

The COE48018ABCD-50 is based on high efficiency SR technology and low thermal resistance structure that designed for telecommunication, computer servers, enterprise networking equipment and other applications that use a 48V (36~75V) input bus.

### INTERNATIONAL SAFETY PENDING

- High efficiency ..... 88%@1.8V/40A  
..... 86%@1.8V/50A
- High useable current (with 3.0mm heat sink)  
..... 1.8V/45A at 50°C 200LFM  
..... 1.8V/45A at 70°C 400LFM
- High current density ..... 71A/in<sup>3</sup>
- Low profile ..... 0.34"(8.6mm)

Part Number *	Input	Output	Efficiency
COE48120ABCD-11	36V~75V	145W 12.0V/11A 132W	92%
COE48050ABCD-25	36V~75V	138W 5.0V/25A 125W	91%
COE48033ABCD-30	36V~75V	111W 3.3V/30A 99W	90%
COE48025ABCD-40	36V~75V	114W 2.5V/40A 100W	88%
COE48018ABCD-50	36V~75V	106W 1.8V/50A 90W	86%
COE48015ABCD-50	36V~75V	90W 1.5V/50A 75W	84%

Part Number *	Input	Output	Efficiency
COE24120ABCD-11	18V~36V	147W 12.0V/11A 132W	91%
COE24050ABCD-25	18V~36V	139W 5.0V/25A 125W	90%
COE24033ABCD-30	18V~36V	111W 3.3V/30A 99W	89%
COE24025ABCD-40	18V~36V	114W 2.5V/50A 125W	88%
COE24018ABCD-50	18V~36V	106W 1.8V/50A 90W	86%
COE24015ABCD-50	18V~36V	90W 1.5V/50A 75W	84%

\* Options for **COE48018ABCD-50** are as follows:

- A** (Enable Logic): "P" for Positive "N" for Negative.
- B** (Pin Length): "0" for Pin Length 0.120", "1" for Pin Length 0.16", "2" for Pin Length 0.20", "3" for Pin Length 0.240"
- C** (Total Height): "0" for 0.36" "1" for 0.40" "2" for 0.45" "3" for 0.50"
- D** (Base Plate): "M" 1.0mm Metal Plate "S" 3.0mm Base Plate "A" 3.0mm Sink-Plate "B" 5.0mm Sink-Plate

Example: **COE48018P20M-50** is an eighth brick dc/dc converter for 48V to 1.8V/50A with positive control logic, 0.20" pin length, 0.36" total height and 1.0mm metal plate attached.

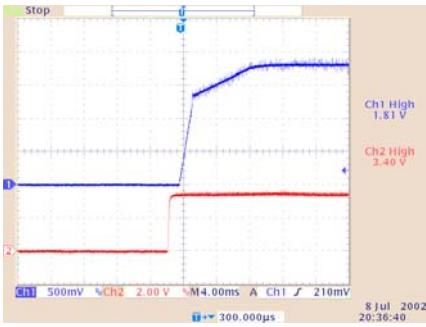
ABSOLUTE MAXIMUM RATINGS		
Temperature	Operation	-40°C to +120°C
	Storage	-55°C to +125°C
Input Voltage Range	Operation:	
	24V Models	-0.5V to +40Vdc
	48V Models	-0.5V to +80Vdc
	Transient (100mS):	
	24V Models	50V Maximum
	48V Models	100V Maximum
Isolation Voltage	Input to Output	2.0KV Minimum
	Input to Case	1.0KV Minimum
	Output to Case	1.0KV Minimum
Remote Control Voltage		-0.5V to +12Vdc

GENERAL SPECIFICATIONS		
Conversion Efficiency	Typical	See table
Switching Frequency	Typical	300KHz
MTBF	Bellcore	4.94×10 <sup>6</sup> hrs @GB.
OTP	Internal	120°C
Weight		1.0 oz
Size		2.30"×0.90"×0.34"

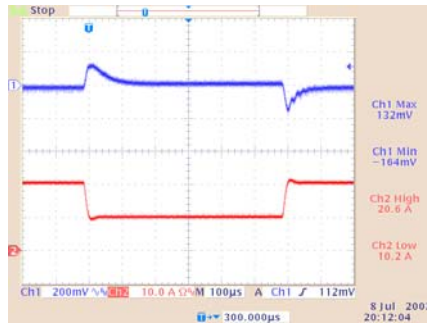
CONTROL FUNCTIONS		
Remote Control	Logic High	+3.0V to +6.5V
	Logic Low	0V to +1.0V
Input Current of Remote Control Pin		-0.5mA ~ +1.5mA

INPUT SPECIFICATIONS		
Operation Voltage Range	24V Models	+18V to +36Vdc
	48V Models	+36V to +75Vdc
Reflected Ripple Current	L <sub>EXT</sub> = 10uH	20mA Max
Power ON Voltage Ranges	24V Models	+17.5V to +17.9Vdc
	48V Models	+35.0V to +35.8Vdc
Power OFF Voltage Ranges	24V Models	+17.0V to +17.4Vdc
	48V Models	+34.0V to +34.8Vdc
Off State Input Current	V <sub>NOM</sub>	6mA Max
Latch-State Input Current	V <sub>NOM</sub>	8mA Max
Input Capacitance	24V Models	33.0uF Max
	48V Models	6.8uF Max

