

Lite-On Semiconductor Wireless AP Router Platform Solutions



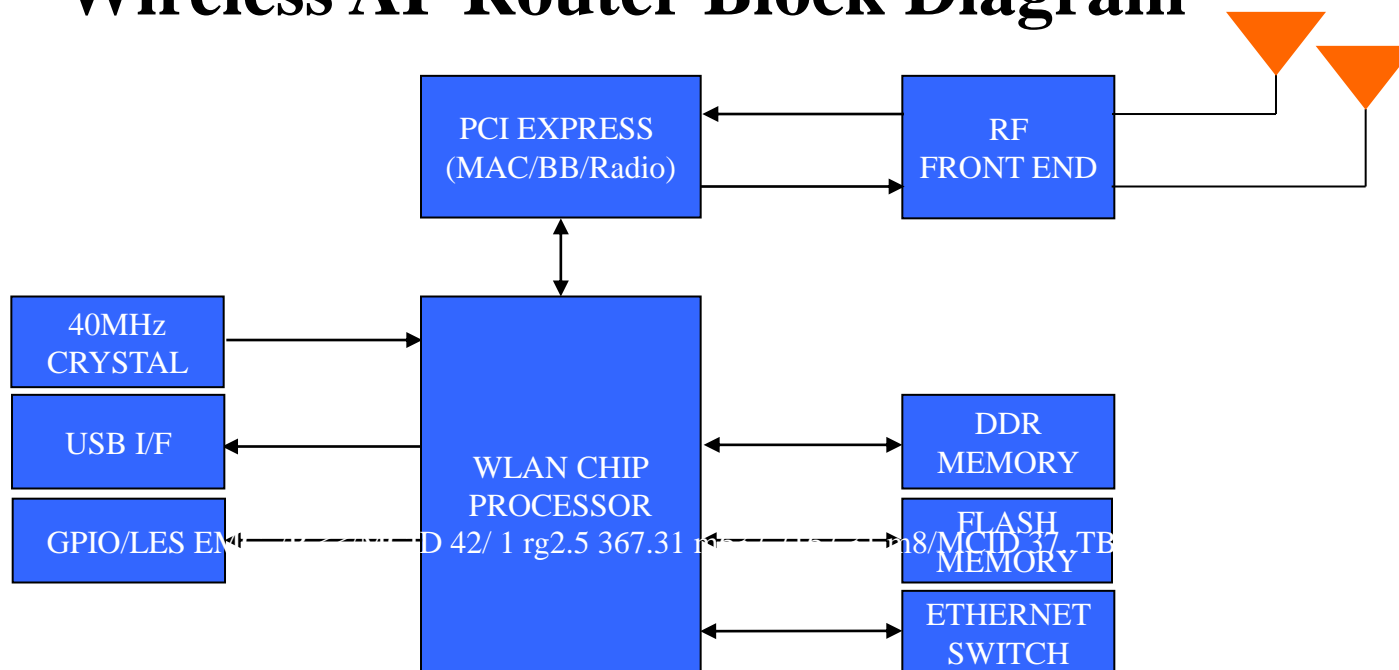
WORLD PRODUCTS, LLC

ELECTRONIC COMPONENT SOLUTIONS

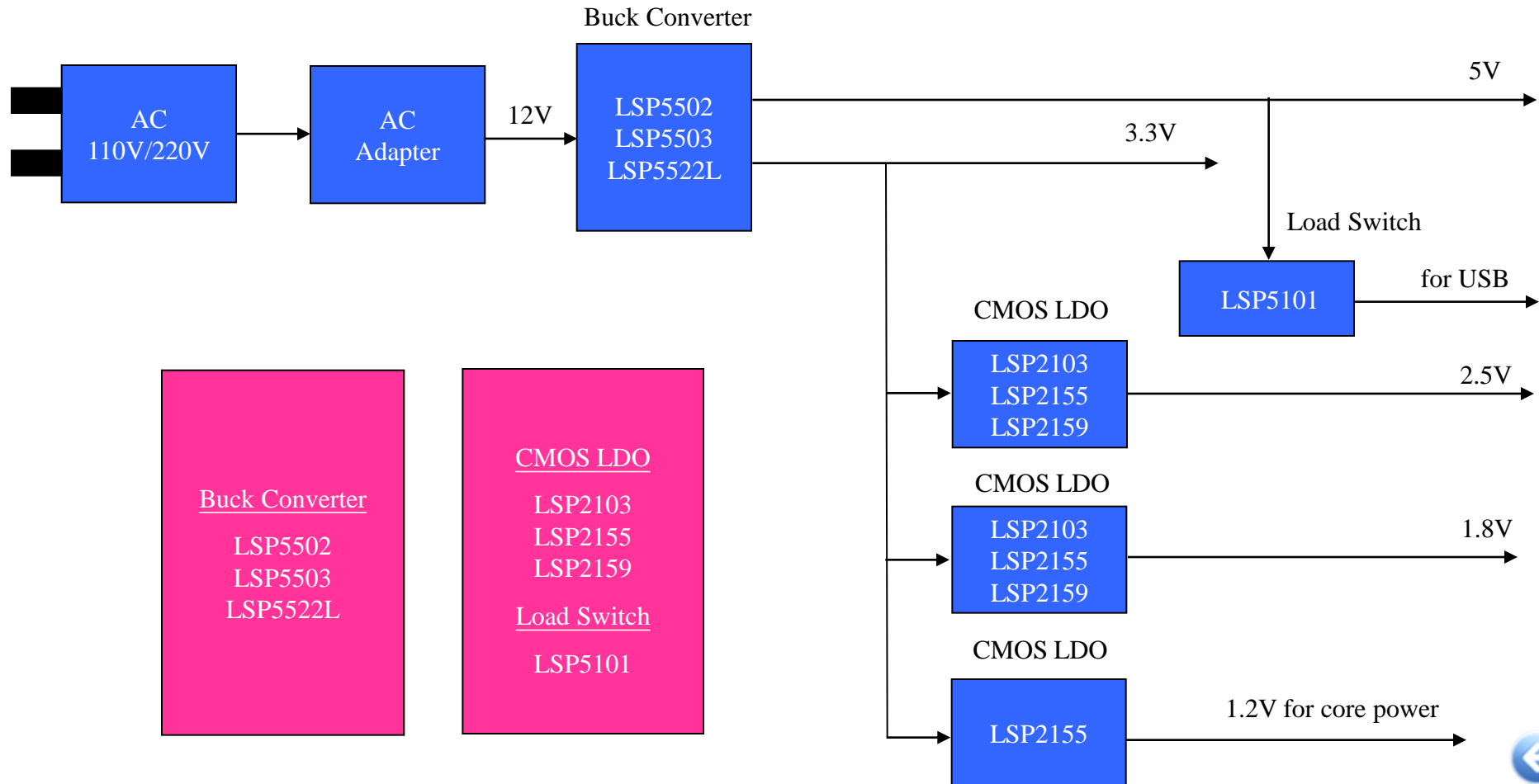
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Exclusive agent in the America's for all Lite-On Semiconductor products.

