

# LDO Regulator Selection Guide

## Micrel Advantage

- Industry's broadest LDO portfolio
- Lowest input voltages
- Best transient performance
- Lowest quiescent current and dropout
- High PSRR, Low noise
- Small and efficient packaging

## Single Outputs

Device	I <sub>OUT</sub>	V <sub>IN</sub>	V <sub>OUT</sub>	I <sub>GND</sub> (Typ.)	V <sub>DROPOUT</sub> (Typ.)	Package	Comments	µCap
MIC5231	10mA	3.5V to 12V	2.75, 3.0, 3.3, 5.0	650nA	150mV	SOT-23		Yes
MIC5203	80mA	2.5V to 16V	2.6, 2.8, 3.0, 3.3, 3.6, 3.8, 4.0, 4.5, 5.0	180µA	300mV	SOT-23		Yes
MIC5213	80mA	2.5V to 16V	2.5, 2.6, 2.7, 2.8, 3.0, 3.3, 3.6, 5.0	180µA	300mV	SC70		Yes
LP2950	100mA	2V to 30V	5.0, 5.0(0.5%)	100µA	380mV	TO-92	2nd Source to Natl.	
LP2951	100mA	2V to 30V	5.0(0.5%), 5.0(1%), Adj.	100µA	380mV	SOIC, PDIP	2nd Source to Natl.	
MIC5200	100mA	2.5V to 26V	3.0, 3.3, 4.8, 5.0	130µA	230mV	MSOP, SOIC, SOT-223	Load Dump Protection.	
MIC5233	100mA	2.3V to 36V	1.8, 2.5, 3.0, 3.3, 5.0, Adj.	18µA	270mV	SOT-23	Reverse Battery Protection.	Yes
MIC5253	100mA	2.7V to 6V	1.5, 1.8, 1.85, 2.5, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.1, 3.2, 3.3	100µA	165mV	SC70		Yes
MIC5270	100mA	-2V to -16V	-3.0, -4.1, -5.0, Adj.	35µA	480mV	SOT-23	Negative µCap LDO.	Yes
MIC5271	100mA	-3.3V to -16V	-3.0, -5.0, Adj.	35µA	480mV	SOT-23	Negative µCap LDO.	Yes
MIC2950	150mA	2V to 30V	5.0, 5.0(0.5%)	120µA	300mV	TO-92-3	High V <sub>IN</sub> , Load Dump Protection.	
MIC2951	150mA	2V to 30V	3.3, 4.85, 5.0(0.5%), 5.0(1%) Adj	120µA	300mV	MSOP, SOIC, PDIP	High V <sub>IN</sub> , Load Dump Protection.	
MIC5301	150mA	2.3V to 5.5V	1.3, 1.5, 1.8, 2.1, 2.5, 2.85, 2.8, 2.9, 3.0, 3.3, 4.6, Adj.	85µA	40mV	TMLF-6, TSOT23-5 MLF® (1.6x1.6mm)		Yes
MIC5302	150mA	2.3V to 5.5V	1.3, 1.5, 1.8, 2.1, 2.5, 2.85, 2.8, 2.9, 3.0, 3.3, 4.6, Adj.	85µA	50mV	TMLF (1.2x1.6mm)	Ultra-small	Yes
MIC5205	150mA	2.5V to 16V	2.5, 2.7, 2.8, 2.85, 2.9, 3.0, 3.1, 3.2, 3.3, 3.6, 3.8, 4.0, 5.0, Adj.	80µA	165mV	SOT-23	Low Noise LDO.	
MIC5206	150mA	2.5V to 16V	2.5, 2.7, 3.0, 3.2, 3.3, 3.6, 3.8, 4.0, 5.0, Adj	80µA	165mV	MSOP, SOT-23	Low Noise LDO w/Error Flag.	
MIC5235	150mA	2.3V to 24V	1.5, 1.8, 2.5, 2.7, 3.0, 3.3, 5.0, Adj.	18µA	310mV	SOT-23	Zero Shutdown Current, Reverse Battery Protection.	Yes
MIC5236	150mA	2.3V to 30V	2.5, 3.0, 3.3, 5.0, Adj.	20µA	350mV	P-MSOP, P-SOIC	Load Dump Protected µCap LDO.	Yes
MIC5238	150mA	1.5V to 6V	1.0, 1.1, 1.2, 1.3	23µA	310mV	T/SOT	Low Voltage, Dual Supply µCap.	Yes
MIC5247	150mA	2.7V to 6V	1.5, 1.6, 1.8, 1.85, 2.0, 2.4	85µA	150mV	MLF® (2x2mm), T/SOT		Yes
MIC5248	150mA	2.7V to 6V	1.2	85µA	n/a	SOT-23	1.2V LDO with Power Good.	Yes
MIC5252	150mA	2.7V to 6V	1.8, 2.5, 2.8, 2.85, 3.0, 4.75	90µA	135mV	MLF® (2x2mm), SOT-23	Low Noise LDO.	Yes
MIC5255	150mA	2.7V to 6V	2.5, 2.6, 2.7, 2.75, 2.8, 2.85, 2.9, 3.0, 3.1, 3.2, 3.3, 3.5	90µA	135mV	MLF® (2x2mm), TSOT	Low Noise LDO.	Yes
MIC5256	150mA	2.7V to 6V	2.5, 2.6, 2.7, 2.9, 2.8, 2.85, 3.0, 3.1, 3.3	90µA	135mV	T/SOT	Low Noise with Error Flag.	Yes
MIC5258	150mA	2.7V to 6V	1.2	85µA	n/a	SOT-23	1.2V LDO with Power Good.	Yes
MIC5265	150mA	2.7V to 5.5V	1.5, 1.8, 1.85, 2.5, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.1, 3.2, 3.3	75µA	210mV	TSOT	General Purpose LDO.	Yes
MIC5268	150mA	2.7V to 6V	1.2	85µA	n/a	SOT-23		Yes
MIC5305	150mA	2.25V to 5.5V	1.5, 1.8, 2.5, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.3, 4.75, Adj.	90µA	60mV	MLF® (2x2mm), TSOT TMLF-6	High PSRR Low Noise ULDO™.	Yes
MIC5306	150mA	2.25V to 5.5V	1.5, 1.8, 2.7, 2.8, 3.0, 3.1, 3.3	16µA	120mV	TSOT, MLF® (2x2mm)	Low I <sub>Q</sub> , 150mA ULDO™.	Yes
MIC5308	150mA	1.6V to 5.5V	1.0, 1.2, 1.3, 1.5, Adj.	23µA	50mV	TSOT-23-6, MLF® (1.6x1.6mm)	Low V <sub>IN</sub> /V <sub>OUT</sub> with Ultra-low I <sub>Q</sub> .	
MIC5309	300mA	1.7V to 5.5V	1.0, 1.2, 1.3, 1.5, Adj.	23µA	100mV	TSOT-23-6, MLF® (1.6x1.6mm)	Low V <sub>IN</sub> /V <sub>OUT</sub> with Ultra-low I <sub>Q</sub> .	
MIC5207	180mA	2.5V to 16V	1.8, 2.5, 2.8, 2.9, 3.0, 3.1, 3.2, 3.3, 3.6, 3.8, 4.0, 5.0, Adj.	80µA	165mV	T/SOT, TO-92	Low Noise LDO.	
MIC5201	200mA	2.5V to 26V	3.0, 3.3, 4.8, 5.0, Adj	130µA	270mV	SOIC, SOT-223	Load Dump Protection.	
MIC2954	250mA	2V to 30V	5.0, 5.0 (0.5%) Adj.	140µA	375mV	TO92 SOIC, SOT223, TO220	Load Dump Protection.	
MIC5303	300mA	2.3V to 5.5V	1.3, 1.5, 1.8, 2.1, 2.5, 2.85, 2.8, 2.9, 3.0, 3.3, 4.6, Adj.	85µA	100mV	TMLF (1.2x1.6mm)	High I <sub>OUT</sub> , ultra-small.	Yes
MIC5307	300mA	2.4V to 5.5V	2.8, 3.0, Adj.	20µA	120mV	MLF® (1.6x1.6mm) TSOT-23	Ultra-low I <sub>Q</sub> , 300mA ULDO™.	Yes

