

**APPLICATIONS**

Wireless Network  
Telecom/Datacom  
Industry Control System  
Distributed Power Architectures  
Semiconductor Equipment  
Microprocessor Power Applications

**FEATURES**

- PIN-OUT COMPATIBLE WITH LM78XX LINEAR REGULATORS
- SMALL SIZE AND LOW PROFILE :  
SIP3 L X W X H = 0.46" X 0.30" X 0.40"
- HIGH EFFICIENCY UP TO 96%
- LOW STANDBY CURRENT
- WIDE INPUT RANGE: 4.6 – 36Vdc
- OVER-CURRENT PROTECTION
- SHORT CIRCUIT PROTECTION
- OVER-TEMPERATURE PROTECTION
- LOW OUTPUT RIPPLE AND NOISE
- FIXED SWITCHING FREQUENCY (500 kHz)
- DESIGN MEETS UL60950-1, EN60950-1 AND IEC60950-1
- ISO9001 CERTIFIED MANUFACTURING FACILITIES
- COMPLIANT TO RoHS EU DIRECTIVE 2002/95/EC

**DESCRIPTION**

The PSR1.0-SERIES are high performance switching regulators are suited to replace 78xx linear regulators and pin compatible. It provides 1A output current and high efficiency up to 96%.

**TECHNICAL SPECIFICATION** All specifications are typical at nominal input, full load and 25°C otherwise noted

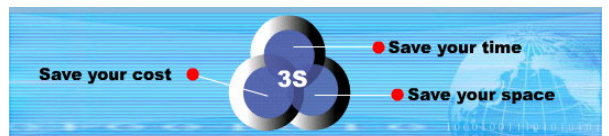
OUTPUT SPECIFICATIONS			
Output current			1000mA, max.
Voltage accuracy	Full Load		±2%Vo, max.
Minimum load			0%
Line regulation			± 0.2%Vo, typ.
Load regulation	10% to 100% of F.L.	1.2V,1.5V	± 0.6%Vo, typ.
		Others	± 0.4%Vo, typ.
Ripple and noise	Vout = 1.2V to 6.5V		50mVp-p
	20MHz bandwidth	Vout = 9 to 15V	75mVp-p
Temperature coefficient			±0.015%/°C, max.
Dynamic load response	Load change step	Peak deviation	150mV
	50%↔100% of F.L.	Recovery time	250µS
Output current limit			2.5A,typ
Output short-circuit		Continuous, automatics recovery	
Capacitor Load (Note 4)			470uF, max.
Output voltage overshoot-startup	Full Load		1%Vo, max.

GENERAL SPECIFICATIONS			
Efficiency (Note 3)			See table
Isolation voltage			None
Switching frequency			500KHz,typ
Design meet safety standard			IEC60950-1, UL60950-1, EN60950-1
Case material			Non-conductive black plastic
Base material			None
Potting material			Epoxy (UL94-V0)
Dimensions			0.46 X 0.30 X 0.40 Inch (11.7 X 7.5 X 10.1 mm)
Weight			1.9g(0.07oz)
MTBF (Note 1)	BELLCORE-TR-NWT-000332		2.849 x 10 <sup>7</sup> hrs
	MIL-HDBK-217F		5.358 x 10 <sup>6</sup> hrs

INPUT SPECIFICATIONS			
Input voltage range (Note 5)			4.6VDC – 36VDC
	Vout = 1.2V to 3.3Vdc		9V nominal input
	Vout = 5V to 6.5Vdc		12V nominal input
	Vout = 9 to 15Vdc		24V nominal input
Maximum input current	Vin=Vin(min); Io=Io(max)		1A
Input filter			C filter
Input reflected ripple current			150mA, typ.

ENVIRONMENTAL SPECIFICATIONS			
Operating temperature range			-40°C ~ +85°C(with derating)
Storage temperature range			-55°C ~ +125°C
Thermal shock			MIL-STD-810F
Over temperature protection	Internal IC junction		150°C

FEATURE SPECIFICATIONS			
Rise time	Time for Vo to rise from 10% to 90%of Vo		2mS,max