Wireless AP Router Block Diagram



AP Router DC to DC Block Diagram



LSC Product Selection Guide

Rectifier product

Part No.	Family	VR	I _{FAV}	I _{FSM}	IR @ VR	V _F @ I _F		Package
		Min. (V)	Max. (A)	Max. (A)	mA	Max. (V)	A	
B140	Schottky	40	1	30	0.5	0.5	1	SMA
B340A	Schottky	40	3	100	0.5	0.5	2	SMA
1N5819WL	Schottky	40	1	25	1	0.45	1	SOD-123
FB130LM	Schottky	30	1	50	0.4	0.38	1	Mite Flat
BAV99W	Switch	75	0.3	2	2.5uA@75V	1.25	0.15	SOT-23
1N4148W	Switch	75	0.3	2	1uA@75V	1.25	0.15	SOD-123
LS4148W/ WS	Switch	75	0.3	2	5uA@75V	1.25	0.15	1206/ 0805
HD06	Bridge	600	0.8	30	0.0005	1	0.4	HD06
MMSZ5242B	Zener	V _Z =12V@20mA		-	1uA@9.1V	-	-	SOD-123



LSC Product Selection Guide

Transient Voltage Suppressor (TVS)

Device Uni-directional	Device Bi-directional	Working Peak Reverse Voltage VRWM(Volts)	Breakdown voltage VBR Volts			Maximum Reverse Leakage at VRWM IR (uA)	Maximum Reverse Surge Current IRSM(Amps)	Maximum Reverse Voltage at IRSM (Clamping Voltage) VRSM(Volts)
			Min.	Max.	@IT(mA)			
SMAJ5.0A	SMAJ5.0CA	5.0	6.40	7.07	10	800	43.5	9.2
SMAJ8.0A	SMAJ8.0CA	8.0	8.89	9.83	1	50	29.4	13.6



LSC Product Selection Guide

Surface Mount ESD Protection Device

Part Number	Peak Power Dissipation 8x20μs	Reverse standoff voltage	Max Reverse Leakage @ VR	Max Clamping Voltage @8x20μs	Peak Pulse Current 8x20μs	Off-State Capacitance 1MHz Zero DC Bias	Package
		VR	IR	Vc	Ipp	Co	
	W	V	uA	V	A	pF	
L13ESD5V0CB2	130	5	0.1	14	12	45	SOD-323
L35ESD5V0CB2	350	5	10	14.5	24	200	SOD-323
L35ESD12VCB2	350	12	1	24	15	100	SOD-323
L35ESDL5V0CB2	350	5	5	21	17	3.5	SOD-323



LSC Product Selection Guide

DPM CMOS LDO

Part No.	Features	Input Voltage	Output Voltage	Output Current	PSRR	Accuracy	I _Q	Dropout Voltage	Package
LSP2103	a,b,c	5.5V	1.5V/1.8V/2.5V/2.8V/3.3V	1A	60dB	±2%	35uA	300mV at 300mA	SOT223-3L, TO252-3L
LSP2155	a,b,c	4V	1.2V/1.8V/2.5V/3.3V/A DJ	1A	65dB	±2%	250uA	250mV at 1A	SOT223-3L, TO252-3L, SOP-8L
LSP2159	a,b,c	5.5V	1.5V/1.8V/2.5V/2.8V/2.85V/3.0V/3.3V/5.0V	1.5A	65dB	±2%	90uA	600mV at 1.5A	SOT223-3L, TO252-3L, TO263-3L

DPM Load Switch

Part No.	Type	Input Voltage	I _Q	Current Limit	Turn On/Off Time	R _{DS,ON}	Package
LSP5101	ADJ	2.7V ~ 5.5V	15uA	1.25A	200uS/2uS	160mΩ	SOT23 -5L

