

# Selection Guide of Liteon-Semi DPM's Product Line



## ■ Linear Regulator

### Bipolar LDO

Part Number	Additional Features	Input Voltage (max.)	Output Voltage	Output Current (max.)	Accuracy	Quiescent Current		Dropout Voltage	Package	Availability
						Typ.	Standby			
LSP1101	a,b	8V	ADJ/5.0V/3.3V/2.5V/1.8V/1.5V/1.2	1A	±2%	5mA	—	1.4V@1A	SOT223-3L TO252-3L	Q309
LSP1117	a,b	20V	ADJ/5.0V/3.3V/2.5V/1.8V/1.5V/1.2	1A	±2%	5mA	—	1.4V@1A	SOT223-3L TO252-3L	Now
LSP1084	a,b	12V	ADJ/5.0V/3.3V/2.5V/1.8V /1.5V	5A	±2%	5mA	—	1.5V@5A	TO252-3L TO263-3L TO220-3L	Now

a: Current Limit; b: Thermal Shutdown

### CMOS LDO

Part Number	Additional Features	Input Voltage (max.)	Output Voltage	Output Current (max.)	Accuracy	Quiescent Current		Dropout Voltage	Package	Availability
						Typ.	Standby			
LSP2130	a,b,c	5.5V	4.0V/3.8V/3.3V/3.1V/3.0V/2.9V/2.8V/2.8V/2.5V/1.8V/1.3V/1.2V	300mA	±2%	65uA	—	180mV@300mA	SOT23-3L SC70-3L	Now
LSP2131	a,b,c	5.5V	4.0V/3.8V/3.3V/3.1V/3.0V/2.9V/2.8V/2.8V/2.5V/1.8V	300mA	±2%	65uA	—	180mV@300mA	SOT23-3L SC70-3L	Now
LSP2132	a,b,c,d,f	5.5V	4.0V/3.8V/3.3V/3.1V/3.0V/2.9V/2.8V/2.8V/2.5V/1.8V/1.2V	300mA	±2%	65uA	0.5uA	180mV@300mA	SOT23-5L SC70-5L	Now
LSP2133	a,b,c,d,f	5.5V	ADJ	300mA	±2%	65uA	0.5uA	180mV@300mA	SOT23-5L	Now
LSP2134	a,b,c,d,f	5.5V	4.0V/3.8V/3.3V/3.1V/3.0V/2.9V/2.8V/2.8V/2.5V/1.8V/1.2V	300mA	±2%	65uA	0.5uA	180mV@300mA	USP6L	Now
LSP2155	a,b,c,d,e	5.5V	3.3V/2.5V/1.8V/1.5V/1.2V/Adj	1A	±2%	90uA	—	200mV@1A	A	Q309
LSP2159	a,b,c,d,e	5.5V	5.0V/3.3V/3.0V/2.85V/2.8V/2.5V/1.8V/1.5V	1.5A	±2%	90uA	—	600mV@1.5A	SOT223-3L TO252-3L	Now
LSP2160	a,b,c,d,e	5.5V	3.3V/3.0V/2.85V/2.8V/2.5V/1.8V/1.5V/1.2V/1.0V/0.9V	1.5A	±2%	90uA	—	150mV@1.5A	A	Now
LSP2170	a,b,c,d,e	5.5V	3.3V/3.0V/2.85V/2.8V/2.5V/1.8V/1.5V/1.2V/1.0V/0.10V	3A	±2%	90uA	—	300mV@3.0A	B	Now

a: Current Limit; b: Thermal Shutdown; c: Low Quiescent current; d: Enable/shutdown control; e: Power good; f: Low noise bypass; g: Dual output

A: SOT223-3L, TO252-3L, TO252-5L, SOP8L-EP; B: TO263-3L, TO263-5L, TO220-3L, TO252-3L, TO252-5L, SOP8L-EP

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## Shunt Regulator

Part Number	Additional Features	Reference Voltage	Input Voltage	Current	Accuracy	Operating Temp.	Package	Availability
LT431	Open Collector	2.495V	36V	200mA	±0.5% ±1%	-20~85	TO92-3L SOT23-3L	Now

