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 (%) Vin-Min.	Efficiency (%) Vin-Max.	Series Number Selector Guide	Rrmarks
ARS-78M03-500	4.75~25.00	3.30	500.00	50.00	90.00	80.00	**ARS-78MXX-500** **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		

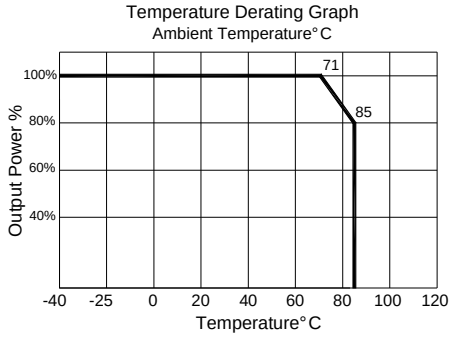
Specifications

All Specification Are Typical Nominal Line, Full Load And 25ºC 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 Currve



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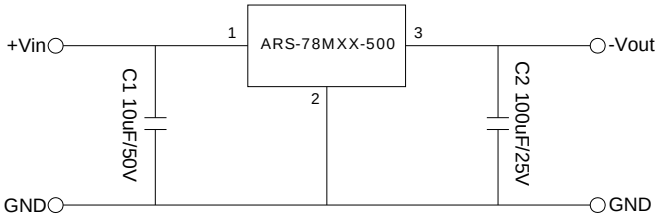
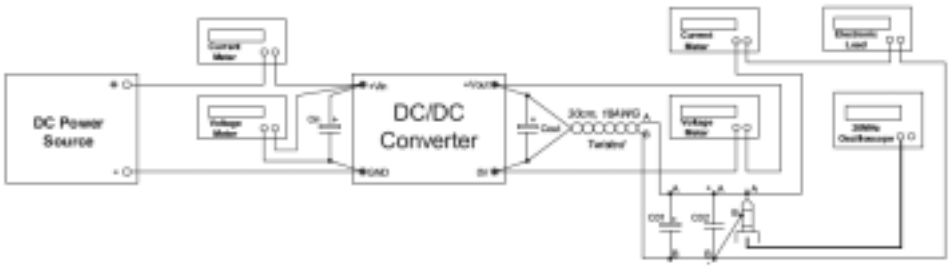
Standard Application Circuit



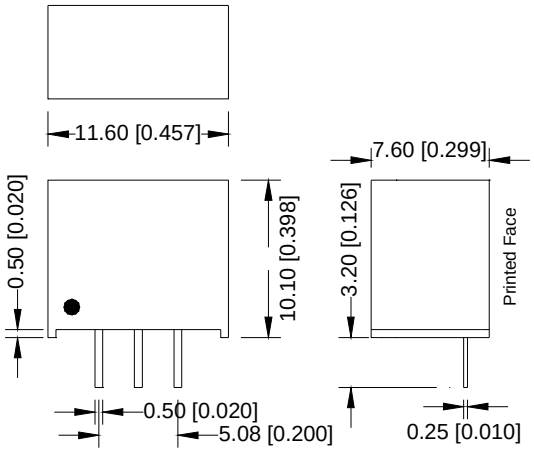
INPUT CAPACITOR (C1):
A low ESR capacitor is recommended to keep the noise at the converter to a minimum. Ceramic capacitors are preferred but tantalum or low ESR electrolytic capacitors may also suffice. Place C1 as close as possible to pins 1 & 2.
OUTPUT CAPACITOR (C2):
A 100uF/25V electrolytic capacitor is recommended.

Test Configurations



1. Cin = 10uF / 50V for 500mA and 22uF / 50V for 1A, Cout = 100uF / 16V.
2. C01 = 10uF / 50V Electrolytic, C02 = 0.1uF / 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