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

DPM Step-Down DC/DC Converter

Part No.	Features	Input Voltage	Output Voltage	Output Current	Frequency	Output Channel	Standby Current	Feedback Voltage	Package
LSP5502	a,c,d,e,f,g,h,j,k	27	ADJ	2A	380KHz	1	10uA	0.925V	SOP-8L
LSP5503	a,c,d,e,f,g,h,j,k	27	ADJ	3A	380KHz	1	10uA	0.925V	ESOP-8L
LSP5522L	a,c,d,e,f,g,h,j,k	18V	ADJ	2A	380KHz	1	10uA	0.925V	SOP-8L

a: Synchronous stepdown; b: Asynchronous stepdown; c: Enable/shutdown control; d: Internal Switch; e: Current Limit; f: Thermal Shutdown

1A Schottky Rectifier

Features

For surface mounted applications
 Very Low forward voltage drop
 High current capability
 Plastic material has UL flammability classification 94V-0
 For use in low voltage, high frequency inverters,
 free wheeling, and polarity protection applications

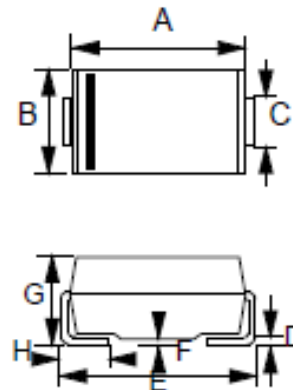
Applications

- PC Motherboard
- NB
- LCD Monitor/TV
- Telecom Equipment
- ADSL Modem
- Printer and other Peripheral Equipment

Mechanical Data

Case : Molded plastic
 Polarity : Indicated by cathode band
 Weight : 0.002 ounces, 0.064 grams

Application Circuit



SMA		
DIM.	MIN.	MAX.
A	4.06	4.57
B	2.29	2.92
C	1.27	1.63
D	0.15	0.31
E	4.83	5.59
F	0.05	0.20
G	2.01	2.40
H	0.76	1.52
All Dimensions in millimeter		



Features

For surface mounted applications
 Very Low forward voltage drop
 High current capability
 Plastic material has UL flammability classification 94V-0
 For use in low voltage, high frequency inverters,
 free wheeling, and polarity protection applications

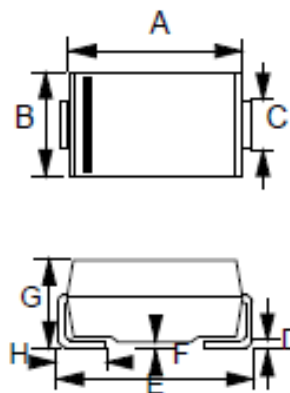
Applications

- PC Motherboard
- NB
- LCD Monitor/TV
- Telecom Equipment
- ADSL Modem
- Printer and other Peripheral Equipment

Mechanical Data

Case : Molded plastic
 Polarity : Indicated by cathode band
 Weight : 0.002 ounces, 0.064 grams

Application Circuit



SMA		
DIM.	MIN.	MAX.
A	4.06	4.57
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D	0.15	0.31
E	4.83	5.59
F	0.05	0.20
G	2.01	2.40
H	0.76	1.52
All Dimensions in millimeter		



1N5819WL

1A Schottky Rectifier

Features

- Low Forward Voltage Drop
- High Surge Capability and High Current Capability
- For Surface Mounted Applications
- High Conductance
- Guard Ring Construction for Transient Protection

Mechanical Data

Case: SOD-123 Plastic

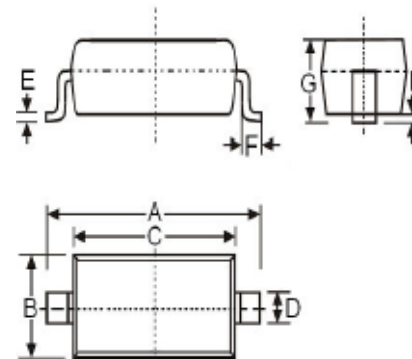
- Case Material: "Green" molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl)
- Moisture Sensitivity: Level 1 per J-STD-020D
- Lead Pb-Free in RoHS 2002/95/EC Compliant
- Weight: approx. 0.01 grams (approximate)

Applications

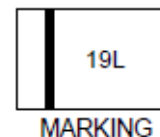
- PC Motherboard
- NB
- LCD Monitor/TV
- Telecom Equipment
- ADSL Modem
- Printer and other Peripheral Equipment

Application Circuit

SOD-123



SOD-123		
Dim.	Min.	Max.
A	3.55	3.85
B	1.40	1.70
C	2.55	2.85
D	0.55 Typical	
E	0.11 Typical	
F	0.25	—
G	—	1.35
H	—	0.10
All Dimensions in millimeter		



1A Low VF Schottky Rectifier

Features

- **flammability classification 94V-0, (No Br. Sb. Cl.)**
- Very low profile package – 0.80mm
- Super fast switching for high efficiency
- For surface mounted applications
- Very Low forward voltage drop and high current capability
- Low reverse leakage current

Mechanical Data

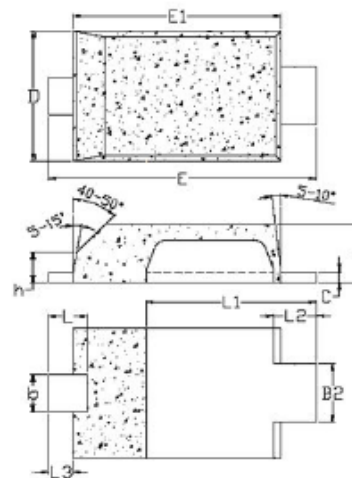
- Case: JEDEC DO-222AA
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Lead Free Plating (Matte Tin Finish.)
- Component in accordance to RoHs 2002/95/EC