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## Single Outputs (continued)

Device	I <sub>OUT</sub>	V <sub>IN</sub>	V <sub>OUT</sub>	I <sub>GND</sub> (Typ.)	V <sub>DROPOUT</sub> (Typ.)	Package	Comments	μCap
MIC5318	300mA	2.3V to 6.0V	2.8, 2.85, Adj.	85μA	100mV	TMLF (1.6x1.6mm) TSOT-23	High V <sub>IN</sub> .	Yes
MIC5249	300mA	2.7V to 6V	1.8, 2.5, 2.6, 2.8, 2.85, 3.0, 3.3	90μA	400mV	MSOP	LDO w/POR.	Yes
MIC5259	300mA	2.7V to 6V	1.5, 1.8, 2.5, 2.8, 2.85, 3.0, 3.3	90μA	300mV	MLF <sup>®</sup> (2x2mm), TSOT	High PSRR Low Noise LDO.	Yes
MIC29201	400mA	4.3V to 26V	3.3, 4.85, 5.0, 12	140μA	450mV	SOIC, TO-220, TO-263	Load Dump Protection.	
MIC29202	400mA	4.3V to 26V	Adj.	140μA	450mV	TO-220, TO-263	Load Dump Protection.	
MIC29204	400mA	4.3V to 26V	5.0, Adj.	140μA	450mV	SOIC, PDIP	Load Dump Protection.	
MIC2920A	400mA	4.3V to 26V	3.3, 4.8, 5.0, 12	140μA	450mV	SOT-223, TO-220	Load Dump Protection.	
MIC5209	500mA	2.5V to 16V	1.8, 2.5, 3.0, 3.3, 3.6, 4.2, 5.0, Adj.	80μA	300mV	P-SOIC, SOT-223, TO-263	Low Noise LDO.	
MIC5216	500mA	2.5V to 12V	2.5, 3.3, 3.6, 5.0	80μA	300mV	SOT-23, P-MSOP	Low Noise LDO w/Error Flag.	
MIC5219	500mA	2.5V to 12V	2.5, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.1, 3.3, 3.6, 5.0, Adj.	80μA	300mV	SOT-23, P-MSOP, MLF <sup>®</sup> (2x2mm)	Low Noise LDO.	
MIC5237	500mA	2.5V to 16V	2.5, 3.3, 5.0	80μA	300mV	TO-220 TO-263	>3% O/P Voltage Accuracy.	
MIC5239	500mA	2.3V to 30V	1.5, 1.8, 2.5, 3.0, 3.3, 5.0, Adj.	23μA	350mV	P-MSOP, P-SOIC, SOT-223	Reverse Battery Protection.	Yes
MIC5319	500mA	2.5V to 5.5V	1.375, 1.8, 1.85, 2.5, 2.6, 2.7, 2.8, 2.85, 2.9, 3.0, 3.3, 5.0, Adj.	90μA	200mV	MLF <sup>®</sup> (2x2mm), TSOT	ULDO™ High PSRR.	Yes
MIC29371	750mA	4.3V to 26V	3.3, 5.0, 12	160μA	370mV	TO-220, TO-263	Load Dump Protection.	
MIC29372	750mA	4.3V to 26V	Adj.	160μA	370mV	TO-220, TO-263	Load Dump Protection.	
MIC2937A	750mA	4.3V to 26V	3.3, 5.0, 12	160μA	370mV	TO-220, TO-263	Load Dump Protection.	
MIC3775	750mA	2.25V to 6V	1.5, 1.65, 1.8, 2.5, 3.0, 3.3, Adj.	400μA	300mV	P-MSOP	Wide V <sub>IN</sub> Range.	Yes
MIC3975	750mA	2.25V to 16V	1.8, 2.5, 3.0, 3.3, 5.0, Adj.	400μA	300mV	P-MSOP	Wide V <sub>IN</sub> Range.	Yes
MIC37100	1A	2.25V to 6V	1.5, 1.65, 1.8, 2.5, 3.3	400μA	280mV	SOT-223		Yes
MIC37101	1A	2.25V to 6V	1.5, 1.65, 1.8, 2.1, 2.5, 3.3	400μA	280mV	P-SOIC	w/EN and Error Flag.	Yes
