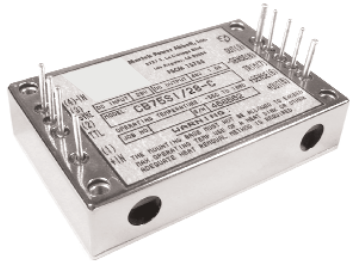
CB75S single-output DC/DC converters
16 – 40Vin, 2 – 28Vout, 75 watts



FEATURES

- .50 Inch Profile
- Standard Quarter Brick Pin-out and Footprint
- Remote Turn On / Output Status (TTL)
- Output Voltage Trim
- Output Overvoltage Protection
- Output Overcurrent Protection
- Over Temperature Protection
- Fixed Frequency (500kHz) Conversion
- Synchronization Input
- High Temperature Burn-In
- 100% Environmental Screening (M Models)

How to Order:

CB 75 S M / 5 - C - D

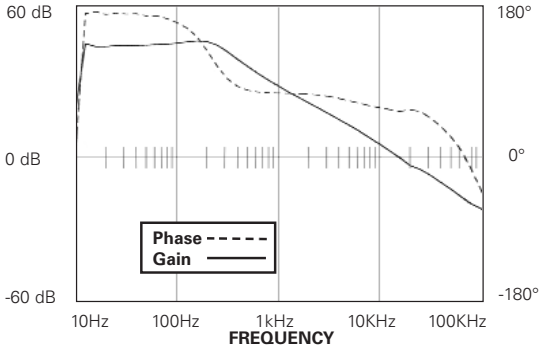
- Series
- Total Output Power
- Single Output
- Unscreened (I) or Screened (M)
- Output Voltage: Maximum current as stated in selection chart
- Options

Options:
B - pins out bottom of unit
C - pins out top of unit
D - through hole inserts (.115 DIA)
I - M2.5 inserts (STD 4 - 40 inserts)

INPUT CHARACTERISTICS

	Min.	Typ.	Max.	Units
Input Voltage	16	28	40	Vdc
Brown Out (75% of FL)		13.5	14.4	Vdc
No Load Power Dissipation		1.3		W
Input Inrush Charge			2.0	mc
Reflective Ripple Current		3		%
Input Ripple Rejection(120Hz, 5Vout)		70		dB
Input Ripple Rejection(800Hz, 5Vout)		50		dB
Logic Disable Current (Sink)			150	µA
Logic Disable Voltage (TTL)	0		.8	Vdc
Logic Disable Power In		175		mw
Sync Input Voltage	3.0	5.0	5.25	Vc
Sync Input Frequency	480	500	550	KHz
Sync Input Duty Cycle	30	35	55	%
Efficiency up to: >= 5 Vout		87		%
(See Page 30) 3.3 Vout		81		%
2 Vdc output		72		%
EMI: Units conform to MIL-STD-461D with companion filter (CBF75)				
Input Transient: Units can withstand 50Vdc transients for up to 100ms per MIL-STD-704E				

STABILITY



SELECTION CHART

Nominal Output Voltage (Volts)	Output Current (Amps)	Model Number (Unscreened)	Model Number (Screened)
2	15	CB75SI/2	CB75SM/2
3.3	15	CB75SI/3.3	CB75SM/3.3
5	15	CB75SI/5	CB75SM/5
5.2	14.5	CB75SI/5.2	CB75SM/5.2
12	6.3	CB75SI/12	CB75SM/12
15	5	CB75SI/15	CB75SM/15
24	3.2	CB75SI/24	CB75SM/24
28	2.7	CB75SI/28	CB75SM/28