Applications

- NB
- DC FAN
- LCD Monitor /TV
- GPS
- ADSL Modem
- Communication Equipment

Application Circuit

Mite Flat



Mite Flat		
DIM.	MIN.	MAX.
A	0.80	0.95
b	0.40	0.65
b2	0.70	1.00
C	0.10	0.25
D	1.75	2.05
E	3.60	3.90
E1	2.80	3.10
h	0.35	0.50
L	0.50	0.80
L1	2.10	2.60
L2	0.45	0.75
L3	0.20	0.50
All dimension in millimeter		

Features

- Fast switching speed
- Ideally suited for automatic insertion
- For general purpose switching applications

Applications

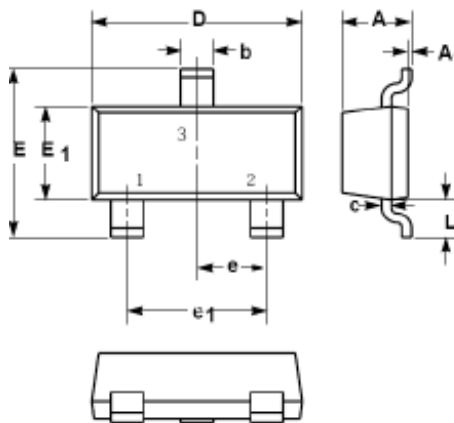
- PC Motherboard
- NB
- LCD Monitor/TV
- Telecom Equipment
- ADSL Modem
- Printer and other Peripheral Equipment

Mechanical Data

- Case: SOT-323 Plastic
- Case material: “Green” molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl)
- Moisture sensitivity: Level 1 per J-STD-020D
- Lead free in RoHS 2002/95/EC compliant

Application Circuit

SOT-323



SOT-323		
Dim.	Min.	Max.
A	0.90	1.10
A1	0.00	0.10
b	0.20	0.40
c	0.08	0.15
D	2.00	2.20
E	2.15	2.45
E1	1.15	1.35
e	0.65 Typ.	
e1	1.20	1.40
L	0.525 Ref.	
Dimensions in millimeter		

Features

- Fast switching speed
- Ideally suited for automatic insertion
- For general purpose switching applications

Applications

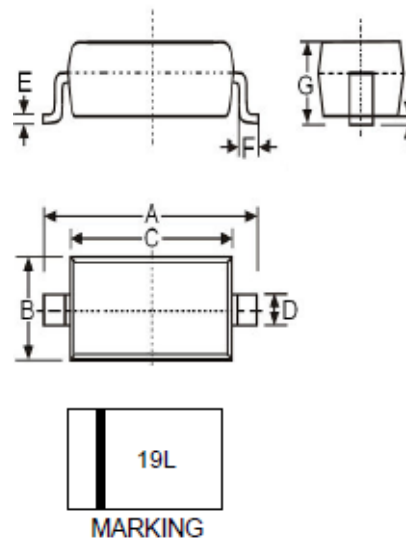
- PC Motherboard
- NB
- LCD Monitor/TV
- Telecom Equipment
- ADSL Modem
- Printer and other Peripheral Equipment

Mechanical Data

- Case: SOD-123 Plastic
- Case material: “Green” molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl)
- Moisture sensitivity: Level 1 per J-STD-020D
- Lead free in RoHS 2002/95/EC compliant
- Weight: approx. 4.3m grams

Application Circuit

SOD-123



SOD-123		
Dim.	Min.	Max.
A	3.55	3.85
B	1.40	1.70
C	2.55	2.85
D	0.55 Typical	
E	0.11 Typical	
F	0.25	—
G	—	1.35
H	—	0.10
All Dimensions in millimeter		

Features

- For surface mounted application
- Silicon epitaxial planar diode
- High speed switching
- Ultra small surface mount package
- Low leakage current

Applications

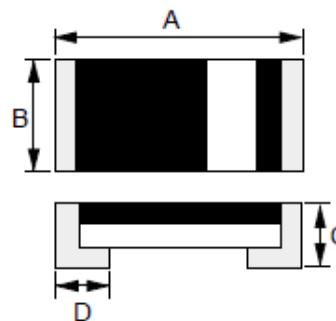
- Adaptor
- NB
- LCD Monitor/ TV
- Telecom Equipment
- ADSL Modem
- Communication and other Peripheral Equipment

Mechanical Data

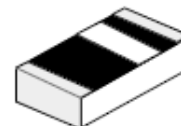
Case : 1206
 Case Material: "Green" molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl)
 Terminals: Lead Free Plating
 Polarity : Color band denotes cathode
 Weight : Approx.10mg

Application Circuit

1206



1206		
Dim.	Min.	Max.
A	3.00	3.40
B	1.30	1.70
C	0.75	0.95
D	0.35	0.75
All Dimensions in millimeter		



Glass Passivation Bridge Rectifier

Features

Rating to 1000V PRV
 Ideal for printed circuit board
 Reliable low cost construction utilizing molded plastic technique results in inexpensive product
 The plastic material has UL recognition File #E95060

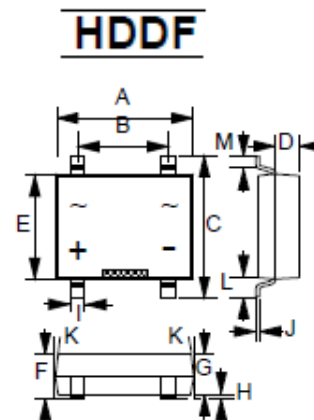
Mechanical Data

Polarity : Symbol molded on body
 Weight : 0.0044 ounces, 0.125 grams
 Mounting position : Any

Applications

- Adaptor
- NB
- LCD Monitor/ TV
- ADSL Modem
- Setup Box
- Communication and other Peripheral Equipment

