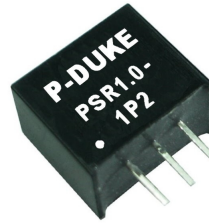


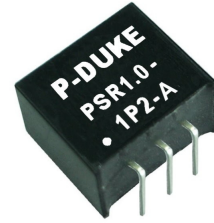
PSR1.0 SERIES

NON-ISOLATION DC-DC CONVERTER

4.6~36VDC WIDE INPUT RANGE



STANDARD TYPE



SUFFIX -A



FEATURES

- PIN_OUT COMPATIBLE WITH LM78XX LINEAR REGULATORS
- NO MINIMUM LOAD REQUIRED
- SMALL SIZE AND LOW PROFILE: 0.46 X 0.30 X 0.40 INCH
- SAFETY MEETS UL60950-1, EN60950-1, IEC60950-1
- CE MARK MEETS 2006/95/EC, 2011/95/EC and 2004/108/EC
- COMPLIANT TO RoHS EU DIRECTIVE 2011/65/EU

APPLICATIONS

- WIRELESS NETWORK
- TELECOM/DATACOM
- INDUSTRY CONTROL SYSTEM
- DISTRIBUTED POWER ARCHITECTURES
- SEMICONDUCTOR EQUIPMENT
- MICROPROCESSOR POWER APPLICATION

NON ISOLATION	OCP	SCP	OTP	LOW STANDBY POWER
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TECHNICAL SPECIFICATION

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

Positive output application

Model Number	Input Range VDC	Output Voltage VDC	Output Current @Full Load A	Input Current @ No Load mA	Efficiency		Maximum Capacitor Load µF
					Min. Vin %	Max. Vin	
PSR1.0-1P2	4.6 ~ 36	1.2	1	1.0	74	62	470
PSR1.0-1P5	4.6 ~ 36	1.5		1.0	78	65	
PSR1.0-1P8	4.6 ~ 36	1.8		1.0	82	69	
PSR1.0-2P5	4.6 ~ 36	2.5		1.0	87	75	
PSR1.0-3P3	4.75 ~ 36	3.3		2.0	91	78	
PSR1.0-5P0	6.5 ~ 36	5.0		1.0	94	84	
PSR1.0-6P5	9.0 ~ 36	6.5		1.0	93	87	
PSR1.0-9P0	12 ~ 36	9.0		1.0	95	90	
PSR1.0-012	15 ~ 36	12		1.0	95	92	
PSR1.0-015	18 ~ 36	15		1.0	96	94	

PART NUMBER STRUCTURE

PSR1.0	- 5P0	- A
Series Name	Output Voltage (VDC)	Mounting Options
	1P2: 1.2 1P5: 1.5 1P8: 1.8 2P5: 2.5 3P3: 3.3 5P0: 5.0 6P5: 6.5 9P0: 9.0 012: 12 015: 15	□: Vertical Mounting A: Horizontal Mounting

INPUT SPECIFICATIONS

Parameter	Conditions	Min.	Typ.	Max.	Unit	
Operating input voltage range	With an external input capacitor C1 (22μF/50V) for input voltage > 32VDC. It allows the module operates from 32 to 36VDC.	PSR1.0-1P2	4.6	9	36	VDC
		PSR1.0-1P5	4.6	9	36	
		PSR1.0-1P8	4.6	9	36	
		PSR1.0-2P5	4.6	9	36	
		PSR1.0-3P3	4.75	9	36	
		PSR1.0-5P0	6.5	12	36	
		PSR1.0-6P5	9.0	12	36	
		PSR1.0-9P0	12	24	36	
		PSR1.0-012	15	24	36	
PSR1.0-015	18	24	36			
Rise time	Time for Vout rises from 10% to 90% of Vout			2	ms	
Input filter					Capacitor type	
Input reflected ripple current			150		mAp-p	

OUTPUT SPECIFICATIONS

Parameter	Conditions	Min.	Typ.	Max.	Unit
Voltage accuracy		-2.0		+2.0	%
Line regulation	Low Line to High Line at Full Load	-0.2		+0.2	%
Load regulation	10% to 100% of Full Load Vertical mounting	1.2Vout, 1.5Vout	-0.6	+0.6	%
		Others	-0.4	+0.4	
	Horizontal mounting	1.2Vout, 1.5Vout, 1.8Vout	-1.2	+1.2	%
		Others	-0.4	+0.4	
Ripple and noise	Measured by 20MHz bandwidth	Vout ≤ 6.5VDC Vout ≥ 9.0VDC	50 75		mVp-p
Temperature coefficient		-0.015		+0.015	%/°C
Dynamic load response	50% load step change	Peak deviation Recovery time	150 250		mV μs
Output start-up overshoot				+1	%
Over load protection			2.5		A
Short circuit protection					Continuous, automatic recovery