## ■ Switching Regulator

### Simple Switch/Step down

Part Number	Additional Features	Input Voltage	Output Current	Oscillation Frequency	Output Channel	Standby Current	Efficiency	Package	Availability
LSP3100	a,c,d,e,g,f,l	2.5V~6.5V	600mA(ADJ/1.8V)	1.5Mhz	1	1uA	96%	SOT23-5L	Now
LSP3101	a,c,d,e,g,f,l	2.5V~6.5V	800mA(1.2V/1.5V/2.5V/2.8V/3.3V)	1.5Mhz	1	1uA	96%	SOT23-5L	Now
LSP3102	a,c,d,e,g,f,l	2.5V~6.5V	1A(1.2V/1.5V/1.8V/ADJ)	1.5Mhz	1	1uA	96%	SOT89-5L QFN3*3-16L	Now
LSP3103	a,c,d,e,g,f,l	2.5V~6.5V	500mA(ADJ/1.8V)	1.5Mhz	1	1uA	96%	SOT23-5L	Now
LSP3105	a,c,d,e,g,f,l	2.5V~6.0V	2A(ADJ/1.8V)	1.2Mhz	1	1uA	96%	TDFN3*3-10L	Now
LSP3112	a,c,d,e,g,f,i	2.5V~5.5V	600mA each channel	1.5Mhz	2	1uA	96%	MSOP10L DFN3*3-10L	Now
LSP3113	a,c,d,e,g,f,i	2.5V~6.5V	800mA each channel	1.5Mhz	2	1uA	96%	TDFN3*3-10L	Now
LSP3120	b,c,d,e,f,g,h	40V(max)	3A	52KHz	1	70uA	85%	TO263-5L TO220-5L	Now
LSP3121	b,c,d,e,f,g,h	40V(max)	3A	52KHz	1	70uA	85%	TO252-5L	Now
LSP3122	b,c,d,e,f,g,h	40V(max)	3A	150KHz	1	70uA	85%	TO263-5L TO220-5L	Now
LSP3122A	b,c,d,e,f,g,h	40V(max)	5A	300KHz	1	70uA	85%	TO263-5L TO220-5L	Now
LSP3123	b,c,d,e,f,g,h	22V(max)	3A	150KHz	1	70uA	85%	TO263-5L TO220-5L	Now
LSP3124	b,c,d,e,f,g,h	22V(max)	3A	150KHz	1	70uA	85%	TO252-5L	Now
LSP3125	b,c,d,e,f,g,h	22V(max)	2A	150KHz	1	70uA	85%	SOP8L	Now
LSP3125A	b,c,d,e,f,g,h	40V(max)	2A	150KHz	1	70uA	85%	SOP8L	Now
LSP3126A	b,c,d,e,f,g,h	20V(max)	2A	410KHz	1	8uA	90%	SOP8L-EP	Now
LSP3126B	b,c,d,e,f,g,h	20V(max)	2A	410KHz	1	8uA	90%	SOP8L-EP	Now
LSP3127	b,c,d,e,f,g,h	40V(max)	2A	52KHz	1	70uA	85%	SOP8L-EP	Now
LSP3128	b,c,d,e,f,g,h	30V(max)	3A	400KHz	1	6uA	93%	SOP8L-EP	Now
LSP3129	b,c,d,e,f,g,h	30V(max)	2A	400KHz	1	6uA	92%	SOP8L-EP	Now
LSP3130	b,c,d,e,f,g,h,j,k	18V(max)	2A	300KHz	1	10uA	92%	SOP8L	Now
LSP3131	b,c,d,e,f,g,h,j,k	23V(max)	3A	300KHz	1	10uA	92%	SOP8L	Now
LSP3132	b,c,d,e,f,g,h,j,k	23V(max)	5A	300KHz	1	10uA	92%	SOP8L	Now
LSP3133	b,c,d,e,f,g,h,j,k	23V(max)	2A	300KHz	1	10uA	92%	SOP8L	Now
LSP5701	b,c,d,e,f,g,h,j,k	40V(max)	2A	600KHz	1	10uA	92%	SOP8L	Q3'09
LSP5702	b,c,d,e,f,g,h,j,k	40V(max)	3A	600KHz	1	10uA	92%	SOP8L	Q3'09
LSP5502	a,c,d,e,f,g,h,j,k	30V(max)	2A	400KHz	1	3uA	96%	SOP8L	Now
LSP5503	a,c,d,e,f,g,h,j,k	30V(max)	3A	400KHz	1	3uA	96%	SOP8L	Now
LSP3170	b,c,d,e,f,g,h,j,k	20V(max)	2A	400KHz	1	8uA	95%	SOP8L	Now
LSP3171	b,c,d,e,f,g,h,j,k	20V(max)	2A	400KHz	1	8uA	95%	MSOP10L-EP	Now
LSP3172	b,c,d,e,f,g,h,j,k	30V(max)	2.5A	400KHz	1	8uA	95%	SOP8L	Now
LSP5704	b,c,d,e,f,g	40V(max)	2A	ADJ	1	70uA	85%	SOP8L-EP	Q3'09
LSP5705	b,c,d,e,f,g	40V(max)	5A	ADJ	1	70uA	85%	TO-220-7	Q3'09