MIC37102	1A	2.25V to 6V	Adj.	400μA	280mV	P-SOIC, SPAK		Yes
MIC39100	1A	2.25V to 16V	1.8, 2.5, 3.3, 5.0	400μA	410mV	SOT-223, TO-220, TO-263	Ultra-Low Dropout.	
MIC39101	1A	2.25V to 16V	1.8, 2.5, 3.3, 5.0	400μA	410mV	P-SOIC	Ultra-Low Dropout.	
MIC39102	1A	2.25V to 16V	Adj.	400μA	410mV	P-SOIC	Ultra-Low Dropout.	
MIC47100 <i>New!</i>	1A	1.0V to 3.6V	0.8, 1.0, 1.2, Adj.	350μA	80mV	MLF <sup>®</sup> (2x2mm), eMSOP-8		
MIC6910x <i>New!</i>	1A	1.65V to 5.5V	1.8, Adj.	12mA	500mV	MLF <sup>®</sup> (3x3mm), P-MSOP-8	Ultra-small 1A LDO. Single Supply Operation.	
MIC2940A	1.25A	4.3V to 26V	3.3, 5.0, 12	240μA	400mV	TO-220, TO-263	Load Dump Protection.	
MIC2941A	1.25A	4.3V to 26V	Adj.	240μA	400mV	TO-220, TO-263	Load Dump Protection.	
MIC2915x	1.5A	2.25V to 26V	3.3, 5.0, 12, Adj.	225μA	350mV	TO-220, TO-263	Load Dump Protection.	
MIC37139	1.5A	2.25V to 6V	1.8	17mA	350mV	SOT-223		Yes
MIC37150	1.5A	2.25 to 6V	1.5, 1.65, 1.8, 2.5, 3.3	17mA	325mV	SPAK	Fixed Voltage in 3-pin Package.	Yes
MIC37151	1.5A	2.25V to 6V	1.5, 1.65, 1.8, 2.5, 3.3	17mA	325mV	SPAK, eSOIC	w/EN and Error Flag.	Yes
MIC37152	1.5A	2.25V to 6V	Adj.	17mA	325mV	SPAK		Yes
MIC37153 <i>New!</i>	1.5A	2.25V to 6V	Adj.	17mA	325mV	eSOIC	w/EN and Error Flag.	Yes
MIC39150	1.5A	2.25V to 16V	1.65, 1.8, 2.5	300μA	375mV	TO-220, TO-263	Ultra-Low Dropout.	
MIC39151	1.5A	2.25V to 16V	1.65, 1.8, 2.5	300μA	375mV	TO-220, TO-263	Ultra-Low Dropout w/EN.	
MIC49150	1.5A	1.4V to 6V	0.9, 1.2, 1.5, 1.8, Adj.	15mA	280mV	P-MSOP, S-PAK	Dual Supply μCap LDO.	Yes
MIC6915x <i>New!</i>	1.5A	1.65V to 5.5V	1.8, Adj.	22mA	500mV	MLF <sup>®</sup> (3x3mm), eSOIC-8	Single Supply Operation.	
MIC49200	2A	1.4V to 6V	1.0, 1.8, Adj.	15mA	400mV	SPAK, TO-263	Dual Supply μCap LDO.	Yes
MIC68200	2A	1.65V to 5.5V	1.2, 1.5, 1.8, 2.5, 3.3, Adj.	7mA	140mV	MLF <sup>®</sup> (3x3mm)	Tracking & Ramp Control.	Yes
MIC37252	2.5A	3.0V to 6V	Adj.	40mA	550mV	SPAK, TO-263	Low Voltage μCap LDO.	
MIC37253	2.5A	3.0V to 6V	Adj.	40mA	600mV	eSOIC	w/EN and Error Flag.	
MIC2930x	3A	2.25V to 26V	3.3, 5.0, 12, Adj.	225μA	370mV	TO-220, TO-263	Load Dump Protection.	
MIC29310/2	3A	2.3V to 16V	3.3, 5.0, Adj.	400μA	600mV	TO-220, TO-263		
MIC29311	3A	2.3V to 16V	5.1	400μA	600mV	TO-220	USB LDO.	
MIC37301	3A	2.25V to 6V	1.5, 1.65, 1.8, 2.5, 3.3	27mA	300mV	SPAK		Yes
MIC37302	3A	2.25V to 6V	Adj.	27mA	300mV	SPAK, TO-263		Yes

