

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		INPUT SPECIFICATIONS	
Voltage Set-point Accuracy	+/-2% max.	Input Voltage Range	6.5-32V · 9-18V max.
Temperature Coefficient	+/-0.05%/°C	Input Filter	Capacitor Type
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		GENERAL SPECIFICATIONS	
Operating Temperature(with derating)	-40 °C to +85 °C	Efficiency	80% min.
Case Temperature	+100 °C max.	Isolation Voltage	Non-isolation
Storage Temperature	-55 °C to +125 °C	Switching Frequency	280KHz min.
Humidity	95% max	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	
					D78B33-0.5	6.5-32	
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	
					D78B33T-0.5	9-18	
D78B05T-0.5	9-18	12	5	500	231	5	90

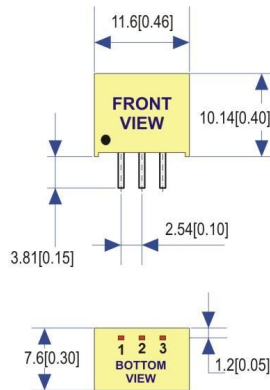
Note: Other input to output voltages may be available. Please contact factory.

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.

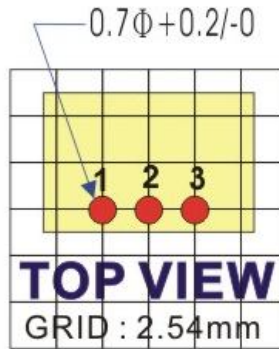
⁶ NOMINAL INPUT VOLTAGE, FULL LOAD.

⁷ NOMINAL INPUT VOLTAGE.

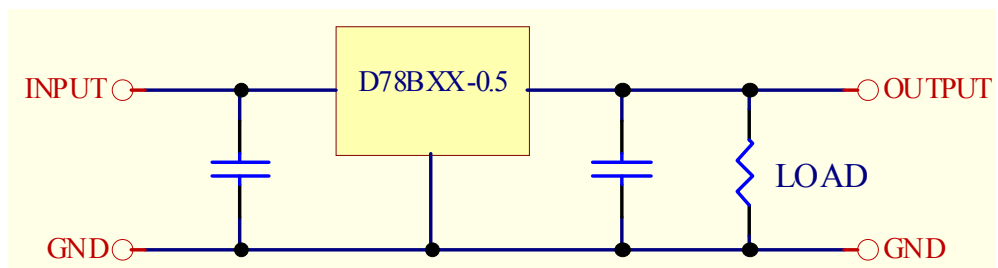
⁸ NOMINAL INPUT VOLTAGE, FULL LOAD.

● RECOMMENDED FOOTPRINT DETAILS

D78BXX-0.5 SELECTION PACKAGE



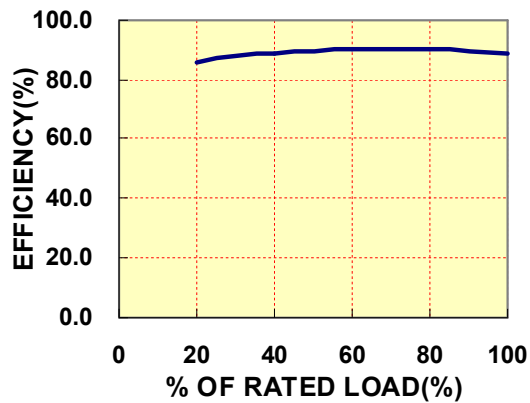
● TYPICAL APPLICATIONS



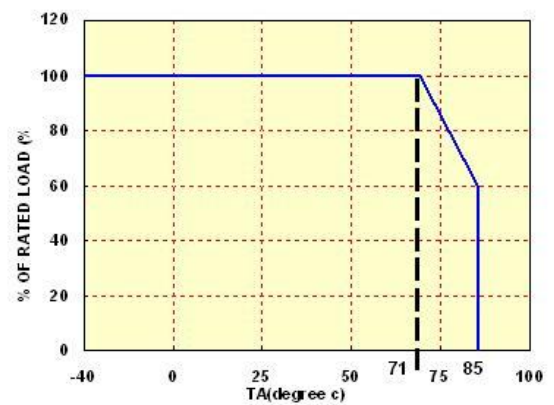
● TYPICAL PERFORMANCE CURVES

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

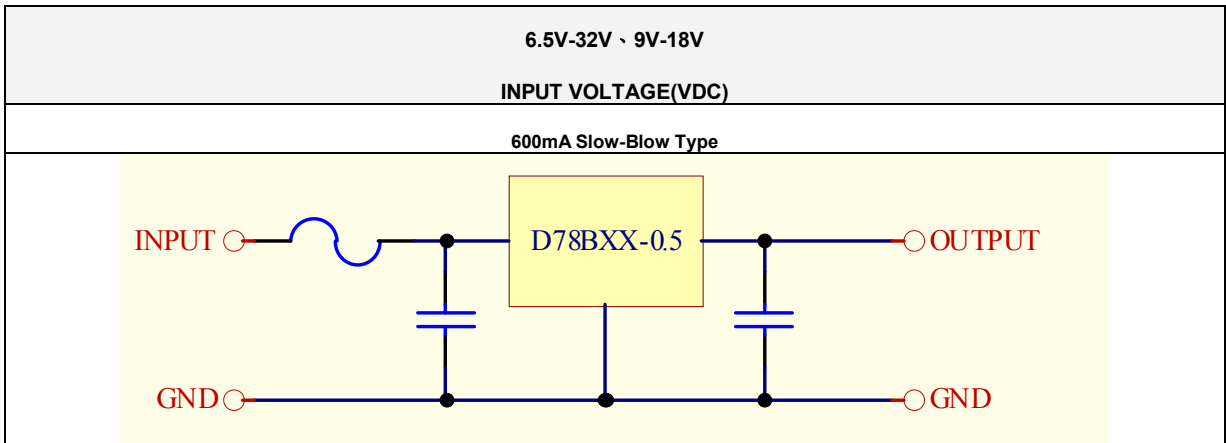
EFFICIENCY VS LOAD



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:

Danube Enterprise Co., Ltd.

Tel: 886-7-3755165

Fax: 886-7-3755330

E-mail: danube@ms10.hinet.net

Home Page

<http://www.danube.com.tw>
