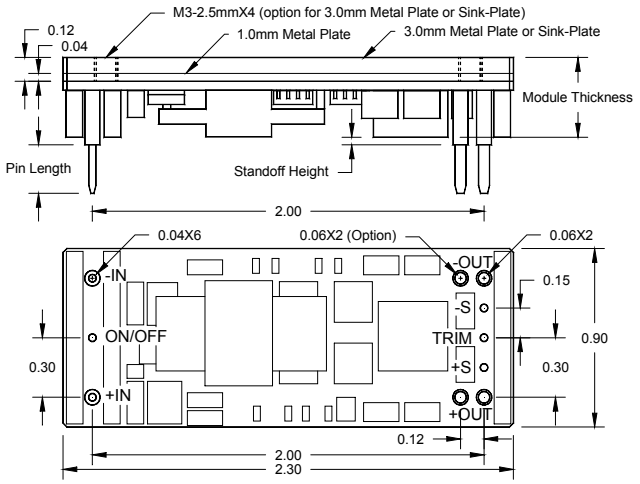
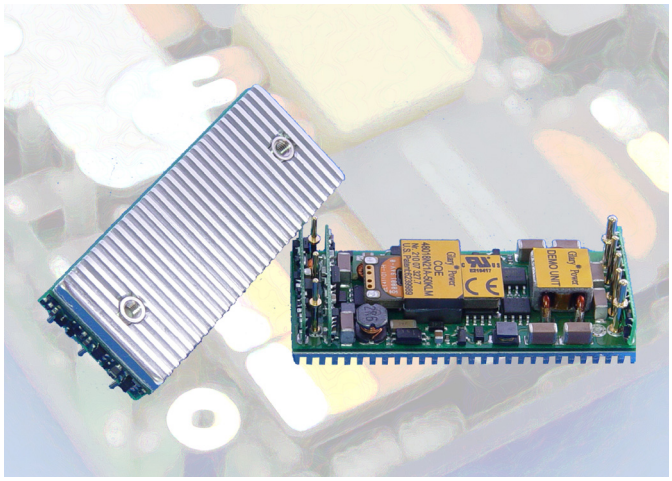
Glary Power Technology

1/8 Brick
COE24050N20M-15MBA





The COE24050N20M-15MBA module provides 5V/15A outputs with industry standard eighth brick package. The efficient SR stage combining with patented "Buck Reset" topology reduce power loss to high efficiency, the single component side board designed with Sink-Plate technology eliminate the hot spot gives converter better thermal performance. Modules are designed for Telecom, Servers, Networking equipments and other applications. The module is special adjust for 深圳市中電華星電子技術有限公司 requested that apply on 4X (18~75V) input bus.

- High efficiency .....86.5%@ 24Vin / 5V / 15A
  .....88.5%@ 24Vin / 5V / 12A
- High useable current (with 1.0mm Metal-Plate)
  .....24Vin / 5V / 11A at 50°C／200LFM
- High useable current (with 3.0mm Sink-Plate)
  .....24Vin / 5V / 12A at 65°C／200LFM
- Low profile ..... 0.36"(9.2mm)
- Sink-Plate (SP) flexible thermal managing capability (see drawing)

PRELIMINARY DATA SHEET

Part Number *	Maximum Input		Maximum Output		Efficiency
COE24050N20M-15MBA	18V~75V	86W	5V/15A	75W	87%

Part Number *	Maximum Input		Maximum Output		Efficiency

* Options for **COE24050ABCD-EF** are listed as follows:

A (Enable Logic): **P**: Positive **N**: Negative
B (Pin Dimension): **0**: 0.12" **1**: 0.16" **2**: 0.20" **3**: 0.24"
C (Standoff Height): **0**: 0.02" **1**: 0.08" **2**: 0.16"
D (Base-Plate/Module Thickness): **M**: 1.0mm Metal Plate/0.34" **A**: 3.0mm Sink-Plate/0.42" **B**: 5.0mm Sink-Plate/0.50"
EF (Output): **00** to **99** for output current rating

E219417

Example: **COE24050N20M-15MBA** is a ***COE*** series 1/8 brick 18~75V to 5V/15A dc/dc converter with negative control logic, 0.20" pin length, 0.02" of standoff height and 1.0mm Metal Plate. The total height of this module is 0.02"+0.34"=0.36"

Temperature	Operation	-40°C to +110°C
	Storage	-55°C to +125°C
Input Voltage Range	Operation:	
	18~75V Models	-0.5V to +75Vdc
	Transient (100mS):	
	18~75V Models	90V Maximum
Isolation Voltage	Input to Output	2.0KV Minimum
	Input to Case	1.0KV Minimum
	Output to Case	0.5KV Minimum
Remote Control Voltage		-0.5V to +12Vdc