Application Circuit



HDDF		
DIM.	MIN.	MAX.
A	4.50	4.90
B	2.30	2.70
C	—	7.00
D	1.20	1.60
E	3.60	4.00
F	—	3.00
G	2.30	2.70
H	—	0.20
I	0.50	0.80
J	0.15	0.35
K	5° TYPICAL	
L	1.30	1.70
M	0.70	1.10
All Dimensions in millimeter		

MMSZ52xxB

Zener Diode SOD-123

Features

- Planar die construction
- 500mW power dissipation rating
- Ultra-small surface mount package

Applications

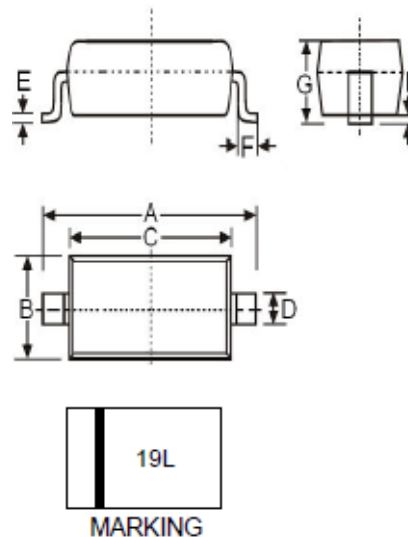
- NB/ MB
- LCD Monitor/ TV
- ADSL Modem
- Setup Box
- Communication and other Peripheral Equipment

Mechanical Data

- Case: SOD-123 Plastic
- Case Material: “Green” molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl)
- Moisture Sensitivity: Level 1 per J-STD-020D
- Lead Free in RoHS 2002/95/EC Compliant

Application Circuit

SOD-123



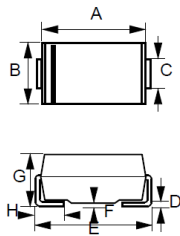
SOD-123		
Dim.	Min.	Max.
A	3.55	3.85
B	1.40	1.70
C	2.55	2.85
D	0.55 Typical	
E	0.11 Typical	
F	0.25	—
G	—	1.35
H	—	0.10
All Dimensions in millimeter		

SMAJ Series *400W Surface TVS*

Features

- For Surface Mounted Applications
- Reliable Low Cost Construction Utilizing Molded Plastic Technique
- Plastic Material Has UL Flammability Classification 94V-0
- Typical IR Less than 1uA Above 10A
- Fast Response Time : Typically Less than 1ns for Uni-direction, Less than 5ns for Bi-direction from 0 voltage to BV min.

Package & Dimension



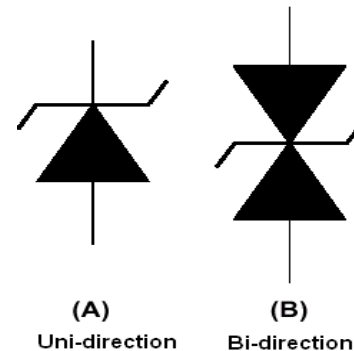
SMA		
DIM.	MIN.	MAX.
A	4.06	4.57
B	2.29	2.92
C	1.27	1.63
D	0.15	0.31
E	4.83	5.59
F	0.05	0.20
G	1.96	2.40
H	0.76	1.52

All Dimensions in millimeter

Characteristics

- Stand Off Voltage is 4.0V to 200V
- Power Dissipation is 400W
- Peak Forward Surge Current 40A
- Steady State Power Dissipation 1.0W
- Maximum Instantaneous Forward Voltage 3.5V

Layout



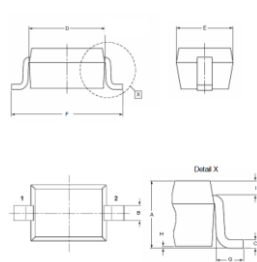
Features

- Bidirectional ESD Protection of Single Line
- Max. Peak Pulse Power is 130Watts @ 8/20us
- Low Clamping Voltage is 14V
- IEC 61000-4-2, Level 4 (ESD), >±15KV by Air, >±8KV by Contact
- IEC 61000-4-5, Level 2 (Surge), IPP=12A @ 8/20us

Applications

- Computers and Peripherals
- Communication System
- Portable Electronics
- Cellular handsets and Accessories
- Audio and Video Equipment

Package & Dimension

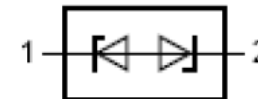


SOD323		
DIM.	MIN.	MAX.
A	0.80	1.10
B	0.25	0.40
C	0.10	0.25
D	1.60	1.80
E	1.15	1.35
F	2.30	2.70
G	0.15	0.45
H	---	0.05
I	0.15	0.25

All Dimensions in millimeter

PIN ASSIGNMENT	
1	Cathode
2	Cathode

Layout



L35ESD5V0CB2

350W Bidirectional in SOD323

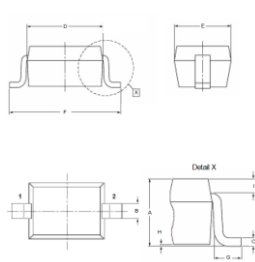
Features

- Bidirectional ESD Protection of Single Line
- Max. Peak Pulse Power is 350Watts @ 8/20us
- Low Clamping Voltage
- IEC 61000-4-2, Level 4 (ESD), >±15KV by Air, >±8KV by Contact
- IEC 61000-4-5, Level 2 (Surge), IPP=24A @ 8/20us

Applications

- Computers and Peripherals
- Communication System
- Portable Electronics
- Cellular handsets and Accessories
- Notebook, Desktops and Servers
- RJ45

