

D78BXX-0.5 SERIES

Single Output 0.5Amp

Non-Isolated DC-DC CONVERTER

DANUBE

FEATURES

- SINGLE IN LINE PACKAGE
- 6.5-32V, 11-32V, 15-32V, 18-32V, 9-18V WIDE INPUT RANGE
- 100% BURNED IN
- HIGH EFFICIENCY
- INTERNAL SMD TECHNOLOGY
- UL 94V-0 PACKAGE MATERIAL
- CUSTOM SOLUTIONS AVAILABLE
- RoHS COMPLIANT



OUTPUT SPECIFICATIONS

Voltage Set-point Accuracy		+/-2% max.
Temperature Coefficient		+/-0.05%/°C
Ripple & Noise(20MHz BW) ¹		100mVp-p max.
Line Regulation ²	D78BXX-0.5	+/-1% max.
	D78BXXT-0.5	+/-1.5% max.
Load Regulation ³	D78BXX-0.5	+/-1% max.
	D78BXXT-0.5	+/-1.5% max.
Minimum Load		20% of Full Load
Short Circuit Protection		Continuous
Short Circuit Restart		Automatic
Max capacitance Load		220uF

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature(with derating)	-40 °C to +85 °C
Case Temperature	+100 °C max.
Storage Temperature	-55 °C to +125 °C
Humidity	95% max

INPUT SPECIFICATIONS

Input Voltage Range	6.5-32V · 9-18V max.
Input Filter	Capacitor Type

GENERAL SPECIFICATIONS

Efficiency	80% min.
Isolation Voltage	Non-isolation
Switching Frequency	280KHz min.
Weight	1.3g Typ.
Case Material	Non-Conductive Plastic
Case Size	11.6mm*7.6mm*10.14mm
Conducted Emissions	EN55022 Class A
Radiated Emissions	EN55022 Class A
MTBF ⁴	+25°C >3,260,000Hours
	+71°C >1,130,000Hours

ALL SPECIFICATIONS TYPICAL AT NOMINAL LINE, FULL LOAD , AND 25 °C UNLESS OTHERWISE NOTED.

¹ Measured with 1uF ceramic capacitor connect to the output pins.

² High Line to Low Line.

³ Load Regulation is for output load current change from 20% to 100%.

⁴ MIL-HDBK-217F @25 °C , Ground Benign.

● SELECTION GUIDE(1)

MODEL NUMBER	INPUT VOLTAGE (VDC)	NOMINAL VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT ⁵ CURRENT(mA)		EFF (%) ⁶
					FULL LOAD	NO LOAD	
D78B05-0.5	6.5-32	12	5	500	234	5	89
D78B09-0.5	11-32	24	9	500	206	10	91
D78B12-0.5	15-32	24	12	500	269	10	93
D78B15-0.5	18-32	24	15	500	329	10	95

Note: Other input to output voltages may be available. Please contact factory.

● SELECTION GUIDE(2)

MODEL NUMBER	INPUT VOLTAGE (VDC)	NOMINAL VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT ⁷ CURRENT(mA)		EFF (%) ⁸
					FULL LOAD	NO LOAD	
D78B05T-0.5	9-18	12	5	500	231	5	90

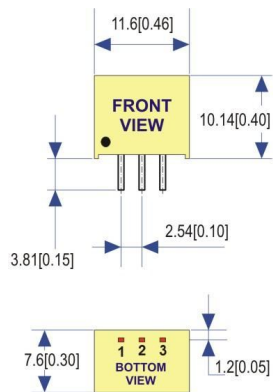
Note: Other input to output voltages may be available. Please contact factory.

Note1.

MODEL NUMBER	External with output capacitor(min)
D78BXXT-0.5	27uF/100V (CHEMICON KY series)

● MECHANICAL DIMENSIONS

PACKAGE



All dimensions in mm[inches].

PIN	SINGLE
1	+Vin
2	GND
3	+Vout

NOTE: Pin Size is Tolerance 0.50Φ ±0.05mm

All Dimensions In mm(Inches)

Tolerance .X or .XX= ±0.5mm

⁵ NOMINAL INPUT VOLTAGE.

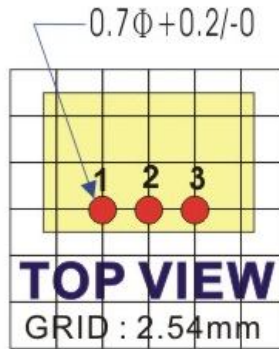
⁶ NOMINAL INPUT VOLTAGE, FULL LOAD.

⁷ NOMINAL INPUT VOLTAGE.