Operation Voltage Range	4X Models (18~75V)	+18V to +75Vdc
Reflected Ripple Current	L_{EXT} = 10uH	20mA rms Max
Power ON Voltage Ranges	4X Models (18~75V)	+17.0V to +17.8Vdc
Power OFF Voltage Ranges	4X Models (18~75V)	+16.0V to +16.8Vdc
Off State Input Current	V_{NOM}	6mA Max
Latch-State Input Current	V_{NOM}	8mA Max
Input Capacitance	4X Models (18~75V)	22uF Max

GENERAL SPECIFICATIONS

Conversion Efficiency	Typical	See table
Switching Frequency	Typical	300KHz
MTBF	Bellcore	4.2×10^6 hrs @GB/25°C.
OTP	Internal	110°C
Weight		26 g
Size		2.30"×0.91"×0.36"

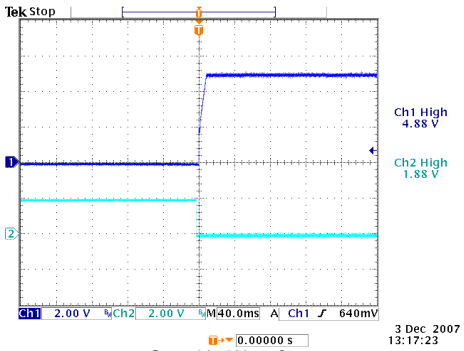
OUTPUT SPECIFICATIONS

Voltage Accuracy	Typical	±1%
Line Regulation	Full Input Range	±0.2%
Load Regulation	1%~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_o
Over Voltage Protection	V_{NOM}, 10% Load	115~130 %Vo
Output Current Limits	V_{NOM}	105%~125%
Voltage Trim	V_{NOM}, 10% Load	±10%
Input Ripple Rejection (<1KHz)	V_{NOM}, Full Load	-50dB
Step Load (2.5A/uS)	50%~75% Load	350mV/500uS
Start-Up Delay Time	V_{NOM}, Full Load	20mS/250mS

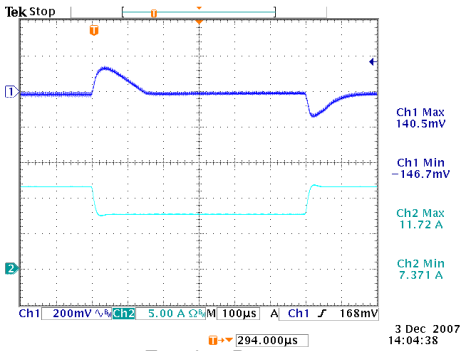
CONTROL FUNCTIONS

Remote Control	Logic High	+3.0V t0 +6.5V
	Logic Low	0V to +1.0V
Input Current of Remote Control Pin		-0.5mA ~ +1.5mA

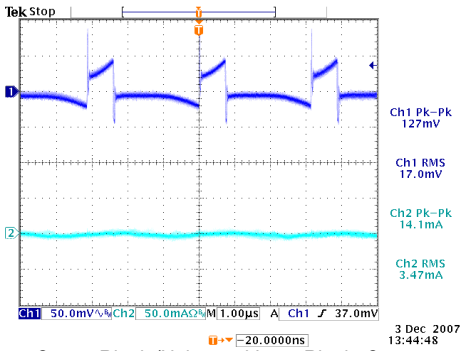
General specifications and the performances referring to standard series only, no special customer specification display here except requested items.



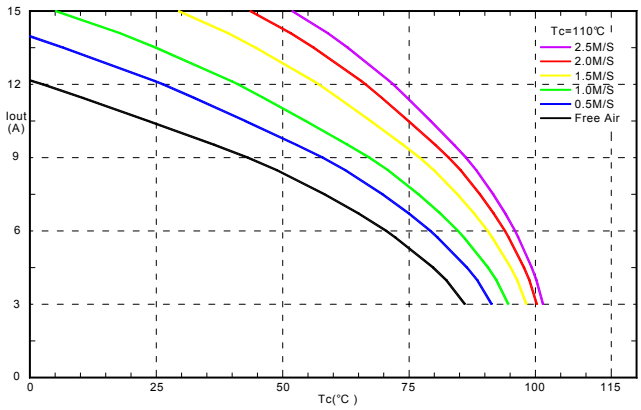
Start-Up Waveform
(V_{IN}: 48V, Load: 15A)



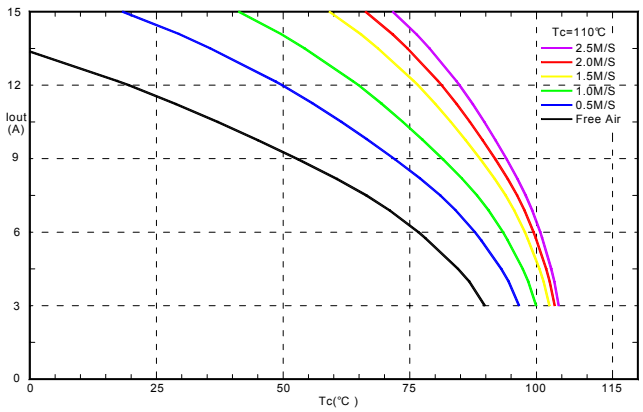
Transient Response
(V_{IN}: 48V, Load: 11.5A/7.5A@2.5A/µS)