OUTPUT CHARACTERISTICS

	Min.	Typ.	Max.	Units
Set Point Accuracy		25	50 [1]	mV
Load Regulation		5	10 [2]	mV
Line Regulation		5	10 [3]	mV
Ripple P-P (10 MHz)		60	100 [4]	mV
Overvoltage Protection		125		% V_{out}
Transient Response Time - Overshoot				
20-80% Load (@ Nom. Line)		100/100	500/250 [5]	µS /mV
Low Line - High Line (@ FL)		200/150	500/250 [5]	µS /mV
50-100% Load (@ Nom.Line)		100/100	500/250 [5]	µS /mV
Temperature Drift		0.02	0.05	%/°C
Long Term Drift		0.02	0.05	%/1KHrs
Current Limit	105	130	150	%
Short Circuit Current	20	25	75	%
Load Capacitance			30 [6]	µF
Remote Sense Compensation			0.5	Vdc
Status "OK" (TTL)	2.4		5	Vdc
Status "Bad" (TTL)	0		0.8	Vdc
Trim Range	90		110	%
Turn On Time		6	10	mS
Logic Turn On Time		5	10	mS

[1] or 1 % Vout, whichever is greater
[2] or 0.2 % Vout, whichever is greater from No Load to Full Load with line constant
[3] or 0.2 % Vout, whichever is greater from Low Line to High Line at Full Load
[4] whichever is greater measured at 10 MHz Bandwidth
[5] or 5 % Vout, whichever is greater
[6] or 3 x Co, whichever is greater

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TEMPERATURE CHARACTERISTICS

	Min.	Typ.	Max.	Units
Operating (Baseplate)	-55		+100	°C
Storage (Ambient)	-55		+125	°C
Thermal Resistance (Baseplate to Ambient)		8		°C/W
OverTemperature Shutdown		105		°C

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 5°C/ minute) similar to MIL-STD-883, M1010, Condition B
Burn in:	160 hours @ 85°C minimum with V_{in}= 28Vdc and output at full load
Final Testing	

ENVIRONMENTAL SCREENING - I MODEL

Burn in:	16 hours @ 85°C minimum with V_{in}=28Vdc and output at full load
Final Testing	