Package & Dimension

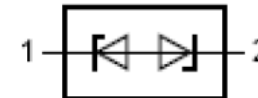


SOD323		
DIM.	MIN.	MAX.
A	0.80	1.10
B	0.25	0.40
C	0.10	0.25
D	1.60	1.80
E	1.15	1.35
F	2.30	2.70
G	0.15	0.45
H	---	0.05
I	0.15	0.25

All Dimensions in millimeter

PIN ASSIGNMENT	
1	Cathode
2	Cathode

Layout



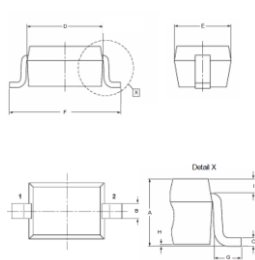
Features

- Bidirectional ESD Protection of Single Line
- Max. Peak Pulse Power is 350Watts @ 8/20us
- Low Clamping Voltage
- IEC 61000-4-2, Level 4 (ESD), >±15KV by Air, >±8KV by Contact

Applications

- Computers and Peripherals
- Communication System
- Portable Electronics
- Cellular handsets and Accessories
- Notebooks, Desktops & Servers

Package & Dimension

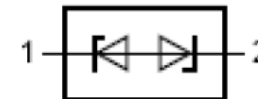


SOD323		
DIM.	MIN.	MAX.
A	0.80	1.10
B	0.25	0.40
C	0.10	0.25
D	1.60	1.80
E	1.15	1.35
F	2.30	2.70
G	0.15	0.45
H	---	0.05
I	0.15	0.25

All Dimensions in millimeter

PIN ASSIGNMENT	
1	Cathode
2	Cathode

Layout



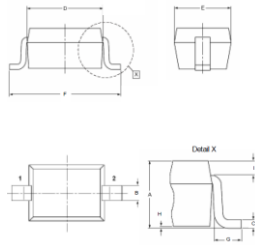
Features

- Bidirectional ESD Protection of Single Line
- Max. Peak Pulse Power is 350Watts @ 8/20us
- Low Capacitance is 1.6pF (Typical)
- Low Clamping Voltage
- IEC 61000-4-2, Level 4 (ESD), >±15KV by Air, >±8KV by Contact

Applications

- Ethernet 10/100/1000 Base T
- Cellular Phones
- Personal Digital Assistance
- USB Interface
- Handheld device

Package & Dimension

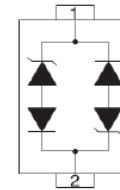


PIN ASSIGNMENT	
1	Cathode
2	Cathode

SOD323		
DIM.	MIN.	MAX.
A	0.80	1.10
B	0.25	0.40
C	0.10	0.25
D	1.60	1.80
E	1.15	1.35
F	2.30	2.70
G	0.15	0.45
H	---	0.05
I	0.15	0.25

All Dimensions in millimeter

Layout

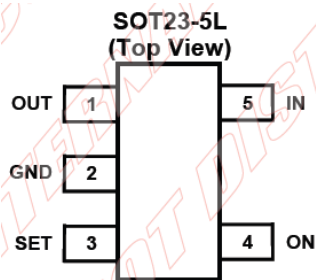


Current Limited Load Switch

Features

- 2.7V to 5.5V Input voltage range
- Programmable over current threshold
- Fast transient response: <1us response to short circuit
- Low quiescent current
- 15uA typical
- 1uA max with Switch off
- Only 2.5V needed for ON/OFF Control
- Under Voltage Lockout
- Thermal shutdown
- Package : SOT23-5L

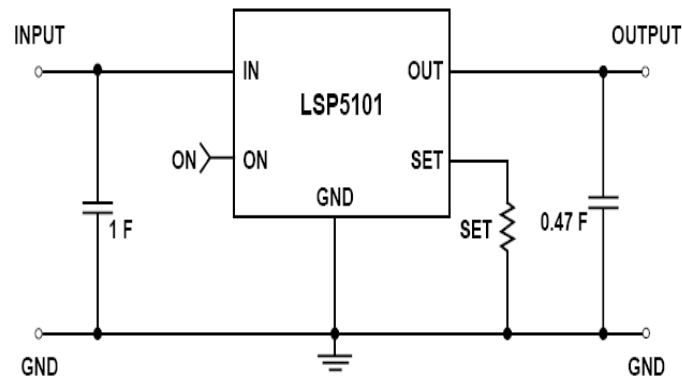
Package & Dimension



Applications

- Peripheral ports
- Notebook computers
- Personal communication devices
- Hot Swap Supplier

Application Circuit

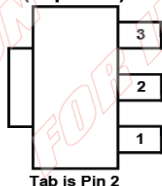


Features

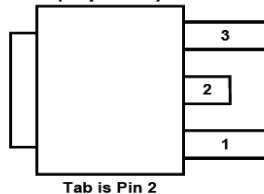
Output Voltage Available in 1.5V, 1.8V, 2.5V and 3.3V
Stable with a Ceramic Output Capacitor of 4.7uF or Higher
Low Dropout Voltage: 500mV at 1 A
Typical low Quiescent Current 40uA
Over Temperature Shutdown
Short Circuit Protection
Package : SOT223-3L, TO252-3L

Package & Dimension

SOT223-3L
(Top View)



