

**8- 20V Input, 3A  
+5.0V, +3.3V  
Switching Regulator  
Three Terminal Package**

**PRELIMINARY SPECIFICATION**

**FEATURES**

- High Efficiency
- Internal Short Circuit Protection
- Small Footprint
- High Power Density- 60W/in.<sup>3</sup>
- On- Board Bulk Capacity

**APPLICATIONS**

- Low Voltage Battery regulation
- Embedded Processor Power
- General Purpose Low Voltage Logic Supply
- FPGA Supply

**DESCRIPTION**

The OM957XSP Integrated Switching Regulators are designed for pin compatibility with standard 3-Pin linear regulators. The parts are ideally suited for non- isolated, point of load power regulation applications where small size and high efficiency are required. The package is designed using “Chip-on board” technology to reduce cost and maintain power density. This part will typically not require any additional components in your application due to internal bulk capacity already provided.

**MAXIMUM RATINGS @ Ta=25° C (unless otherwise specified)**

Parameter	Value	Conditions
Input Voltage	28V	I <sub>o</sub> = 3.0A
Power Dissipation	3W	V <sub>o</sub> = 5V
Output Power	16W	V <sub>o</sub> = 5V
Lead Temp.	230°C	<15 secs.

**CONFIGURATION CHART**

MODEL	OUTPUT VOLTAGE	TEMPERATURE RANGE	MAX. OUTPUT CURRENT
OM9571SP	5.0V	-25 to +85°C	3.0A
OM9572SP	3.3V	-25 to +85°C	3.0A

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**PERFORMANCE CHARACTERISTICS (Ta= 25°C)****INPUT**

Parameter	Symbol	Test Conditions	MIN	MAX	Units
Line Regulation	Rline	10V≤Vin≤ 20V	-0.5	+0.5	%
Input Voltage Range	Vin		8	20.0	V
Input Filtering				22	uF

**OUTPUT**

Parameter	Symbol	Test Conditions	MIN	TYP	MAX	Units
Power	Po	Vo= 5.0V			15	W
Vout Accuracy	ΔVo	Vo= 5.0V, 3.3V		0.8	1.0	%
Vout Regulation	Vreg	Vin= 10V, 0.1A≤Io≤3A	-1.0	-0.3	0.1	%
Output Ripple	Vr	Vin= 10V, Io= 3.0A		50	100	mV(p-p)
Current Limiting	Ilim	Vin= 10V		4.0		A
Efficiency	η	Vin= 10V, Io= 3A		85		%
Min. Load Current	Ii(min)		0.1			A
Output Filter				220		uF

**DYNAMIC**

Parameter	Test Conditions	MIN	TYP	MAX	Units
Transient Response	50% load step		40	200	μS mV
Frequency	0 to 85°C	175	200	225	KHz

**ENVIRONMENTAL**

Parameter	Model	MIN	MAX	Units
Operating Temperature	OM9571SP OM9572SP	-25	+85	°C
Storage Temp.		-40	125	°C
Flammability			UL94V0	