See "Guide to Operation" for full details

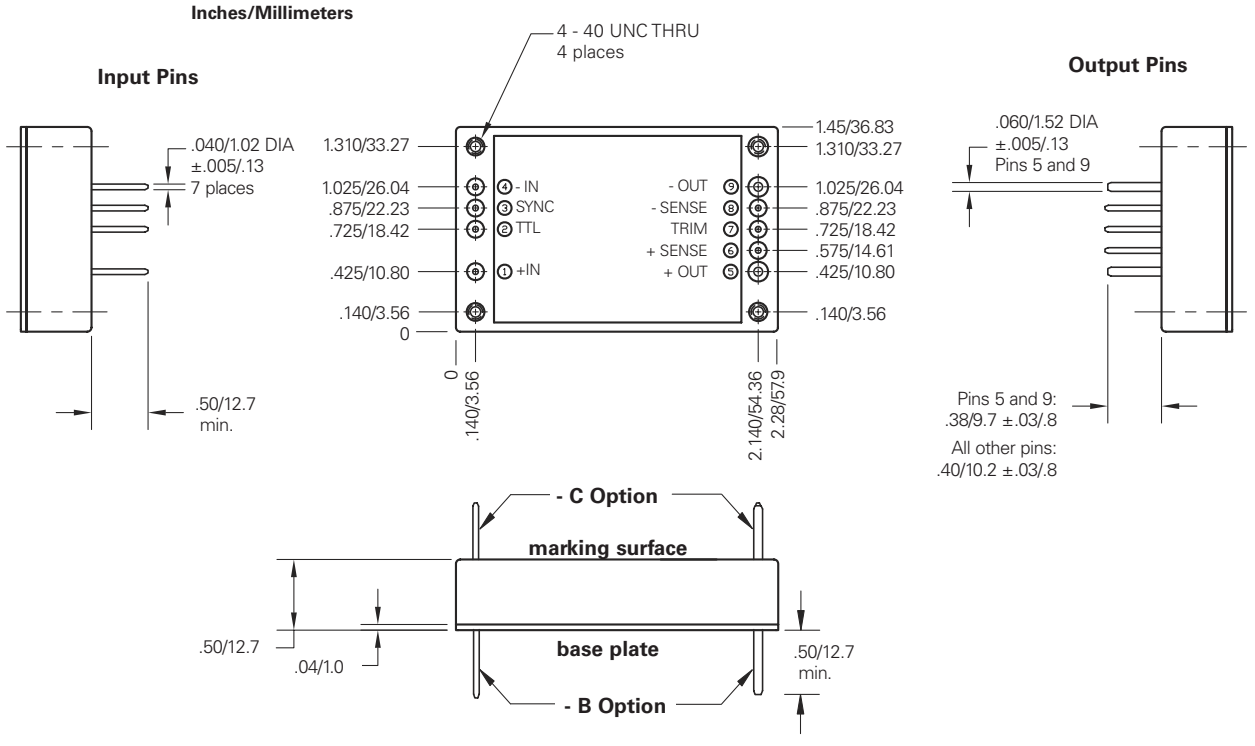
ISOLATION CHARACTERISTICS

	Min.	Units
Isolation:		
Input to Output	500	Vdc
Output to Base	250	Vdc
Input to Base	250	Vdc
Insulation Resistance (@50 Vdc)	50	MOhm

MECHANICAL CHARACTERISTICS

Weight	3.19 90	oz. grams
Size	1.45 x 2.28 x .50 36.8 x 57.9 x 12.7	inch mm
Volume	1.65 27.1	$inch^3$ cm^3
Material	Pin Baseplate Case	Brass (Solder Plating) Aluminum 5052-H32 28 GA Steel (Nickel Plating)
Mounting	Standard D Option I Option	4 - 40 inserts in baseplate 0.115 DIA thru hole inserts M2.5 inserts in baseplate

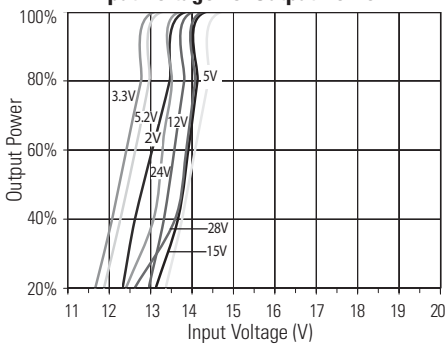
CASE DRAWINGS



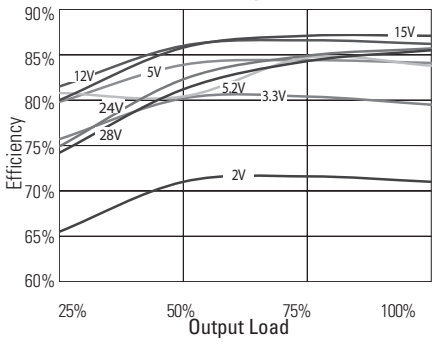
Tolerances: inches - x.xx = ±0.03 mm - x.x = ±0.8
x.xxx = ±0.015 x.xx = ±0.4

