Florida	Statewide	e-Components	(888) 468-2444
Georgia	Atlanta	e-Components	(888) 468-2444
Idaho	Eagle	First Source of Idaho, Inc.	(800) 282-9855
Illinois	St. Charles (South)	Stan Clothier Company	(847) 781-4010
	Palatine (North)	HLC Ltd.	(847) 358-6500
Indiana	Fishers	Bear VAI	(317) 570-0707
Iowa	Cedar Rapids	Essig & Associates	(319) 363-8703
Kansas	Overland Park	Stan Clothier Company	(913) 894-1675
Maryland	Columbia	Third Wave Solutions	(410) 290-5990
Massachusetts	Burlington	Genesis Associates	(781) 270-9540
Mexico	Countrywide	Phoenix Rep	(+52) 33-3123-9198
Michigan	St. Joseph	Bear VAI	(440) 526-1991
Minnesota	Eden Prairie	Stan Clothier Company	(952) 944-3456
Missouri	St. Charles	Stan Clothier Company	(636) 916-3777
New Jersey	Mount Laurel	S.J. Mid-Atlantic	(856) 866-1234
	Statewide	S.J. Metro	(516) 942-3232
New York	Binghamton	TriTech - Full Line Rep	(607) 722-3580
	Jericho	S.J. Metro	(516) 942-3232
	Rochester	TriTech - Full Line Rep	(585) 385-6500
	Statewide	S.J. Mid-Atlantic	(856) 866-1234
North Carolina	Raleigh	e-Components	(888) 468-2444
Ohio	Brecksville	Bear VAI Technology	(440) 526-1991
Oregon	Portland	SiFore Technical	(503) 977-6267
Pennsylvania	Statewide	S.J. Mid-Atlantic	(856) 866-1234
Puerto Rico	Countrywide	e-Components	(888) 468-2444
Texas	Austin	West Associates	(512) 343-1199
	Houston	West Associates	(832) 717-3774
	Richardson	West Associates	(972) 680-2800
Washington	Bellevue	SiFore Technical	(425) 990-4701
Wisconsin	Eden Prairie (NW)	Stan Clothier Company	(608) 882-0686
	Milwaukee (SE)	HLC Ltd.	(847) 358-6500

Apr-09

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
Literature Distribution Center for ON Semiconductor
P.O. Box 5163, Denver, Colorado 80217 USA
Phone: 303-675-2175 or 800-344-3860 Toll Free USA/Canada
Fax: 303-675-2176 or 800-344-3867 Toll Free USA/Canada
Email: orderlit@onsemi.com

N. American Technical Support: 800-282-9855 Toll Free USA/Canada.
Europe, Middle East and Africa Technical Support:
Phone: 421 33 790 2910
Japan Customer Focus Center
Phone: 81-3-5773-3850

ON Semiconductor Website: **www.onsemi.com**

Order Literature: http://www.onsemi.com/orderlit

For additional information, please contact your local Sales Representative

SGD520-6 PRINTED IN USA 04/09 IRONWOOD XXXX 5K

SGD520/D