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## Single Outputs (continued)

Device	I <sub>OUT</sub>	V <sub>IN</sub>	V <sub>OUT</sub>	I <sub>GND</sub> (Typ.)	V <sub>DROPOUT</sub> (Typ.)	Package	Comments	µCaP
MIC37303	3A	2.25V to 6V	Adj.	27mA	325mV	eSOIC	w/EN and Error Flag.	Yes
MIC39300	3A	2.25V to 16V	1.8, 2.5	5mA	300mV	TO-220, TO-263	Ultra-Low Dropout.	
MIC39301	3A	2.25V to 16V	1.8, 2.5	5mA	350mV	TO-220, TO-263	Ultra-Low Dropout w/EN.	
MIC49300	3A	1.4V to 6V	0.9, 1.2, 1.5, 1.8, Adj.	25mA	280mV	SPAK	Dual Supply µCap LDO.	Yes
MIC6930x <b>New!</b>	3A	1.65V to 5.5V	1.0, 1.2, 1.8, Adj.	40mA	275mV	SPAK, eSOIC	Single Supply Operation.	
MIC69301	3A	1.65V to 5.5V	1.0, 1.2, 1.8	39mA	275mV	SPAK, eSOIC	Low Voltage Single Input Supply.	Yes
MIC69302	3A	1.65V to 5.5V	Adj.	39mA	275mV	SPAK, eSOIC	Low Voltage Single Input Supply.	Yes
MIC68400	4A	1.65V to 5.5V	0.8, 1.0, 1.2, 1.5, 1.8, 2.5, Adj.	18mA	300mV	TSSOP, MLF <sup>®</sup> (4x4mm)	Tracking and Ramp Control.	Yes
MIC2950x	5A	2.25V to 26V	3.3, 5.0, Adj.	225µA	370mV	TO-220, TO-263	Load Dump Protection.	
MIC29510/2	5A	2.3V to 16V	3.3, 5.0, Adj.	500µA	700mV	TO-220		
MIC37501	5A	2.3V to 6V	1.5, 1.65, 1.8, 2.5, 3.3	57mA	330mV	SPAK		Yes
MIC37502	5A	2.3V to 6V	Adj.	57mA	330mV	SPAK, TO-263		Yes
MIC39500	5A	2.25V to 16V	1.8, 2.5	70mA	350mV	TO-220, TO-263	Ultra-Low Dropout.	
MIC39501	5A	2.25V to 16V	1.8, 2.5	70mA	350mV	TO-220, TO-263	Ultra-Low Dropout w/EN.	
MIC49500	5A	1.4V to 6V	.0.9, 1.2, Adj.	55mA	290mV	SPAK, TO-263	Dual Supply µCap LDO.	Yes
MIC69502	5A	1.65 to 5.5V	Adj.	54mA	250mV	SPAK	Low Voltage Single Input Supply.	Yes
MIC2971x	7.5A	2.3V to 16V	3.3, 5.0, Adj.	1mA	700mV	TO-220		
MIC29750	7.5A	2.5V to 26V	3.3, 5.0	35mA	425mV	TO-247	Load Dump Protection.	
MIC29751	7.5A	2.5V to 26V	3.3, 5.0	35mA	425mV	TO-247	Load Dump Protection.	
MIC29752	7.5A	2.5V to 26V	Adj.	35mA	425mV	TO-247	Load Dump Protection.	