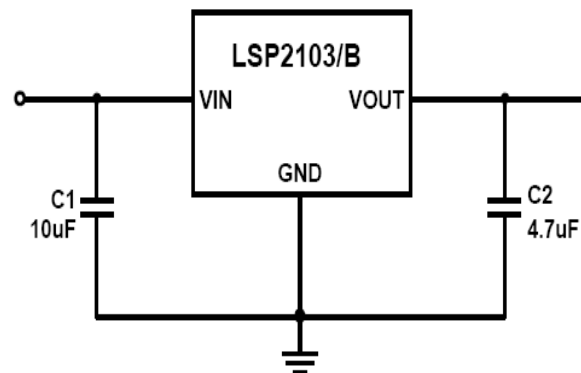
TO252-3L
(Top View)



Applications

- SATA Power Supply
- LCD TV/ Monitors
- Wireless Devices
- Communication Devices
- Portable Electronics
- Post Regulator for SMPS

Application Circuit



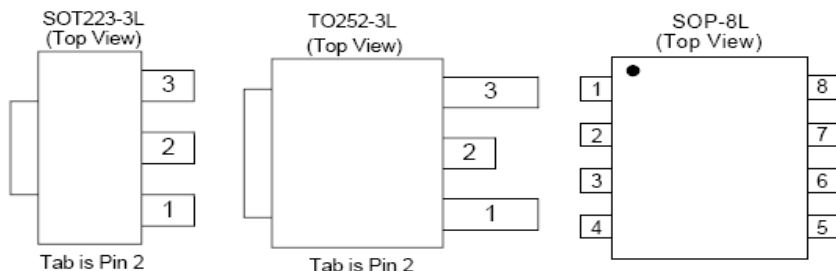
LSP2155

1A LDO CMOS Regulator

Features

- Supports Input Voltage Down to 1.45V
- Output Voltage Available in fixed 1.2V, 1.8V, 2.5V, 3.3V and ADJ version
- Stable with 2.2uF or high Ceramic Output Capacitor
- Low Dropout Voltage: 250mV at 1A
- Low Quiescent Current
- Thermal Shutdown and Short Circuit Protection

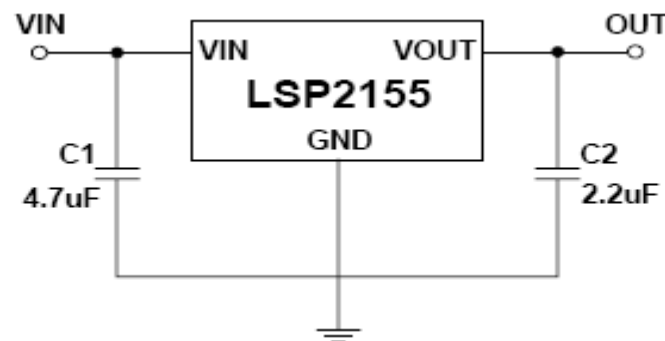
Pin Assignments



Applications

- DSP, FPGA and Microprocessor Power Supplies
- 1.2V Core Voltage for DSPs
- SATA Power Supply
- LCD TV / Monitors
- Wireless Devices
- Communication Devices
- Portable Electronics

Application Circuit



1.5A Low Dropout CMOS LDO

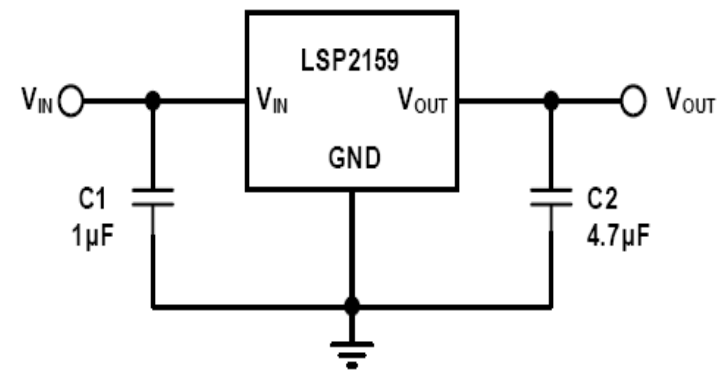
Features

Output Voltage Available in 1.5V,
1.8V,2.5V,2.8V,2.85V,3.0V,3.3V,5.0V
Stable with a Ceramic Output Capacitor of 4.7uF or Higher
Low Dropout Voltage: 600mV at 1.5 A
Typical low Quiescent Current 95uA
Over Temperature Shutdown
Short Circuit Protection
Low Temperature Coefficient
Standard SOT223-3L, TO252-3L and TO263-3L Packages

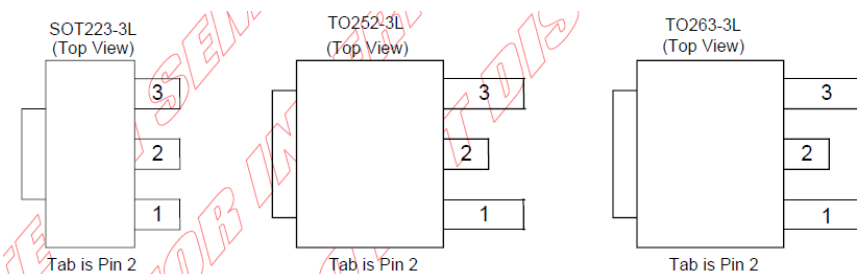
Applications

- SATA Power Supply
- LCD TV/ Monitors
- Wireless Devices
- Communication Devices
- Portable Electronics
- Post Regulator for SMPS

