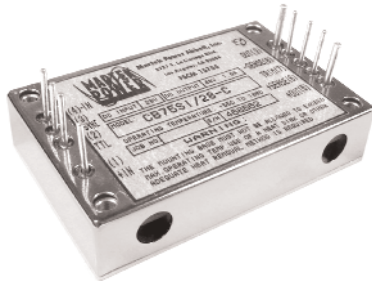


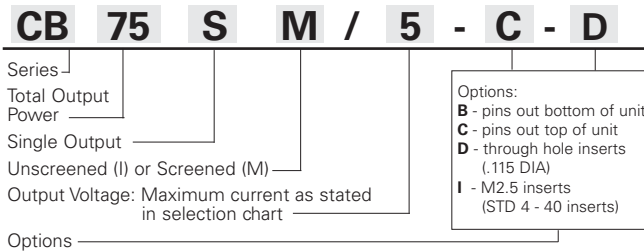
# CB75S

75 Watts Output Power

SINGLE OUTPUT



How to Order:

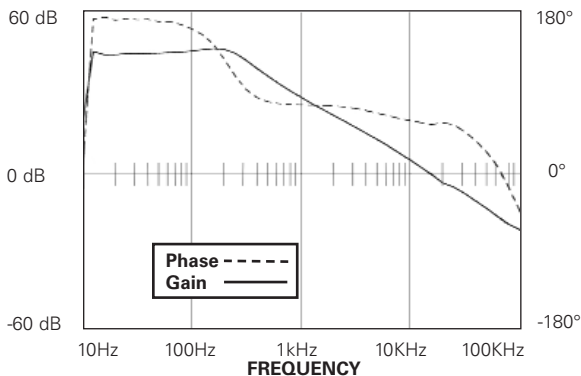


## INPUT CHARACTERISTICS

	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



## 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)

## 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 <sup>1</sup>	mV
Load Regulation		5	10 <sup>2</sup>	mV
Line Regulation		5	10 <sup>3</sup>	mV
Ripple P-P (10 MHz)		60	100 <sup>4</sup>	mV
Overvoltage Protection		125		% V <sub>out</sub>
Transient Response Time - Overshoot				
20-80% Load (@ Nom. Line)		100/100	500/250 <sup>5</sup>	µS /mV
Low Line - High Line (@ FL)		200/150	500/250 <sup>5</sup>	µS /mV
50-100% Load (@ Nom.Line)		100/100	500/250 <sup>5</sup>	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 <sup>6</sup>	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

<sup>1</sup> or 1 % Vout, whichever is greater

<sup>2</sup> or 0.2 % Vout, whichever is greater from No Load to Full Load with line constant

<sup>3</sup> or 0.2 % Vout, whichever is greater from Low Line to High Line at Full Load