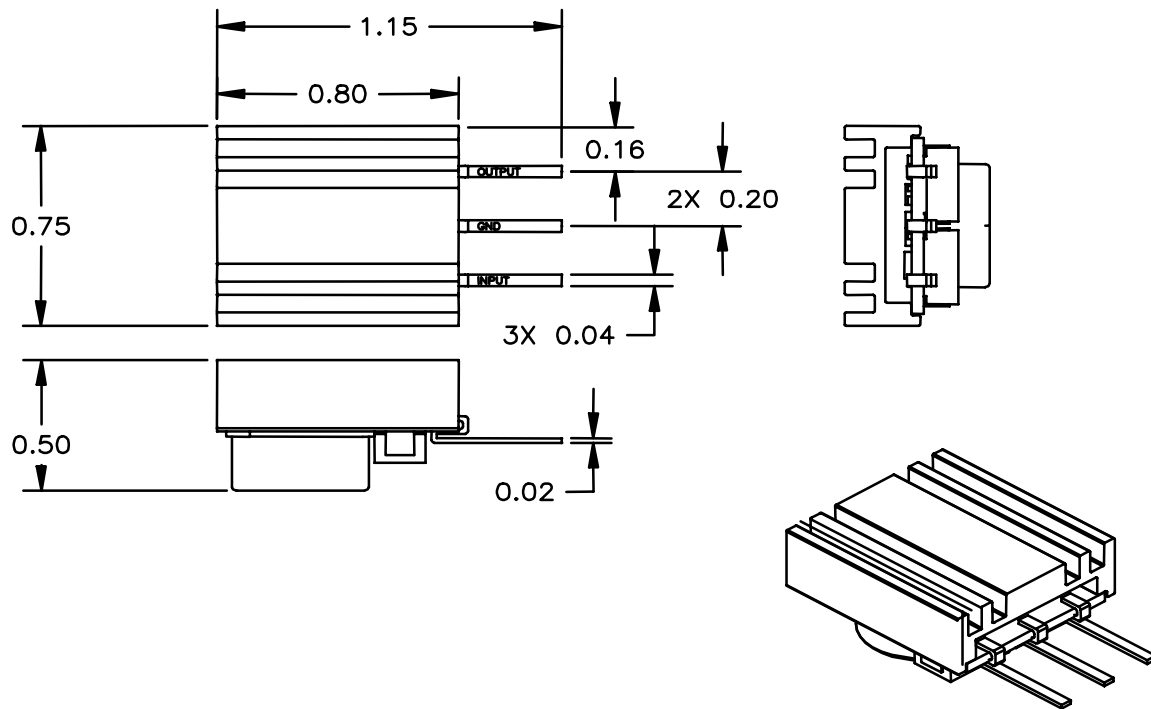
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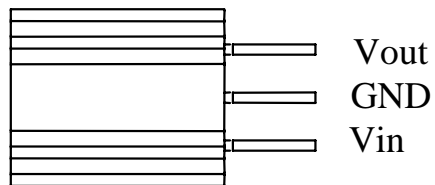
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**MECHANICAL OUTLINE**

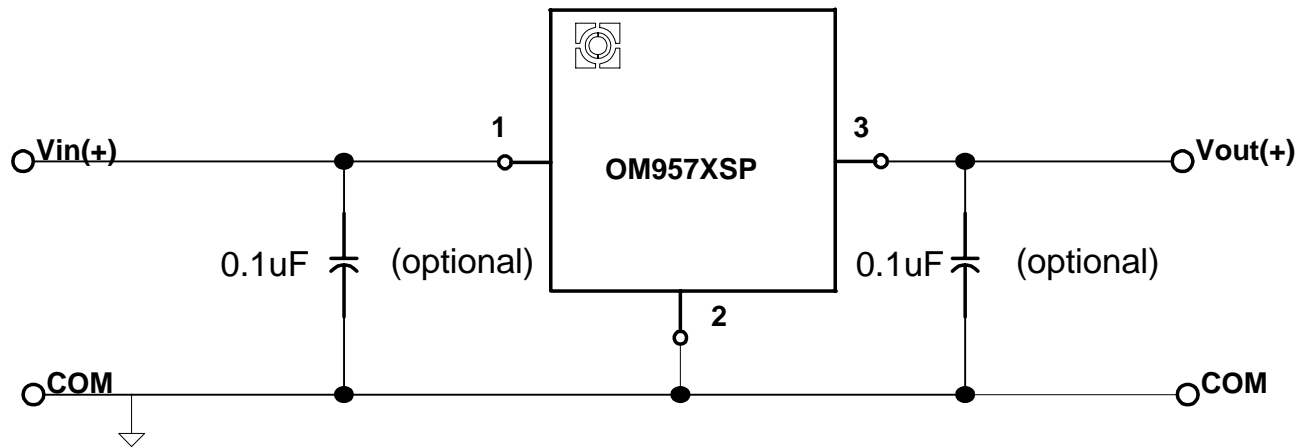


**Package Pinout**



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**APPLICATION CIRCUIT**

Internal to the package is a 22uF input capacitor and a 330uF output capacitor. The Omnirel process allows sufficient space allocation to include all components necessary to complete the basic regulation design. The additional by-pass capacitors are suggested if an improvement in switching noise becomes necessary.

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