Application Circuit



Package & Dimension

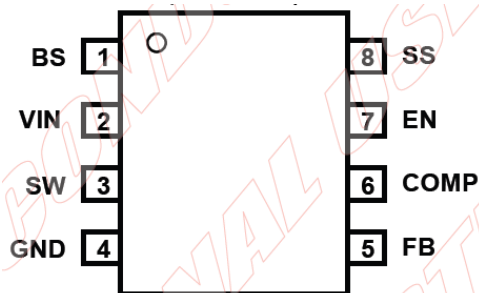


2A Synchronous Step Down DC/DC Converter

Features

- 2A Output Current
- Wide 4.5V to 27V Operating Input Range
- Integrated 120mΩ Power MOSFET Switches
- Output Adjustable from 0.925V to 24V
- Up to 96% Efficiency
- Programmable Soft-Start
- Stable with Low ESR Ceramic Output Capacitors
- Fixed 400KHz Frequency
- Cycle-by-Cycle Over Current Protection
- Input Under Voltage Lockout
- 8-Pin SOP Package

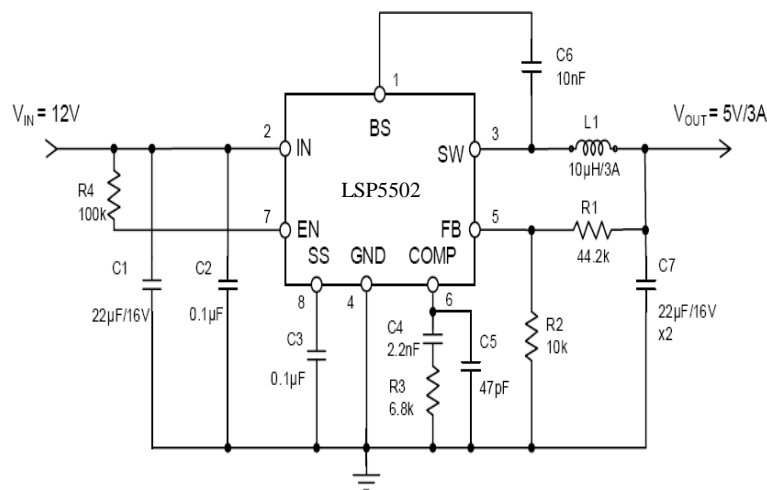
Package & Dimension



Applications

- Distributed Power Systems
- Networking Systems
- FPGA,DSP,ASIC Power Supplies
- Green Electronics / Appliances
- Notebook Computers

Application Circuit



3A 27V SYNC Buck Converter

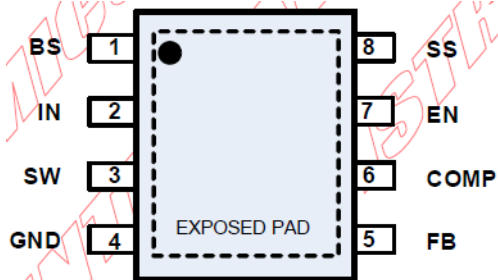
Features

- 3A Output Current
- Wide 4.5V to 27V Operating Input Range
- Integrated 100mΩ Power MOSFET Switches
- Output Adjustable from 0.925V to 24V
- Up to 96% Efficiency
- Cycle-by-Cycle Over Current Protection
- Input Under Voltage Lockout
- SOP8L-EP Package

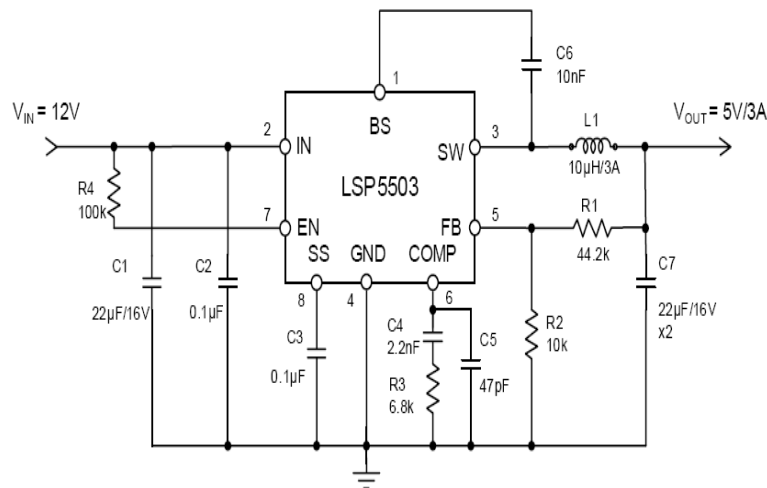
Applications

- Distributed Power Systems
- Networking Systems
- FPGA,DSP,ASIC Power Supplies
- Green Electronics / Appliances
- Notebook Computers

Package & Dimension



Application Circuit

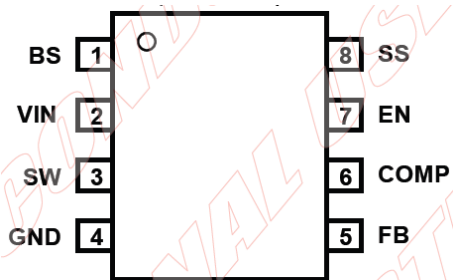


2A 18V SYNC Buck Converter

Features

- 2A Output Current
- Wide 4.5V to 18V Operating Input Range
- Integrated Power MOSFET Switches
- Output Adjustable from 0.925V to 12V
- Up to 96% Efficiency
- Programmable Soft-Start
- Stable with Low ESR Ceramic Output Capacitors
- Fixed 360KHZ Frequency
- Cycle-by-Cycle Over Current Protection
- Input Under Voltage Lockout
- Package : SOP-8L

Package & Dimension



Applications

- Distributed Power Systems
- Networking Systems
- FPGA,DSP,ASIC Power Supplies
- Green Electronics / Appliances
- Notebook Computers

Application Circuit

