

Industrial & military grade high density DC to DC converters

TEMPERATURE CHARACTERISTICS

	Min.	Typ.	Max.	Units
Operating	-55		+100	°C
Storage (Ambient)	-55		+125	°C
Over Temperature Shutdown		+105		°C
Thermal Resistance Case - Ambient		12		°C/W

ENVIRONMENTAL SCREENING - M MODEL

Stabilization Bake:	+125°C for 24 hours similar to Mil-Std-883, M1008.2, Condition B
Temperature Cycling:	10 cycles at -55°C to +125°C (transition period 36 minutes) similar to Mil-Std-883, M1010, Condition B
Burn-in:	160 hours at +85°C min.
Final Testing	

ENVIRONMENTAL SCREENING - I MODEL

Burn-in:	16 hours at +85°C min.
Final Testing	

See "Guide to Operation" for full details.

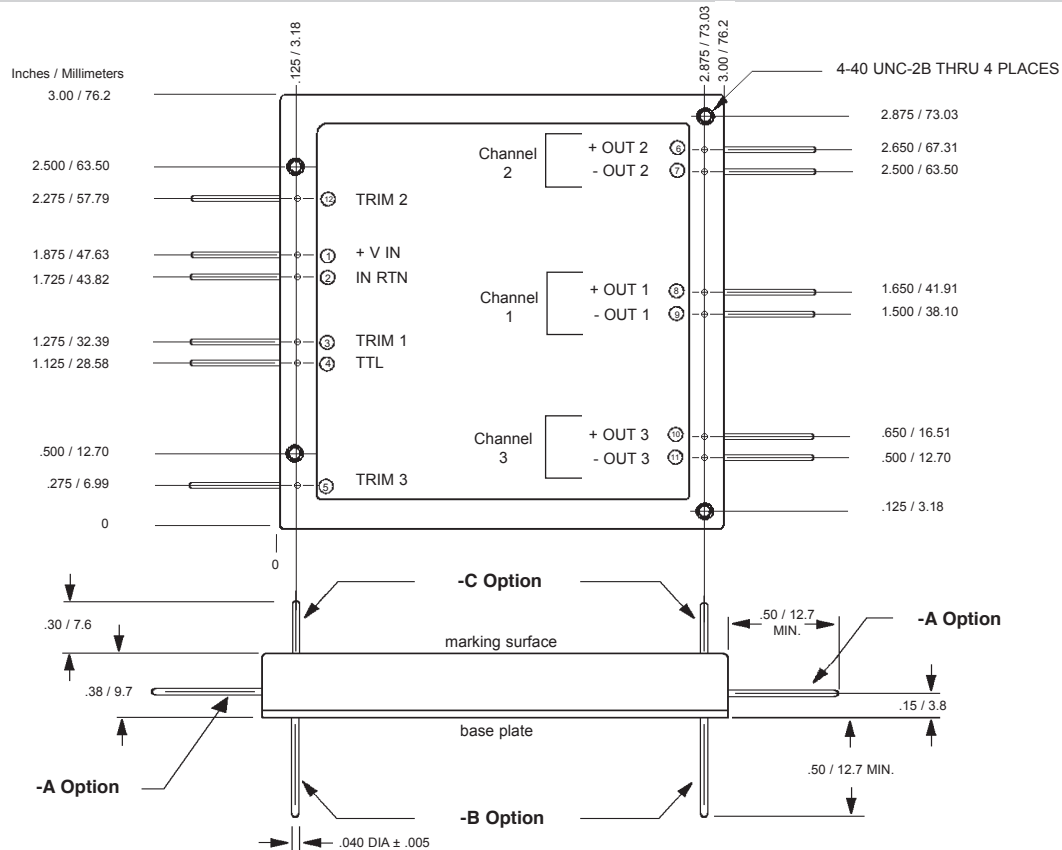
ISOLATION CHARACTERISTICS

	Min.	Typ.	Max.	Units
Isolation:				
Input to Output	500			Vdc
Output to Base	250			Vdc
Input to Base	250			Vdc
Input to Output Capacitance		0.066		µf
Insulation Resistance (@50 Vdc)	50			MOhm