GENERAL SPECIFICATIONS

Parameter	Conditions	Min.	Typ.	Max.	Unit
Switching frequency		400	500	600	kHz
Design meet safety standard		IEC60950-1, UL60950-1, EN60950-1			
Case material		Non-conducted black plastic			
Potting material		Silicone (UL94 V-0)			
Weight		1.9g (0.07oz)			
MTBF	MIL-HDBK-217F, Full load	2.571 x 10 ⁷ hrs			

ENVIRONMENTAL SPECIFICATIONS

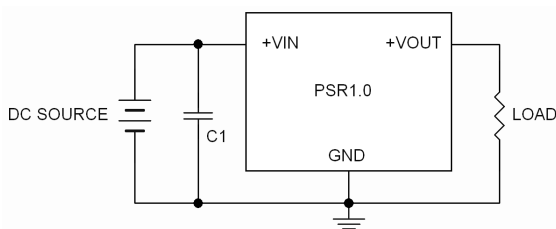
Parameter	Conditions	Min.	Typ.	Max.	Unit
Operating ambient temperature	With derating	-40		+100	°C
Over temperature protection	Internal IC junction		+150		°C
Storage temperature range		-55		+125	°C
Thermal shock					MIL-STD-810F
Vibration					MIL-STD-810F
Relative humidity					5% to 95% RH

Note:

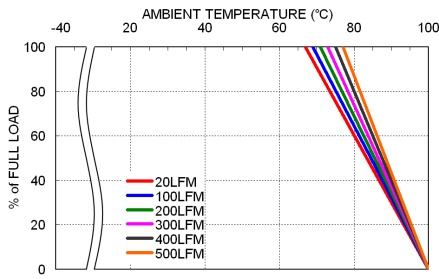
1. Tested with minimum input voltage and constant resistive load.

CAUTION: This power module is not internally fused. An input line fuse must always be used.

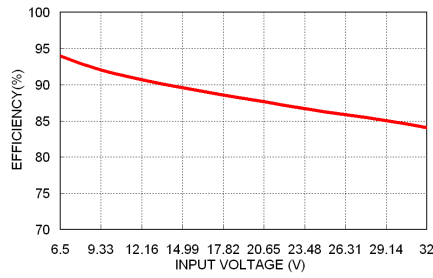
APPLICATION CIRCUIT



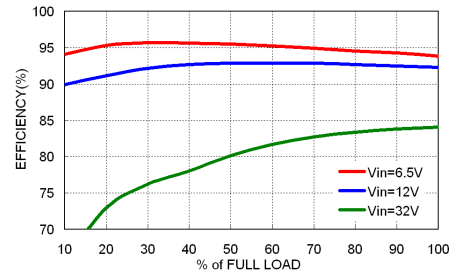
CHARACTERISTIC CURVE



PSR1.0-05 Derating Curve



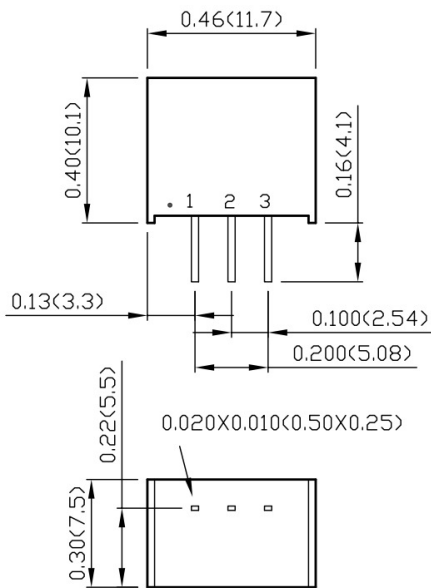
PSR1.0-05 Efficiency vs. Input Voltage



PSR1.0-05 Efficiency vs. Output Load

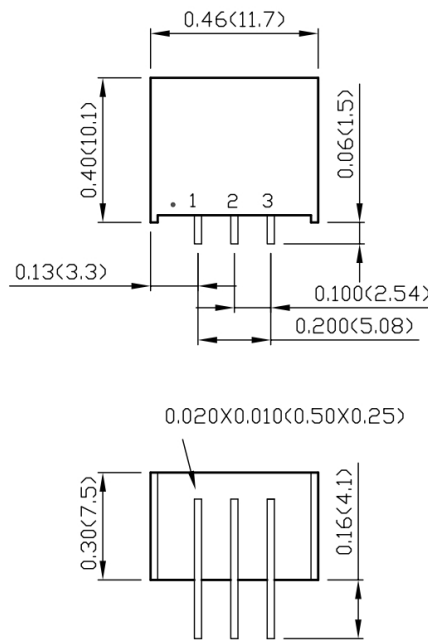
MECHANICAL DRAWING

Standard type: Vertical mounting



BOTTOM VIEW

Suffix-A: Horizontal mounting



BOTTOM VIEW

PIN CONNECTION

PIN	DEFINE
1	+Vin
2	GND
3	+Vout

1. All dimensions in inch (mm)
2. Tolerance : x.xx±0.02 (x.x±0.5)
x.xxx±0.01 (x.xx±0.25)
3. Pin pitch tolerance ±0.01 (0.25)
4. Pin dimension tolerance ±0.004(0.1)