<sup>4</sup> whichever is greater measured at 10 MHz Bandwidth

<sup>5</sup> or 5 % Vout, whichever is greater

<sup>6</sup> or 3 x Co, whichever is greater



**HIGH DENSITY  
DC TO DC CONVERTERS**

**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

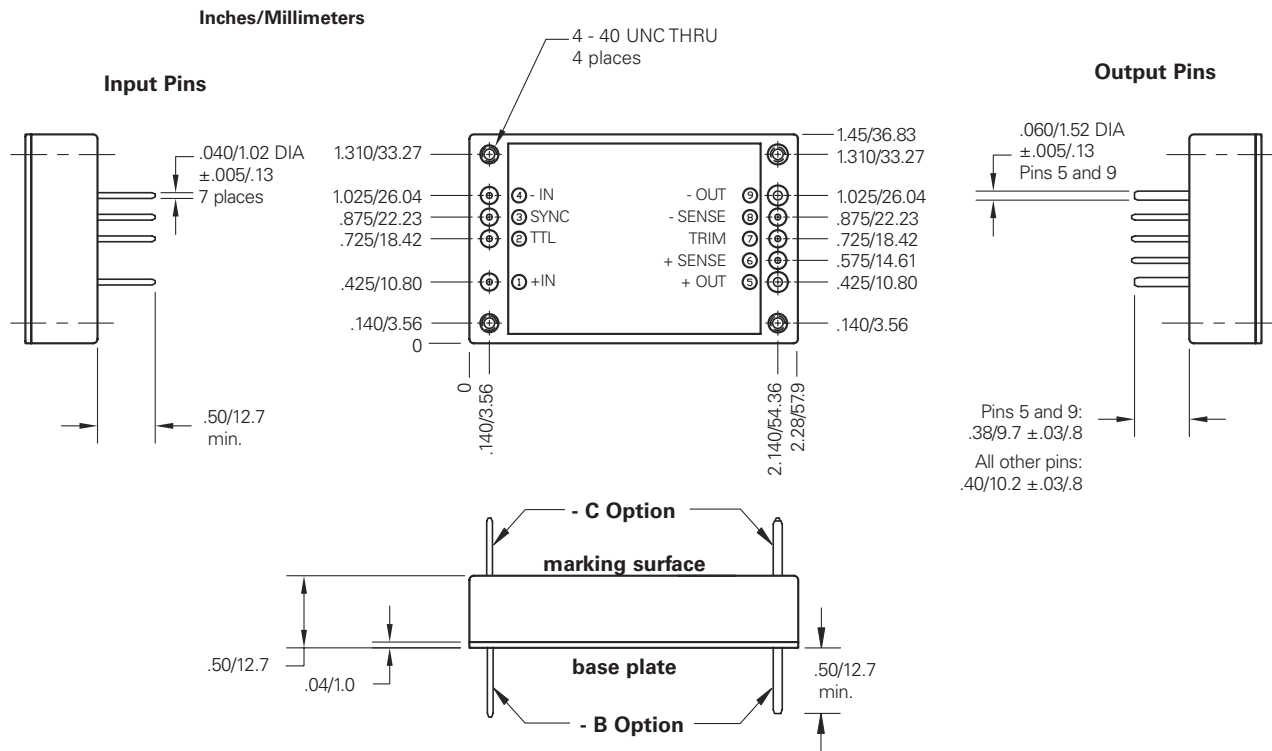
**ISOLATION CHARACTERISTICS**

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

**CASE DRAWINGS**

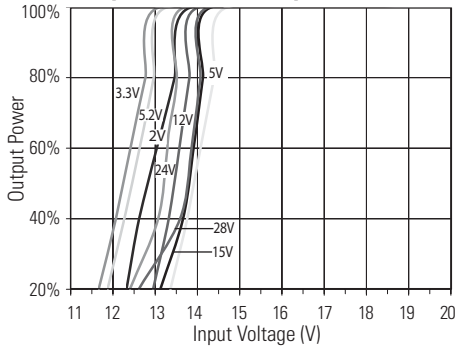


**Tolerances:** inches - x.xx = ±0.03 mm - x.x = ±0.8  
 x.xxx = ±0.015 x.xx = ±0.4

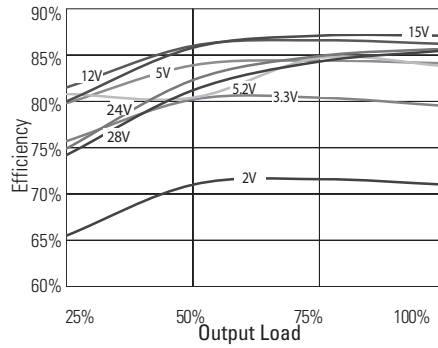


# PERFORMANCE CHARACTERISTICS: CB75S

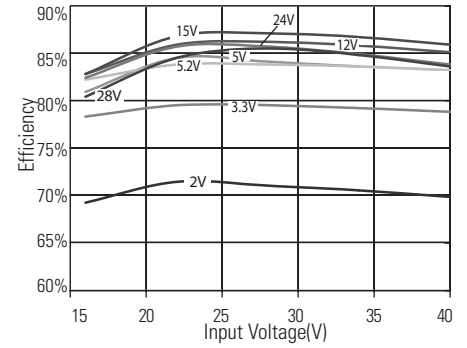
**I. Input Voltage vs. Output Power**



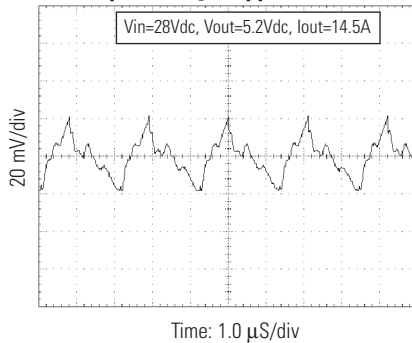