MECHANICAL CHARACTERISTICS

Weight	5.4	oz.
	150	grams
Size	3.0 x 3.0 x 0.38	inch
	76.2 x 76.2 x 9.7	mm
Volume	3.42	inch ³
	56.1	cm ³
Material	Pin	Brass (Solder Plating)
	Baseplate	Aluminum 5052-H32
	Case	28 Gauge Steel (cold rolled)
Finish		Nickel Plating
Mounting	Standard	4-40 inserts provided in baseplate
	I Option	M2.5 metric inserts (4 places)
	D Option	0.115 DIA thru holes (4 places)

CASE DRAWINGS

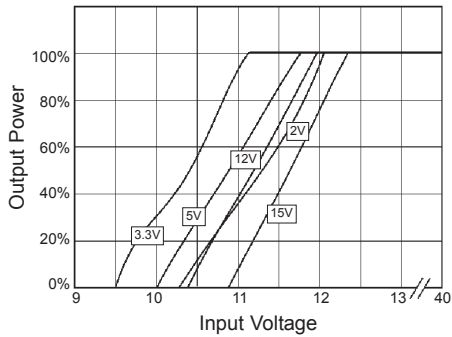


Tolerances: inches - x.xx = ±0.03 mm - x.x = ±0.8
x.xxx = ±0.015 x.xx = ±0.40

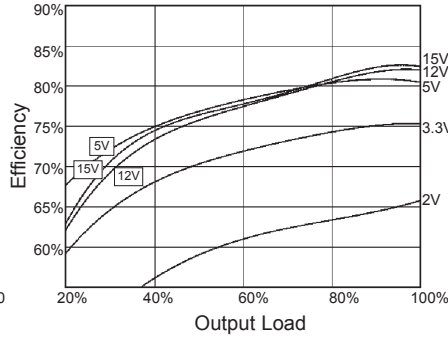
All specifications are typical @+25°C with nominal input voltage under full output load conditions, unless otherwise noted. Specifications subject to change without notice.