## Multiple Outputs, DUAL

Device	I <sub>OUT</sub>	V <sub>IN</sub>	V <sub>OUT</sub>	I <sub>GND</sub> (Typ.)	V <sub>DROPOUT</sub> (Typ.)	Package	Comments	µCaP
MIC5208	50/50mA	2.5V to 16V	3.3, 3.8, 4.0	180µA	250mV	MSOP	±3%	Yes
MIC5211	50/50mA	2.5V to 16V	1.8, 1.8/2.5, 1.8/3.3, 2.5, 2.5/3.3, 2.7, 2.8, 3.0, 3.3, 3.3/5.0, 3.6, 5.0,					
MIC5202	100/100mA	2.5V to 26V	3.0, 3.3, 4.8, 5.0	170µA	225mV	SOIC	±1%	
MIC5254	150mA	2.7V to 6V	3.3/2.5	117µA	135mV	MSOP	w/Error Flags.	Yes
MIC5310	150/150mA	2.3V to 5.5V	1.8/1.5, 1.8/1.8, 1.8/1.6, 2.4/1.5, 2.5/1.8, 2.5/2.5, 2.6/1.85, 2.6/1.8, 2.7/2.7, 2.8/1.5, 2.8/1.8, 2.8/2.6, 2.8/2.8, 2.85/1.85, 2.85/2.6, 2.85/2.85, 2.9/1.5, 2.9/1.8, 2.9/2.9, 3.0/1.8, 3.0/2.5, 3.0/2.6, 3.0/2.8, 3.0/2.85, 3.0/3.0, 3.3/1.5, 3.3/1.8, 3.3/2.5, 3.3/2.6, 3.3/2.8, 3.3/2.85, 3.3/2.9, 3.3/3.0, 3.3/3.2, 3.3/3.3,	75µA	35mV	MLF <sup>®</sup> (2x2mm)	Tiny ULDO™ • Dual Enable • High PSRR	Yes
MIC5320	150/150mA	2.3V to 5.5V	1.8/1.5, 1.8/1.8, 1.8/1.6, 2.4/1.5, 2.5/1.8, 2.5/2.5, 2.6/1.85, 2.6/1.8, 2.7/2.7, 2.8/1.5, 2.8/1.8, 2.8/2.6, 2.8/2.8, 2.85/1.85, 2.85/2.6, 2.85/2.85, 2.9/1.5, 2.9/1.8, 2.9/2.9, 3.0/1.8, 3.0/2.5, 3.0/2.6, 3.0/2.8, 3.0/2.85, 3.0/3.0, 3.3/1.5, 3.3/1.8, 3.3/2.5, 3.3/2.6, 3.3/2.8, 3.3/2.85, 3.3/2.9, 3.3/3.0, 3.3/3.2, 3.3/3.3, 4.6/2.8,	75µA	35mV	MLF <sup>®</sup> (1.6x1.6mm) TSOT-06	Tiny ULDO™ • Dual Enable	Yes
MIC5321	150/150mA	2.3V to 5.5V	1.8/1.5, 1.8/1.8, 1.8/1.6, 2.4/1.5, 2.5/1.8, 2.5/2.5, 2.6/1.85, 2.6/1.8, 2.7/2.7, 2.8/1.5, 2.8/1.8, 2.8/2.6, 2.8/2.8, 2.85/1.85, 2.85/2.6, 2.85/2.85, 2.9/1.5, 2.9/1.8, 2.9/2.9, 3.0/1.8, 3.0/2.5, 3.0/2.6, 3.0/2.8, 3.0/2.85, 3.0/3.0, 3.3/1.5, 3.3/1.8, 3.3/2.5, 3.3/2.6, 3.3/2.8, 3.3/2.85, 3.3/2.9, 3.3/3.0, 3.3/3.2, 3.3/3.3, 4.6/2.8,	75µA	35mV	MLF <sup>®</sup> (1.6x1.6mm) TSOT-6	Tiny ULDO™ • High PSRR • Common Enable • Bypass Pin	Yes
MIC5210	150/150mA	2.5V to 16V	2.7, 2.8, 3.0, 3.3, 3.6, 4.0, 5.0	80µA	165mV	MSOP	Low Noise LDO.	
MIC5264	150/150mA	2.7V to 5.5V	2.5/1.8, 2.6/1.8, 2.6/2.6, 2.8/1.5, 2.8/1.8, 2.8/2.5, 2.8/2.6, 2.8/2.8, 2.85/1.52, 2.85/1.8, 2.85/2.85, 2.9/2.6, 3.0/1.8, 3.0/2.5, 3.0/2.8, 3.0/3.0, 3.3/3.3	75µA/LDO	210mV	MLF <sup>®</sup> (2.5x2.5mm)	µCap LDO Regulator.	Yes
MIC2210	150/300mA	2.25V to 5.5V	1.5/2.8, 1.8/3.3, 2.8/1.6, 2.8/3.0, 3.0/3.3, 3.3/3.3	48µA	120mV	MLF <sup>®</sup> (3x3mm)	LDO w/Driver & Error Flag.	
MIC2211	150/300mA	2.25V to 5.5V	Adj/Adj, 1.5/1.8, 1.5/2.8, 1.5/2.85, 1.5/2.9, 1.5/3.1, 1.6/2.8, 1.6/2.9, 1.6/3.3, 1.8/2.5, 1.8/2.6, 1.8/2.8, 1.8/2.9, 1.8/3.0, 1.8/3.3, 1.9/2.8, 2.0/3.0, 2.5/1.8, 2.5/1.9, 2.5/2.8, 2.5/3.0, 2.5/3.3, 2.6/1.8, 2.6/2.85, 2.6/3.0, 2.7/1.8, 2.7/3.0, 2.8/1.5, 2.8/1.6, 2.8/1.8, 2.8/2.5, 2.8/2.8, 2.8/3.0, 2.8/3.3, 2.85/2.85, 2.85/3.3, 2.9/1.5, 2.9/2.9, 3.0/1.6, 3.0/2.7, 3.0/2.8, 3.0/2.85, 3.0/3.0, 3.0/3.3, 3.3/1.8, 3.3/2.8, 3.3/3.3, 3.6/3.6	48µA	120mV	MLF <sup>®</sup> (3x3mm)	LDO.	Yes