**II. Efficiency vs. Output Power**



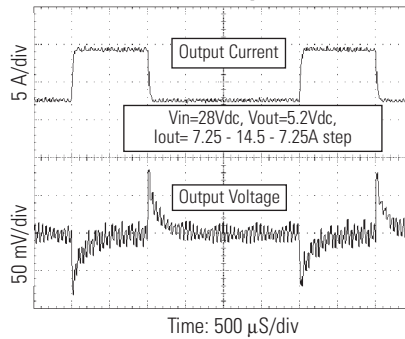
**III. Efficiency vs. Input Voltage**



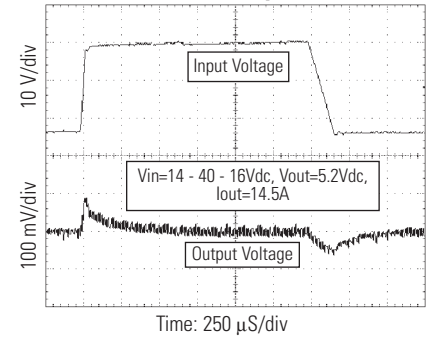
**IV. Output Voltage Ripple**



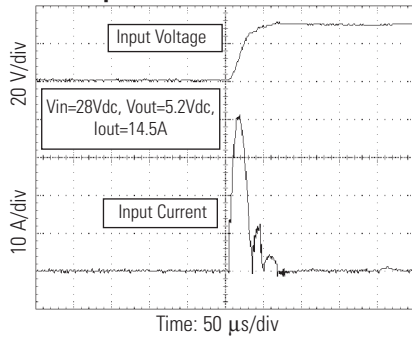
**V. Load Transient Response**



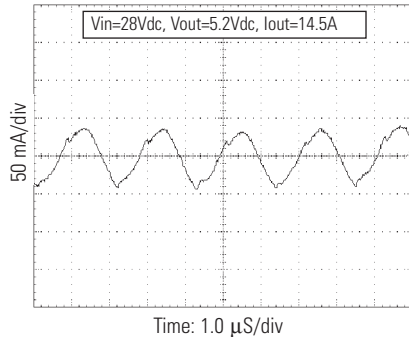
**VI. Line Transient Response**



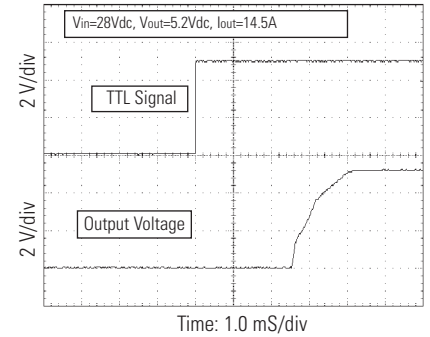
**VII. Input Inrush Current**



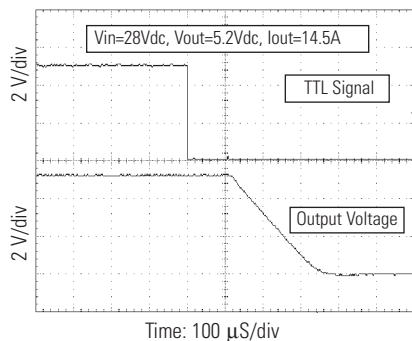
**VIII. Input Current Ripple**



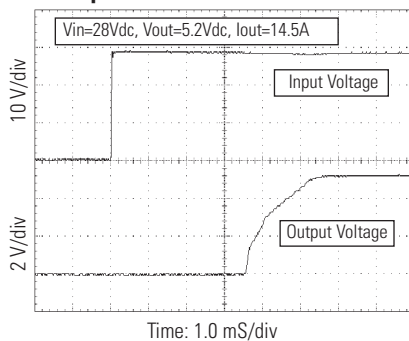
**IX. TTL Turn On**



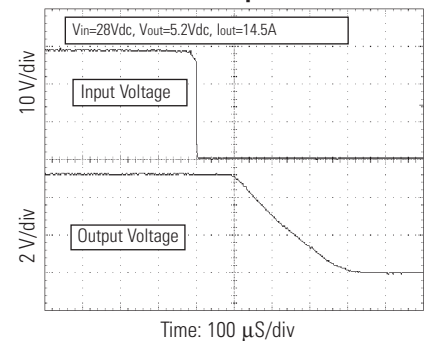
**X. TTL Turn Off**



**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.