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a: Synchronous stepdown; b: Asynchronous stepdown; c: Enable/shutdown control; d: Internal Switch; e: Current Limit; f: Thermal Shutdown; g: Idle mode operation; h: Fixed PWM Output; i: Dual channels; j: Under Voltage Lockout; k: soft start; l: Low-Dropout Operation

## Step-up DC/DC Controller

Part Number	Additional Features	Input Voltage	Output Current	Oscillation Frequency	Output Channel	Standby Current	Efficiency	Package	Availability
LSP3601	a,b,c,f,g	1.8V~15V	40mA	1.0MHz	1	1uA	90%	SOP8L TSSOP8L MSOP8L	Now
LSP3602	b,c,e,g,h,i	0.6V~5V	600mA	1.4Mhz	1	200uA	96%	SOT23-6L	Now
LSP3603	b,c,e,g,h,l,j	0.6V~5V	300mA	1.2Mhz	1	200uA	90%	SOT23-6L	Now
LSP3604	b,c,e,g,h,l,j	0.9V~6V	750mA	1.0Mhz	1	1mA	90%	SOT23-6L	Now

a: Soft start; b: Enable/shutdown control; c: Short circuit protection; d: Thermal Shutdown; e: Internal Switch; f: Under Voltage Lockout; g: Idle mode operation; h: synchronous, step-up; i: Fixed PWM Output; j: Pulse Skipping Mode operation at light loads

## LED Driver

Part Number	Additional Features	Input Voltage	Output Current	Oscillation Frequency	Output Channel	Standby Current	Efficiency	Package	Availability
LSP3301	a,c,e,f,g,h,i,j,k	2.5V~6V	20mA	1.3MHz	1	0.1 uA	87%	TSOT23-6L DFN2*2-8L	Now
LSP3305	a,c,e,f,g,h,i,j,k	2.5V~6V	20mA	1.3MHz	1	0.1 uA	87%	TSOT23-6L	Now
LSP7601	a,c,e,f,g,h,i,j,k	40V(max)	1A	1.0MHz	1	1 uA	85%	SOT23-6L	Q3'09
LSP7703	a,c,e,f,g,h,i,j,k	40V(max)	2A	1.0MHz	1	1 uA	85%	SOT23-6L	Q3'09
LSP3308A	a,c,e,f,g,h,i,j	28V(max)	2.5A	ADJ	6	5 uA	90%	QFN4*4-24L	Now
LSP3309	a,c,e,f,g,h,i,j	40V(max)	1A	ADJ	1	5 uA	95%	QFN6*6-40L TSSOP-20L	Now
LSP3312	a,c,e,f,g,h,i,j	35V(max)	1.4A	ADJ	1	10 uA	95%	SOT23-5L MSOP-8L SOP8L-EP	Now
LSP7704	a,c,e,f,g,h,i,j	40V(max)	2A	ADJ	1	10 uA	90%	SOP8L-EP	Q3'09
LSP7705	a,c,e,f,g,h,i,j	40V(max)	2A	150KHz	2	10uA	90%	SOP8L-EP	Q3'09
LSP7501	a,b,e,f,g,i,j,k	20V(max)	2A	600KHz	1	1 uA	90%	SOP8L	Q3'09
LSP7502	a,b,e,f,g,i,j,k	20V(max)	3A	600KHz	1	1 uA	90%	SOP8L	Q3'09
LSP7701	a,b,e,f,g,i,j,k	30V(max)	2A	600KHz	1	1 uA	90%	SOP8L	Q3'09
LSP7702	a,b,e,f,g,i,j,k	30V(max)	3A	600KHz	1	1 uA	90%	SOP8L	Q3'09

a: Inductive mode; b: Constant voltage; c: Constant current; d: frequency adj; e: Internal switch; f: Soft start; g: UVLO; h: OVP; i: Short circuit protection; j: Thermal Shutdown; k: Fixed PWM Output