# LDO Regulator Selection Guide

## Multiple Outputs, DUAL (continued)

Device	I <sub>OUT</sub>	V <sub>IN</sub>	V <sub>OUT</sub>	I <sub>GND</sub> (Typ.)	V <sub>DROPOUT</sub> (Typ.)	Package	Comments	μCaP
MIC2212	150/300mA	2.25V to 5.5V	1.6/2.8, 1.6/3.3, 1.8/2.6, 1.8/2.7, 1.8/2.8, 1.8/3.0, 1.8/3.3, 1.85/2.85, 1.85/2.9, 2.5/3.3, 2.6/2.8, 2.6/2.85, 2.7/2.8, 2.7/2.9, 2.7/3.0, 2.8/2.6, 2.8/2.8, 2.8/3.0, 2.85/2.85, 3.0/2.8, 3.0/2.85, 3.0/3.0, 3.0/3.3, 3.3/1.8, 3.3/2.5, 3.3/2.8	48μA	120mV	MLF <sup>®</sup> (3x3mm)	LDO w/POR.	Yes
MIC2213	150/300mA	2.25V to 5.5V	1.8/2.85, 1.8/3.3, 2.5/3.3, Adj/Adj.	48μA	120mV	MLF <sup>®</sup> (3x3mm)	Sequenced w/POR & Driver.	Yes
MIC2214	150/300mA	2.25V to 5.5V	1.5/2.8, 1.6/2.8, 1.6/3.0, 1.6/3.3, 1.8/2.6, 1.8/2.7, 1.8/2.8, 1.8/2.9, 1.8/3.0, 1.8/3.3, 1.85/2.6, 1.85/2.65, 1.85/2.7, 1.85/2.85, 1.85/2.9, 2.5/1.8, 2.5/2.8, 2.5/3.0, 2.5/3.1, 2.6/2.6, 2.6/2.8, 2.6/2.85, 2.6/3.0, 2.7/2.8, 2.7/3.0, 2.8/2.8, 2.8/3.0, 2.85/2.85, 3.0/2.8, 3.0/2.85, 3.0/3.3, 3.0/1.6, 3.3/1.8, 3.3/2.8, 3.3/1.6, Adj/Adj.	48μA	120mV	MLF <sup>®</sup> (3x3mm)	LDO w/POR & LED Driver.	Yes
MIC2219	150/300mA	2.25V to 5.5V	3.0/3.3	48μA	120mV	MLF <sup>®</sup> (3x3mm)	Dynamically Adjustable μCap.	Yes
MIC5311	300/300mA	2.5V to 5.5V	1.8/2.8, 1.85/2.6, 2.85/2.7	28μA	120mV	MLF <sup>®</sup> (3x3mm)	LowQ <sup>®</sup> Mode (7μA)	Yes
MIC5312	300/300mA	2.5V to 5.5V	1.8/2.8, 1.8/3.0, 1.85/2.6, 2.8/2.8, 2.85/2.85	28μA	120mV	MLF <sup>®</sup> (3x3mm)	LowQ <sup>®</sup> Mode & POR (7μA)	Yes
MIC5330	300/300mA	2.3V to 5.5V	1.8/1.5, 1.8/1.5, 1.8/1.6, 2.5/1.8, 2.5/2.5, 2.6/1.85, 2.6/1.8, 2.7/2.7, 2.8/1.5, 2.8/1.8, 2.8/2.6, 2.8/2.8, 2.85/1.85, 2.85/2.6, 2.85/2.85, 2.9/1.5, 2.9/1.8, 2.9/2.9, 3.0/1.8, 3.0/2.5, 3.0/2.6, 3.0/2.8, 3.0/2.85, 3.0/3.0, 3.3/1.5, 3.3/1.8, 3.3/2.5, 3.3/2.6, 3.3/2.8, 3.3/2.85, 3.3/2.9, 3.3/3.0, 3.3/3.2, 3.3/3.3	75μA	75mV	MLF <sup>®</sup> (2x2mm)	Tiny ULDO™ • Dual Enable • High PSRR	Yes
MIC5335	300/300mA	2.3V to 5.5V	1.8/1.5, 1.8/1.8, 1.8/1.6, 2.5/1.8, 2.5/2.5, 2.6/1.85, 2.6/1.8, 2.7/2.7, 2.8/1.5, 2.8/1.8, 2.8/2.6, 2.8/2.8, 2.85/1.85, 2.85/2.6, 2.85/2.85, 2.9/1.5, 2.9/1.8, 2.9/2.9, 3.0/1.8, 3.0/2.5, 3.0/2.6, 3.0/2.8, 3.0/2.85, 3.0/3.0, 3.3/1.5, 3.3/1.8, 3.3/2.5, 3.3/2.6, 3.3/2.7, 3.3/2.8, 3.3/2.85, 3.3/2.9, 3.3/3.0, 3.3/3.2, 3.3/3.3	75μA	75mV	TMLF (1.6x1.6mm)	High I <sub>OUT</sub> , Ultra-small.	Yes
MIC5212	500/500mA	4.0V to 16V	3.3/2.5	1.5mA	350mV	SOIC	Small, High-Current Dual.	
MIC68220	2A/2A	1.65V to 5.5V	Adj./Adj.	15mA	300mV	MLF <sup>®</sup> (4x5mm)	Trading and Ramp Control.	Yes