Performance characteristics

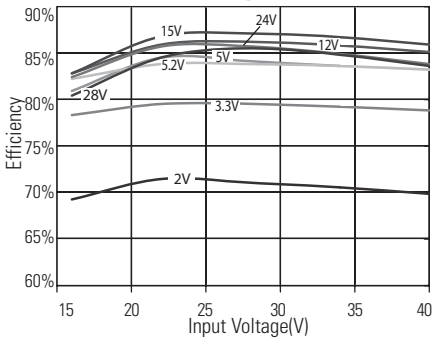
I. Input Voltage vs. Output Power



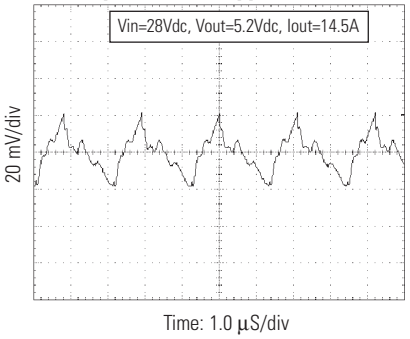
II. Efficiency vs. Output Power



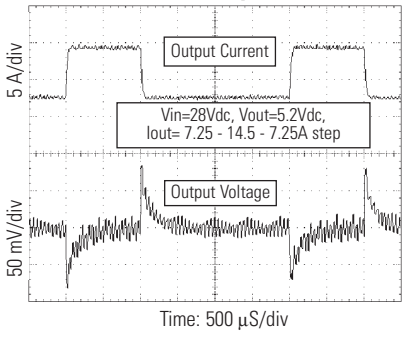
III. Efficiency vs. Input Voltage



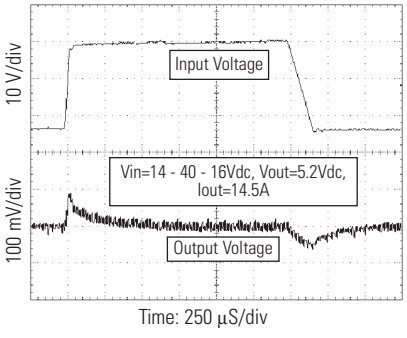
IV. Output Voltage Ripple



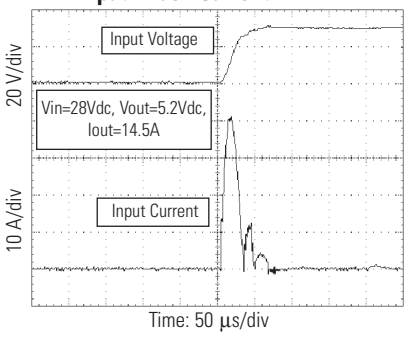
V. Load Transient Response



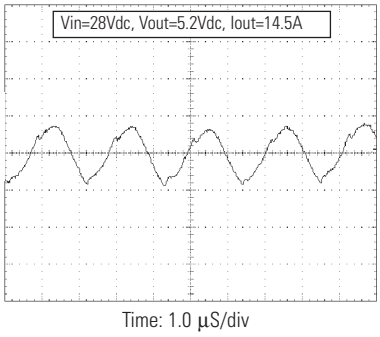
VI. Line Transient Response



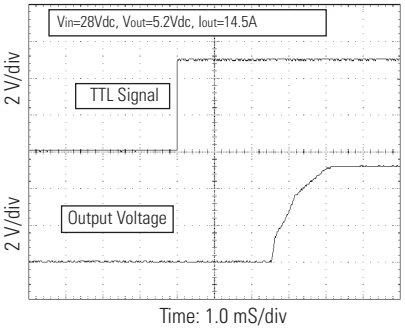
VII. Input Inrush Current



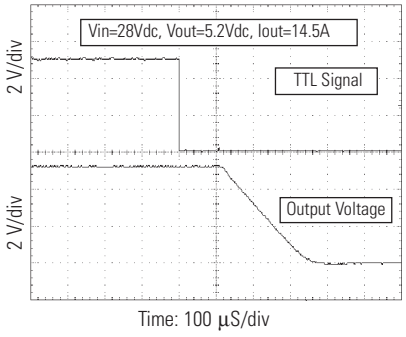
VIII. Input Current Ripple



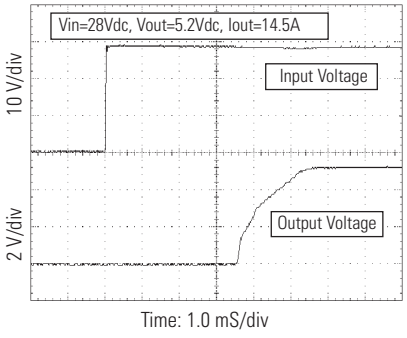
IX. TTL Turn On



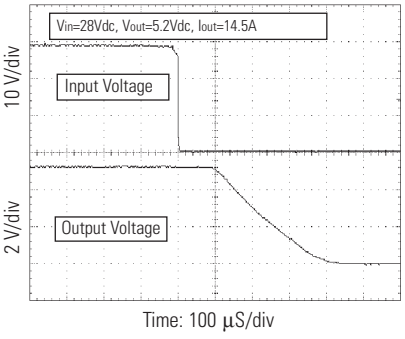
X. TTL Turn Off



XI. Input Turn-On



XII. Turn Off/ Hold-Up Time



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

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