## Reset IC

Part Number	Type	Operation Voltage	Quiescent Current	Output	Accuracy	Detect Voltage	Operating Temp.	Package	Availability
LSP2200	Active Low	1V~5.5V	19uA	Push-pull	±2.5%	2.63/2.93/3.08/ 4.00/4.20V/4.38/4.63	-40~105	SOT23 -3L	Now

## Li-ion Battery Charger

Part No.	Additional Features	Input Voltage	Output Current	Oscillation Frequency	Output Channel	Standby Current	Efficiency	Package	Availability
LSP4054	a,b,c,d	4.25~6.5	750mA	—	1	25uA	—	SOT23-5L	Now

a: Pre-Charge current; b: Soft start; c: Under voltage lock out; d: Thermal protection

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## Ordering Information (LSX####XXXX)

XXX	####	X	X	X	X
Liteon Product	Part Number	Package	Output Voltage	Packing	Temperature Grade
LSH=Liteon Hall IC	10## = LDO	C=SOT23	Blank=adj	Blank: Tube or Bulk	Blank= 0~70°C
LSP=Liteon Power IC	11## = LDO	D=TO252	09=0.9V	A: Tape & Reel	C= -20~85°C
	21## = CMOS LDO	E=SOT223	12=1.2V		D= -40~85°C
	22## = Reset IC	K=TO263	15=1.5V		E= -40~125°C
	31## =buck	L=DFN	18=1.8V		F= -40~150°C
	33## = LED Driver	LT=LDFN	25=2.5V		G= -20~125°C
	36## = boost	M=SIP3	26=2.6V		L= -40~105°C
		MS=MSOP	27=2.7V		H= -10~85°C
		N=PDIP	28=2.8V		K= -30~85°C
		Q=QFN	285=2.85V		
		μQ=μQFN	30=3.0V		
		S=SOP	33=3.3V		
		SS=SSOP	35=3.5V		
		T=TO220	50=5.0V		
		TC=TSOT23	12=12V		
		TS=TSSOP	15=15V		
		HTS=HTSSOP			
		U=USP			
		V=TO92			
		W=SC70			
		Y=SOT89			
Example: LSP3122K50AE					
LSP=Liteon Power IC	3122=buck	K=TO263	50=5.0V	A=Tape & Reel	E= -40~125°C

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## Packing Information

Part Number	Package Type	Quantity/Reel (pcs)	Quantity/Tube (pcs)	Quantity/bulk (pcs)	Reel Diam. (inch)	Tape Width (mm)	Tape Pitch (mm)
LSP####YA	SOT89-3L	1000	N/A	N/A	7	12	4
LSP####WA	SC70-3L/5L/6L	3000	N/A	N/A	7	8	4
LSP####CA	SOT23-3L/5L/6L	3000	N/A	N/A	7	8	4
LSP####T	TO220-3L/5L	N/A	50	N/A	N/A	N/A	N/A
LSP####SA	SOP8L	2500	N/A	N/A	13	12	4
LSP####S	SOP8L	N/A	100	N/A	N/A	N/A	N/A
LSP####QA	QFN8	5000	NA	NA	13	12	4
LSP####QA	QFN16	3000	N/A	N/A	13	12	4
LSP####LA	DFN10	3000	N/A	N/A	13	12	4
LSP####MSA	MSOP8L/10L	3000	N/A	N/A	13	12	4
LSP####TSA	TSSOP8L	3000	N/A	N/A	13	12	4
LSP####KA	TO263-3L/5L	800	N/A	N/A	13	24	4
LSP####K	TO263-3L/5L	N/A	50	N/A	N/A	N/A	N/A
LSP####DA	TO252-3L/5L	2500	N/A	N/A	13	16	4
LSP####D	TO252-3L/5L	NA	80	N/A	NA	NA	NA
LSP####EA	SOT223	2500	N/A	N/A	13	12	4
LSP####UA	USP6	5000	NA	NA	13	12	4
LSH####CA	SOT23-3L/6L	3000	N/A	N/A	7	8	4
LSH####TCA	TSOT23-3L	3000	N/A	N/A	7	8	4
LSH####M	SIP-3L	N/A	N/A	1000	N/A	N/A	N/A