## Multiple Outputs, TRIPLE

Device	I <sub>OUT</sub>	V <sub>IN</sub>	V <sub>OUT</sub>	I <sub>GND</sub> (Typ.)	V <sub>DROPOUT</sub> (Typ.)	Package	Comments	μCaP
MIC2215	250/250/250mA	2.25V to 5.5V	2.8/2.8/2.8, 3.0/2.8/2.8, 3.0/3.0/2.8, 3.0/3.0/1.8, 3.0/3.0/3.0, Adj/Adj/Adj	110μA/LDO	170mV	MLF <sup>®</sup> (4x4mm)	Triple High PSRR μCap LDO.	Yes

## LDO Controllers (N- and P-Channel), and DDR Terminators

Device	I <sub>OUT</sub>	V <sub>IN</sub>	V <sub>OUT</sub>	I <sub>GND</sub> (Typ.)	V <sub>DROPOUT</sub> (Typ.)	Package	Comments	μCaP
MIC5156	—	3.0V to 36V	3.3, 5.0, Adj.	—	—	SOIC	Drives External N-Ch MOSFET.	
MIC5157	—	3.0V to 36V	Selectable 3.3, 5.0, 12	—	—	PDIP, SOIC	Drives External N-Ch MOSFET.	
MIC5158	—	3.0V to 36V	5.0, Adj.	—	—	PDIP, SOIC	Drives External N-Ch MOSFET.	
MIC5159	—	1.65V to 5.5V	1.8, 3.0, Adj.	—	—	SOT-23	Low Input Voltage P-Ch MOSFET.	
MIC5162	—	1.35V to 6V	—	—	—	MSOP	DDR Memory Termination.	
MIC5190	—	0.9V to 5.5V	Adj. down to 0.5V	17mA	—	MSOP, MLF <sup>®</sup> (3x3mm)	N-Ch Controller HBW>500kHz.	
MIC5191	—	1.0V to 5.5V	Adj. down to 1.0V	17mA	—	MSOP, MLF <sup>®</sup> (3x3mm)	N-Ch Controller HBW>500kHz.	

Specific voltage/package options offered as noted on posted data sheets at: [www.micrel.com](http://www.micrel.com).

T/SOT = Thin SOT-23 & SOT-23

ULDO™ = Ultra Low Dropout

# LDO Regulator Selection Guide

## Power Management ICs

Device	I <sub>OUT</sub>	V <sub>IN</sub>	V <sub>OUT</sub> <sup>(1)</sup>	I <sub>GND</sub> (Typ.)	V <sub>DROPOUT</sub> (Typ.)	Package	Comments
MIC2225 <i>New!</i>	600/300mA	2.7V to 5.5V	1.2/2.6, 1.2/2.8, 1.2/2.9, 1.2/3.3, 1.8/1.2, 1.8/1.5, 1.8/2.5, 1.8/2.8		210mV	MLF-10 (2x2mm)	Digital Power Management IC, 2MHz DC/DC converter with LDO.
MIC2800	600/300/300mA	2.7V to 5.5V	Adj., 1.2/3.3, 1.87/1.2/2.8, 1.87/1.5/2.8, 1.8/1.2/2.5, 1.8/1.2/2.6, 1.8/1.2/3.3, 1.8/1.58/3.3, 1.8/1.52/2.8, 1.8/1.2/2.8	30µA	142mV	MLF-16 (3x3mm)	Digital Power Management IC, 2MHz DC/DC converter with two Linear Regulators. LDO1 is directly connected to the output of the DC/DC converter.
MIC2810	600/300/300mA	2.7V to 5.5V	1.2/1.2/2.8, 1.2/1.8/2.6, 1.2/1.8/2.8, 1.2/1.8/3.0, 1.2/1.8/3.3, 1.2/2.7/3.3, 1.2/2.8/3.3, 1.0/1.8/2.5			MLF-16 (3x3mm)	Digital Power Management IC, 2MHz with two Linear Regulators. LDO 1 has a separate V <sub>IN</sub> pin and can either post-regulate the DC/DC converter to be connected directly to the main input supply.
MIC2807	600/200/30mA	2.7V to 5.5V	2.8/2.8, 2.85/2.85			MLF-17 (2.5x2.8mm)	RF Power Management IC, 600mA DC/DC converter with DAC controlled output to power amplifier. 200mA RF LDO output current (provides bias voltage supply for PA), 30mA PA LDO (provides highly accurate PA reference voltage).

