

# PS-90A-1 Micro-current DC/DC Power Supply

## Maximum Ratings:

Input Voltage	2.5 to 15 VDC 18 VDC (MAXIMUM)
Temperature	-20°C to +50°C
Output current	0 to 2000 $\mu$ A
Input to output isolation	$\sim$ 0.015 $\mu$ F, 50 VDC
Frequency	$\sim$ 1 MHz

## Applications Notes:

Intended for very low power applications requiring a DC power source that is isolated from the primary system DC power. Examples include LCD Digital Panel Meters that typically require the measuring circuit and power circuit be isolated, MOSFET that require either a gate voltage more positive than the supply voltage or that require a negative gate bias.

Various output configurations are acceptable such that a negative output voltage may be produced by grounding the + output pin and using the - output pin, or an isolated output can be obtained by floating both output pins with respect to the system ground, or a boosted positive output voltage can be obtained by connecting the - output pin to the + input pin and using the + output pin.

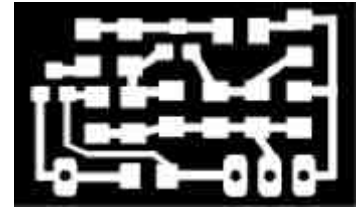
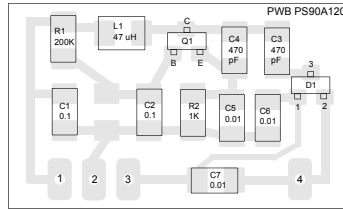
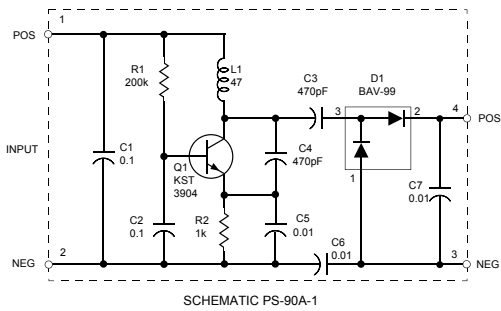
List of Materials						
Item	Qty	Desig.	Value/Type	Description	Part Number	Notes
1	1		PS90A120	PWB		BWC
2	2	C1,C2	0.1 $\mu$ F	50V, X7R MLC 1206	140-CC502B104K-RC	Mouser
3	2	C3, C4	470 pF	50V, X7R MLC 1206	140-CC502B471K-RC	
4	3	C5,C6,C7	0.01 $\mu$ F	50V, X7R MLC 1206	140-CC502B103K-RC	
5	1	D1	BAV99-V	DUAL DIODE SOT-23	625-BAV99-V	
6	1	L1	47 $\mu$ H	SMD WOUND IND 1206	810-NLV32T-470J	
7	1	R1	200k	5%, 0.125W 1206	263-200K-RC	
8	1	R2	1k	5%, 0.125W 1206	263-1.0K-RC	
9	1	Q1	KST3904MTF	NPN SI, 40V SOT-23	512-KST3904MTF	

### Disclaimer:

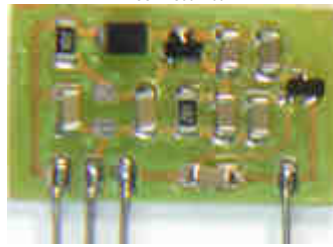
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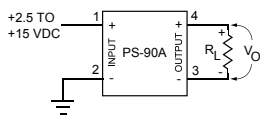
## PS-90A-1 Schematic and Assembly Drawing



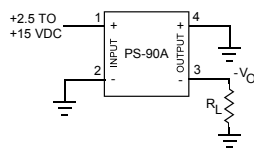
Artwork  
Reversed for emulsion side contact.



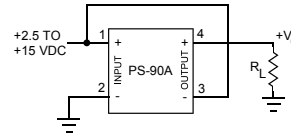
## Typical Applications



Output isolated from input



Negative output referenced to input



Boosted positive output

## Typical Performance Characteristics

$T_A = 25^\circ\text{C}$