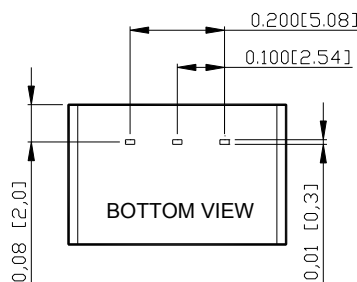
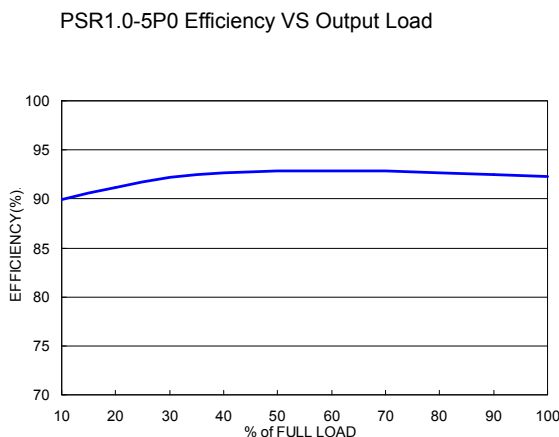
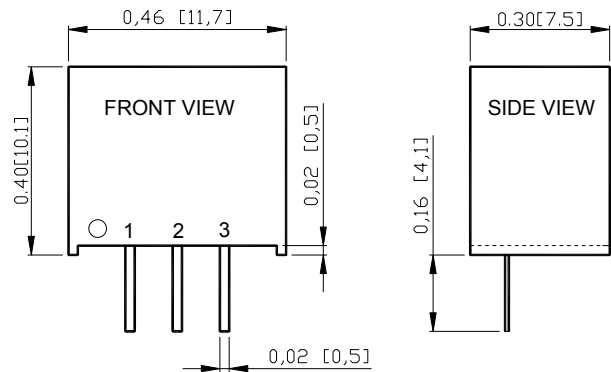
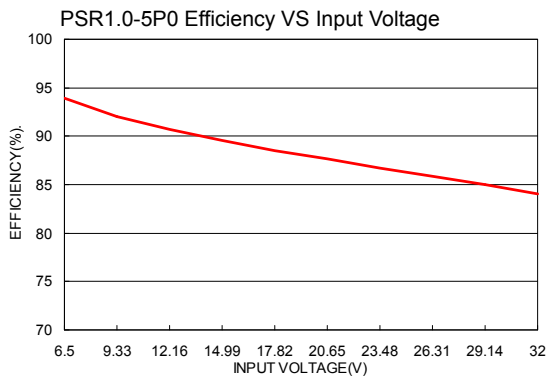
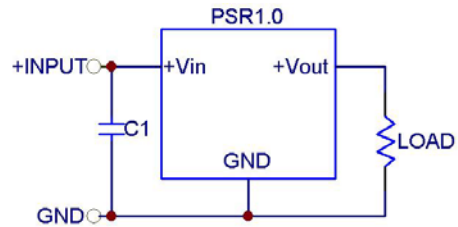
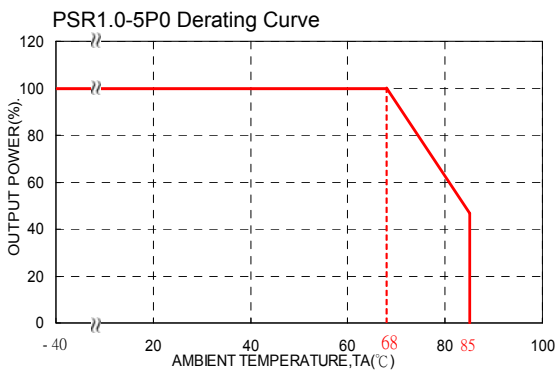




Model Name	Input Voltage(5)	Output Voltage	Output Current		No Load Current(2)	Efficiency (%) (3)	
			Min. Load	Max. Load		Min. Vin	Max. Vin
PSR1.0-1P2	4.6 – 36Vdc	1.2Vdc	0A	1A	1mA	74	62
PSR1.0-1P5	4.6 – 36Vdc	1.5Vdc			1mA	78	65
PSR1.0-1P8	4.6 – 36Vdc	1.8Vdc			1mA	82	69
PSR1.0-2P5	4.6 – 36Vdc	2.5Vdc			1mA	87	75
PSR1.0-3P3	4.75 – 36Vdc	3.3Vdc			2mA	91	78
PSR1.0-5P0	6.5 – 36Vdc	5.0Vdc			1mA	94	84
PSR1.0-6P5	9.0 – 36Vdc	6.5Vdc			1mA	93	87
PSR1.0-9P0	12 – 36Vdc	9.0Vdc			1mA	95	90
PSR1.0-012	15 – 36Vdc	12Vdc			1mA	95	92
PSR1.0-015	18 – 36Vdc	15Vdc			1mA	96	94

**Note**

1. BELLCORE TR-NWT-000332. Case I: 50% Stress, Temperature at 40°C. (Ground fixed and controlled environment) MIL-HDBK-217F Notice2 @Ta=25 °C, Full load (Ground, Benign, controlled environment)
2. Typical value at min. to max. input voltage and no load.
3. Typical value at min. or max. input voltage and full load.
4. Tested with min. input voltage and constant resistive load.
5. With a C1(22uF/50V) input capacitor for  $V_{in} > 32V$ , the input voltage allows 36  $V_{DC, max}$ .



PIN CONNECTION	
PIN	DEFINE
1	+Vin
2	GND
3	+Vout

1. All dimensions in Inches (mm)  
Tolerance: X.XX±0.02 (X.X±0.5)  
X.XXX±0.01 (X.XX±0.25)
2. Pin pitch tolerance ±0.01(0.25)
3. Pin dimension tolerance ±0.004 (0.1)

