

# ARS 78MXX Series Positive Regulator 500mA Non-Isolated



- SIL 3pin Package
- Output Power Current 500mA Max.
- No Heat Sink Required
- Internal SMD Construction
- Wide Range Step Down Switching DC/DC Converter
- Pin Out Compatible With LM78XX Three Terminals Positive Regulator



## Selection Guide

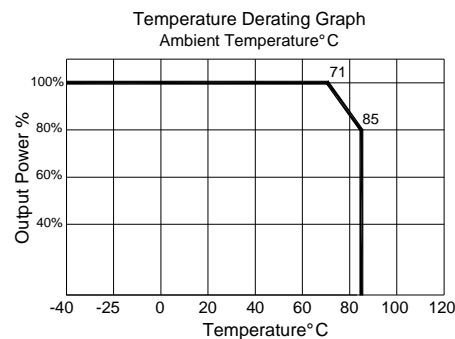
Model Number	Input Voltage Range Vdc	Output Voltage Vdc	Output Current (mA)	Ripplr Noise (mV)	Efficiency (%)		Series Number Selector Guide	Rremarks
					Vin-Min.	Vin-Max.		
ARS-78M03-500	4.75~25.00	3.30	500.00	50.00	90.00	80.00	<b>ARS-78MXX-500</b> A : Case Type R : Regulated S : Single Output 78M : Series XX : Output Voltage 500 : Output Current	Customer And Special Design On Request
ARS-78M05-500	6.50~27.00	5.00	500.00	50.00	93.00	84.00		
ARS-78M06-500	8.00~32.00	6.50	500.00	50.00	94.00	87.00		
ARS-78M09-500	11.00~32.00	9.00	500.00	50.00	95.00	91.00		
ARS-78M12-500	15.00~32.00	12.00	500.00	50.00	95.00	92.00		
ARS-78M15-500	18.00~32.00	15.00	500.00	50.00	96.00	93.00		

## Specifications All Specification Are Typical Nominal Line, Full Load And 25°C Unless Otherwise Notes.

General Characteristics					
Parameter	Conditions	Min.	Typ.	Max.	Units
Switching Frequency		280	330	450	Khz
MTBF MIL-HDBK-217F @25°C		2.0	-----	-----	MHrs
Output Characteristics					
Parameter	Conditions	Min.	Typ.	Max.	Units
Line Regulation	For 1% Of Vin	-----	±2.0	±3.0	%
Load Regulation	10% To 100%	-----	±4.0	±6.0	%
Out put Volt Balance		-----	-----	-----	%
Out put Volt Accuracy		-----	-----	±3.0	%
Short Circuit	Continuous, AutoRecovery				

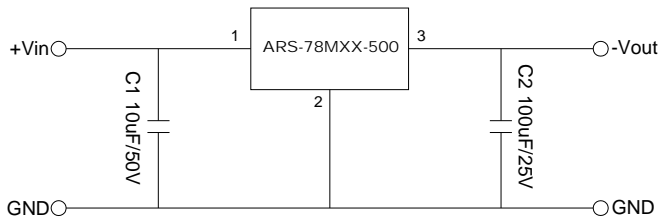
Environmental Characteristics				
Parameter	Conditions	Min.	Max.	Units
Operating Temperature	Ambient	-40	+71	°C
Storage Temperature		-40	+125	°C
Humidity		-----	95	%
Cooling	Free-Air Convection			
Case Material	Plastic (94V0) UL			
Absolute Maximum Ratings				
Wave Soldering Temperature	10 Sec. 265°C Max.			

## Thermal Derating Cururve



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## Standard Application Circuit



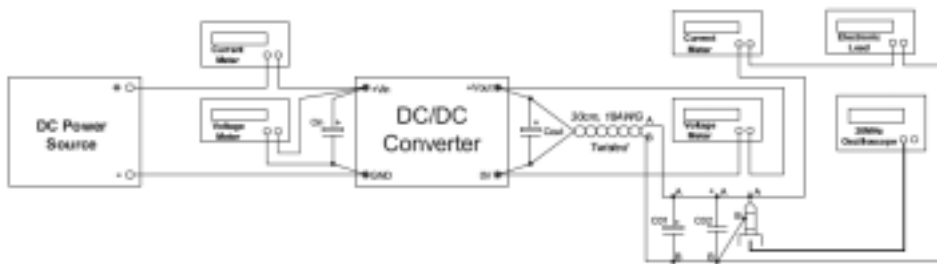
### INPUT CAPACITOR (C1):

A low ESR capacitor is recommended to keep the noise at the converter to a minimum. Ceramic capacitors are preferred but tantalum or low ESR electrolytic capacitors may also suffice. Place C1 as close as possible to pins 1 & 2.

### OUTPUT CAPACITOR (C2):

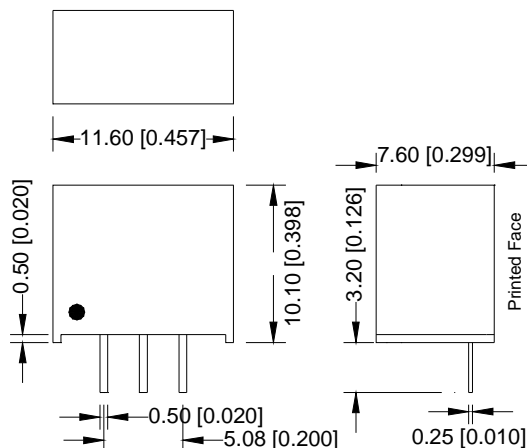
A 100uF/25V electrolytic capacitor is recommended.

## Test Configurations



1.  $C_{in} = 10\mu F / 50V$  for 500mA and  $22\mu F / 50V$  for 1A,  $C_{out} = 100\mu F / 16V$ .
2.  $C_{01} = 10\mu F / 50V$  Electrolytic,  $C_{02} = 0.1\mu F / 50V$  Ceramic.
3. All points labeled A refer to one junction.
4. All points labeled B refer to one junction.
5. Use a short ground loop for probing. Do not use a wired ground clip.

## Dimensions And Pinout ( Unit : mm[inch] +/- 0.15mm )



Pin Connection	
Pin	Pin Function
1	+Input Voltage
2	Ground
3	+Output Voltage