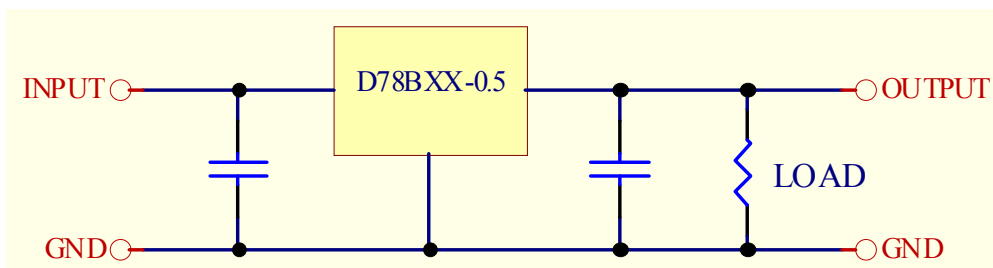
⁸ NOMINAL INPUT VOLTAGE, FULL LOAD.

- **RECOMMENDED FOOTPRINT DETAILS**

D78BXX-0.5 SELECTION PACKAGE



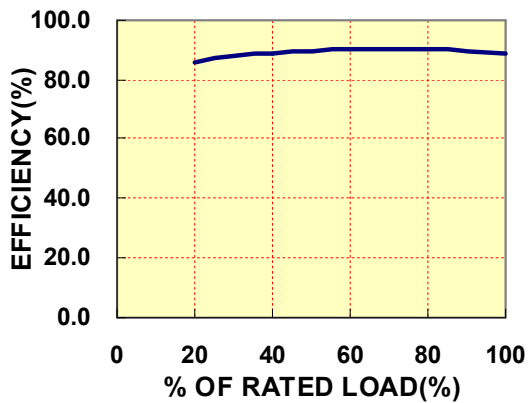
- **TYPICAL APPLICATIONS**



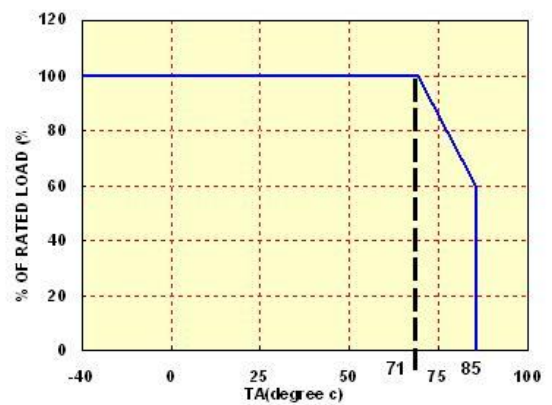
- **TYPICAL PERFORMANCE CURVES**

Specifications typical at $t_a=25^\circ\text{C}$, nominal input voltage , rated output current unless otherwise specified.

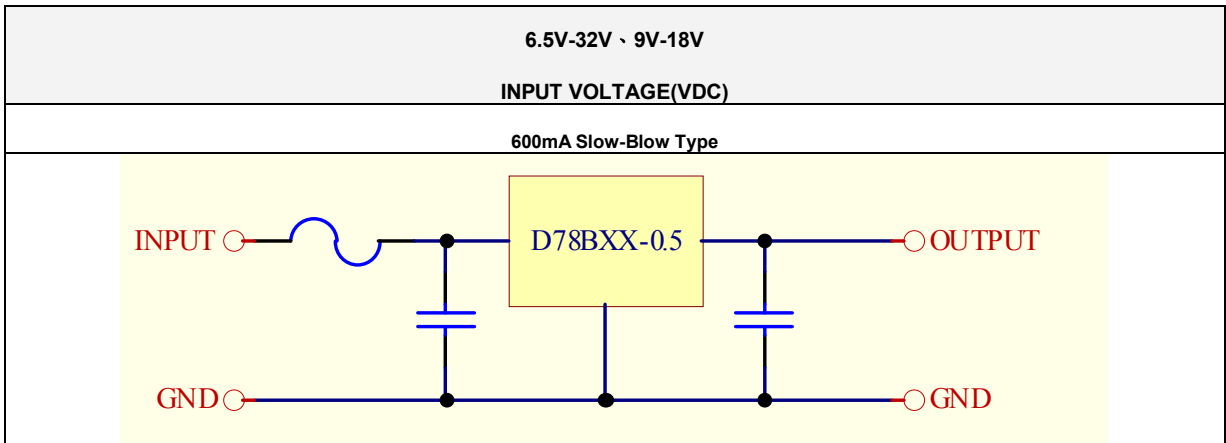
EFFICIENCY VS LOAD



TEMPERATURE DERATING



● INPUT FUSE SELECTION GUIDE



Note: Certain applications may require the installation of external fuse in front of the input.

FOR MORE INFORMATION CALL:

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Home Page

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