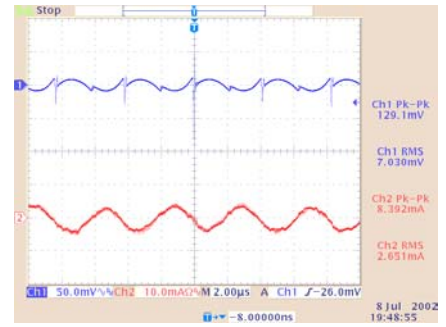
OUTPUT SPECIFICATIONS		
Voltage Accuracy	Typical	±1%
Line Regulation	Full Input Range	±0.2%
Load Regulation	10%~100%	±0.2%
Temperature Drift	-40°C ~100°C	±0.02%/°C
Output Tolerance Band	All Conditions	±3%
Ripple & Noise (20MHz)	Peak-Peak (RMS)	3% (1%) V <sub>o</sub>
Over Voltage Protection	V <sub>NOM</sub> , 10% Load	115~130 %V <sub>o</sub>
Output Current Limits	V <sub>NOM</sub>	105%~125%
Voltage Trim	V <sub>NOM</sub> , 10% Load	±10%
Input Ripple Rejection (<1KHz)	V <sub>NOM</sub> , Full Load	-50dB
Step Load (2.5A/uS)	50%~75% Load	300mV/300uS
Start-Up Delay Time	V <sub>NOM</sub> , Full Load	20mS/250mS



Start-Up Waveform  
( $V_{IN}$ : 50V, Load: 50A)



Transient Response  
( $V_{IN}$ : 50V, Load: 35.0A/25.0A@2.5A/ $\mu$ S)

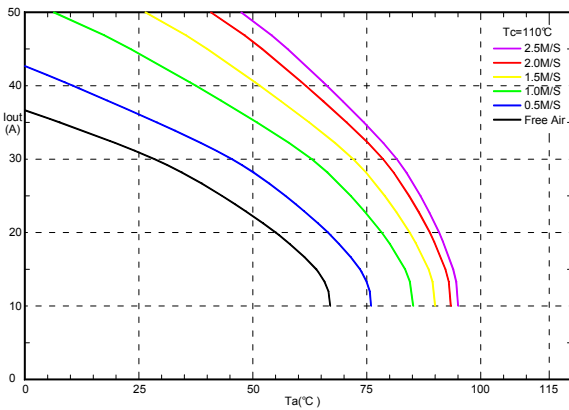


Output Ripple/Noise and Input Ripple Current  
( $V_{IN}$ : 50V, Load: 50A,  $L_{IN}$ =10uH)

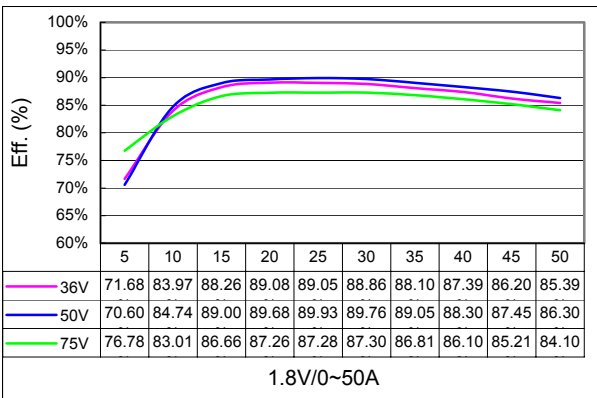
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Thermal Plot with 55°C-200LFM Airflow (Direction: N to S)

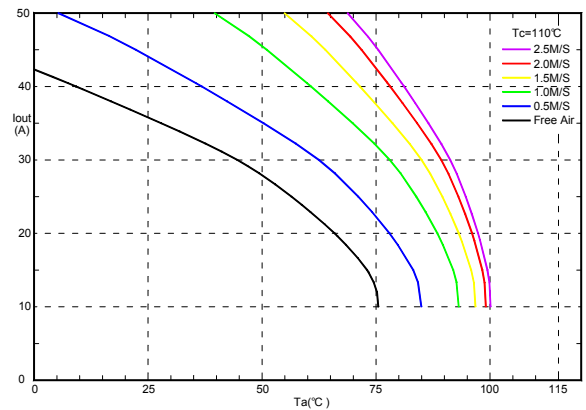


Derating Plot Without Heat Sink  
(The cooling effect of test PCB was canceled)

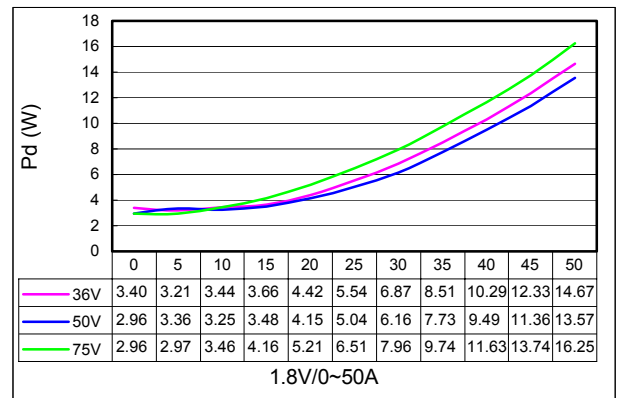


Efficiency Plot

Thermal Plot with 55°C-200LFM Airflow (Direction: E to W)



Derating Plot With 3mm Heat Sink  
(The cooling effect of test PCB was canceled)



Power Loss Plot