Performance characteristics

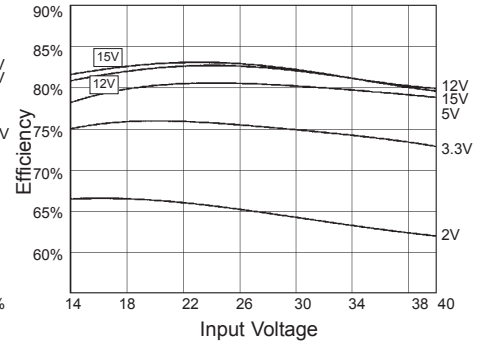
I. Input Voltage vs. Output Power



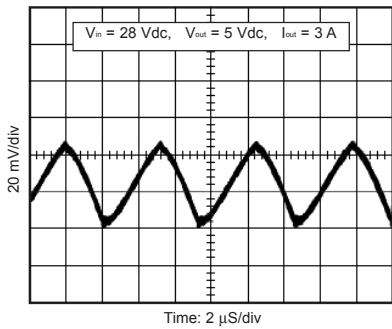
II. Efficiency vs. Output Power



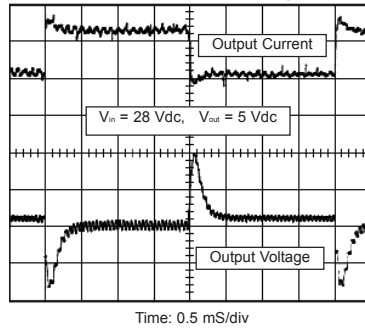
III. Efficiency vs. Input Voltage



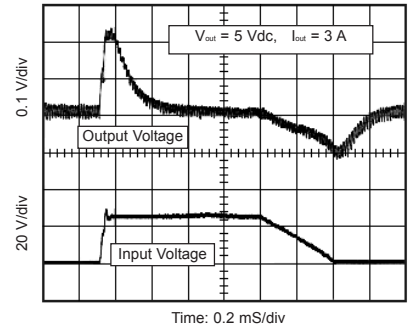
IV. Output Voltage Ripple



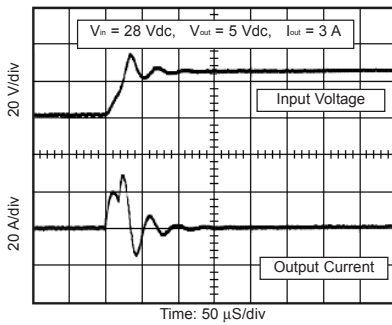
V. Load Transient Response



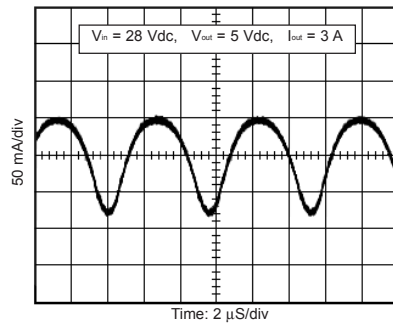
VI. Input Transient Response



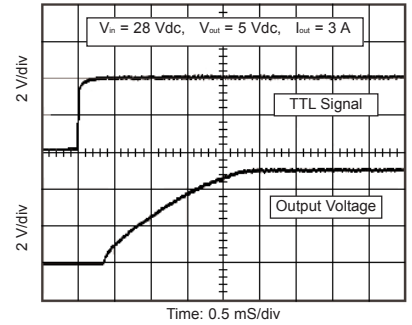
VII. Input Inrush Current



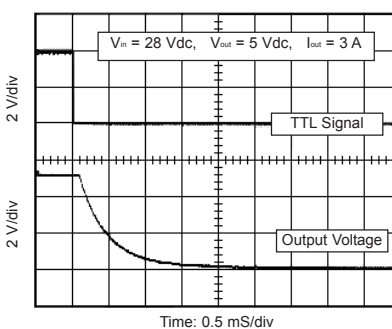
VIII. Input Current Ripple



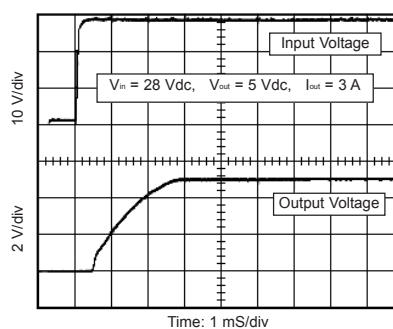
IX. TTL Turn On



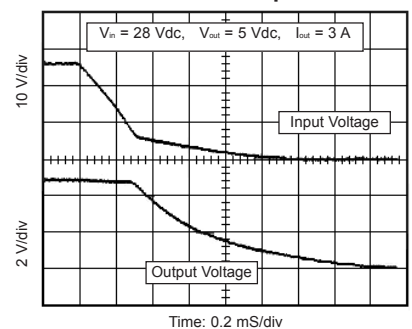
X. TTL Turn-off



XI. Turn-on



XII. Turn-off / Hold-up Time



NBF50 EMI filters



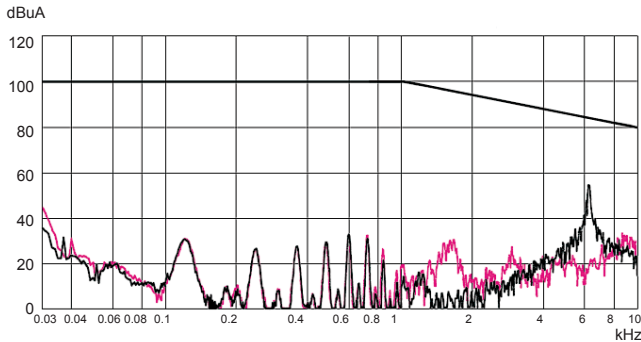
How to Order:

NBF 50 - A - D

- Series: Total Output Power
- Options:
 A- pins out side of unit
 B- pins out bottom of unit
 C- pins out top of unit
 D- through hole inserts (STD threaded)
 I - M2.5 inserts

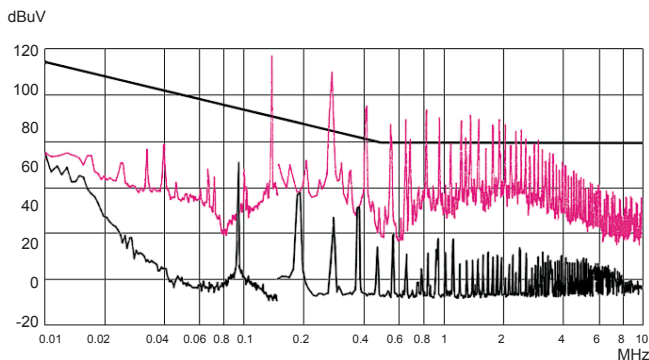
EMI COMPARISON GRAPHS

28V_{in} - 50 watts
 MIL-STD-461D, CE101-4



28V_{in} - 50 watts
 MIL-STD-461D, CE102

■ With NBF50
 ■ Without NBF50



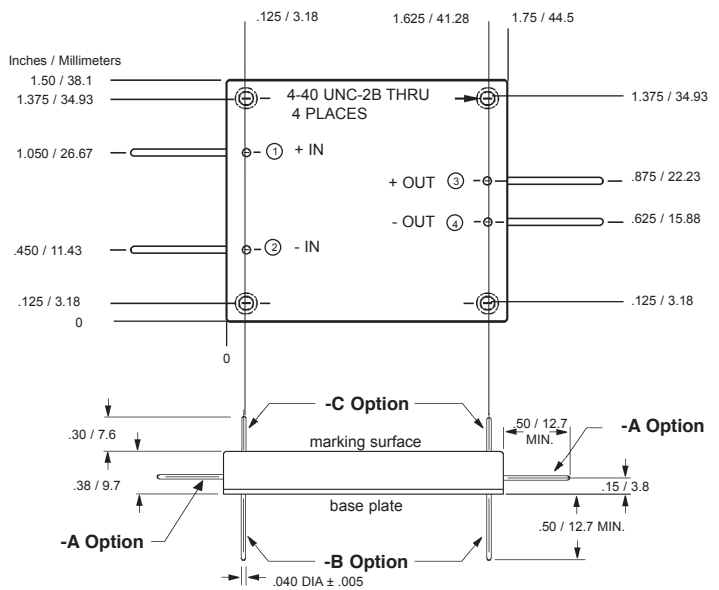
FEATURES

- MIL-STD-461D Compliance CE101 and CE102
- Thermally Non-dissipative device
- Less than 1.0 volt drop across the NBF50
- Does Not Require External Components
- Meets Environmental Requirements of MIL-STD-810E and MIL-STD-901C
- For Use With NB15, NB30, NB45 and NB50 Series DC/DC Converters

SPECIFICATIONS

Input Voltage (maximum)	50	Vdc
Rated Output Current	5	A
Isolation (Input/Output to Case)	500	Vdc
Operating Temperature	-55 to + 100	°C
Storage Temperature	-55 to + 125	°C
Insulation Resistance (measured at 50Vdc)	50	M Ohm
Weight	1.98	oz.
	56.0	grams
Size	1.75 x 1.5 x 0.38	inch
	44.5 x 38.1 x 9.7	mm
Volume	1.00	inch ³
	16.5	cm ³
Material	Pin	Brass (Solder Plating)
	Baseplate	Aluminum 5052-H32
	Case	28 Gauge Steel (cold rolled)
Finish		Nickel Plating
Mounting	Standard	4-40 inserts provided in baseplate
	I Option	M2.5 metric inserts (4 places)
	D Option	0.115 DIA thru holes (4 places)

CASE DRAWING



Tolerances:

inches	-	x.xx	= ±0.03
		x.xxx	= ±0.015
mm	-	x.x	= ±0.8
		x.xx	= ±0.40

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