1. Contact factory for additional output voltage options.

## SuperLNR™ (Switchers Slaved by LDO)

Device	I <sub>OUT</sub>	V <sub>IN</sub>	V <sub>OUT</sub>	Output Noise	Package	Comment
MIC38300	2.2A	3.0V to 5.5V	Adj. to 1V	5mV	MLF® (4mmx6mmx0.9mm)	Integrated switcher, LDO, inductor, ultra-low noise. Fast transient response. Ease-of-use.

# Battery Charger Selection Guide

## Linear Battery Chargers

Device	Charge Cell Type	Charge Voltage	Voltage Accuracy	V <sub>IN</sub>	I <sub>GND</sub> (Typ.)	I <sub>GND</sub> Shutdown (Typ.)	V <sub>DROPOUT</sub> +25°C (Typ.)	V <sub>DROPOUT</sub> Temp. Max.	Package
MIC79050	Li-Ion, 1 cell	4.2V	±0.75%	2.5V to 16V	85µA	3µA	380mV	600mV	MSOP, Power SOIC, SOT-223
MIC79110	Li-Ion	4.2V, Adj.	±0.75%	2.5V to 16V	2mA	0.1µA	375mV	550mV	MLF® (3x3mm)

# High-Side Load Switches Selection Guide

## Micrel Advantage

- Lowest R<sub>DS(ON)</sub>
- Highest Power Handling
- Highest Current Drive Capability
- Soft-Start

Device	Type	Operating Voltage Min.	Operating Voltage Max.	Max. Switch Current	R <sub>DS(ON)</sub> @5V	Load Discharge	Soft-Start	Enable Logic	Input Pull-Up Resistor	Reverse Current Blocking	Package
MIC94030	Single	2.7V	13.5V	1.0A	750mΩ			Low True		Yes	SOT-143
MIC94031	Single	2.7V	13.5V	1.0A	750mΩ			Low True	Yes	Yes	SOT-143
MIC94050	Single	1.8V	5.5V	1.8A	125mΩ			Low True		Yes	SOT-143
MIC94051	Single	1.8V	5.5V	1.8A	125mΩ			Low True	Yes	Yes	SOT-143
MIC94052	Single	1.8V	5.5V	2.0A	70mΩ			Low True		No	SC-70-6
MIC94053	Single	1.8V	5.5V	2.0A	70mΩ			Low True	Yes	No	SC-70-6
MIC94060	Single	1.7V	5.5V	2.0A	75mΩ			High True		No	SC-70-6, MLF-4
MIC94061	Single	1.7V	5.5V	2.0A	75mΩ	Yes		High True		No	SC-70-6, MLF-4
MIC94062	Single	1.7V	5.5V	2.0A	75mΩ		Yes <sup>(1)</sup>	High True		No	SC-70-6, MLF-4
MIC94063	Single	1.7V	5.5V	2.0A	75mΩ	Yes	Yes <sup>(1)</sup>	High True		No	SC-70-6, MLF-4
MIC94064 <i>New!</i>	Single	1.7V	5.5V	2.0A	75mΩ		Yes <sup>(2)</sup>	High True		No	SC-70-6, MLF-4
MIC94065 <i>New!</i>	Single	1.7V	5.5V	2.0A	75mΩ	Yes	Yes <sup>(2)</sup>	High True		No	SC-70-6, MLF-4
MIC94066	Dual	1.7V	5.5V	2.0A	75mΩ			High True		No	MLF-8
MIC94067	Dual	1.7V	5.5V	2.0A	75mΩ	Yes		High True		No	MLF-8
MIC94068	Dual	1.7V	5.5V	2.0A	75mΩ		Yes	High True		No	MLF-8
MIC94069	Dual	1.7V	5.5V	2.0A	75mΩ	Yes	Yes	High True		No	MLF-8
MIC94070	Single	1.7V	5.5V	1.2A	120mΩ			High True		No	SC-70-6, MLF-4
MIC94071	Single	1.7V	5.5V	1.2A	120mΩ	Yes		High True		No	SC-70-6, MLF-4
MIC94072	Single	1.7V	5.5V	1.2A	120mΩ		Yes	High True		No	SC-70-6, MLF-4
MIC94073	Single	1.7V	5.5V	1.2A	120mΩ	Yes	Yes	High True		No	SC-70-6, MLF-4

1. 800µs turn-on rising time.

2. 115µs turn-on rising time.