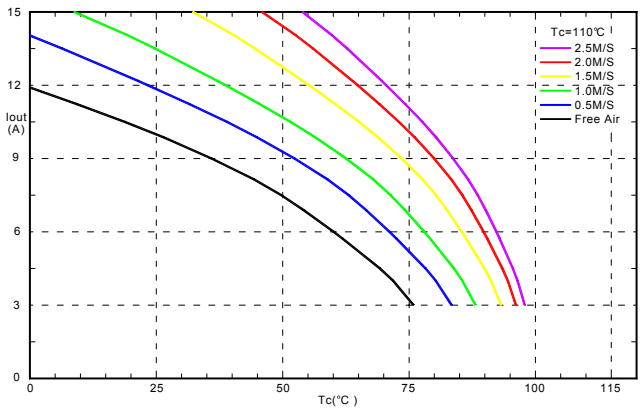
Output Ripple/Noise and Input Ripple Current
(V_{IN}: 48V, Load: 15A, L_{IN}=10uH)



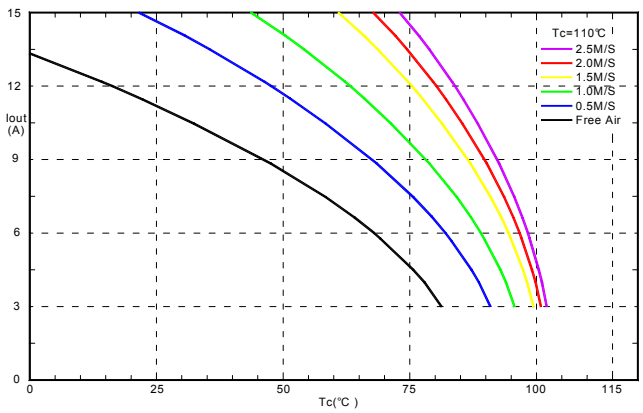
Derating Plot With1.0mm Metal Plate of 24Vin



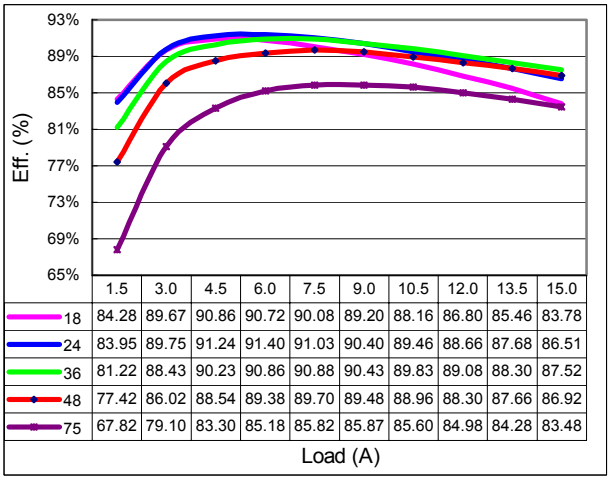
Derating Plot With 3.0mm Sink-Plate of 24Vin



Derating Plot With1.0mm Metal Plate of 48Vin



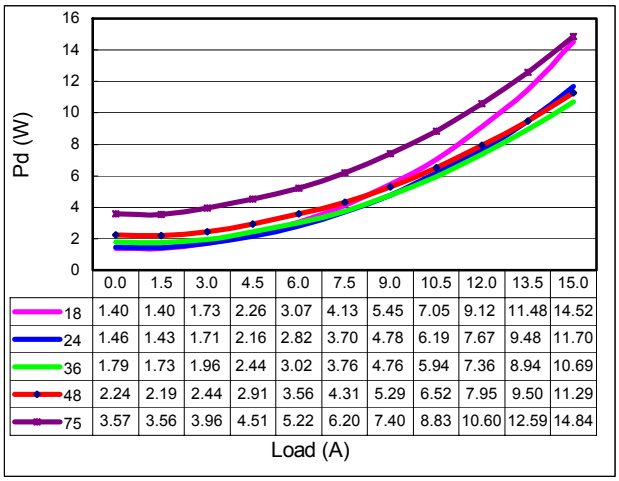
Derating Plot With 3.0mm Sink-Plate of 48Vin



	1.5	3.0	4.5	6.0	7.5	9.0	10.5	12.0	13.5	15.0
18	84.28	89.67	90.86	90.72	90.08	89.20	88.16	86.80	85.46	83.78
24	83.95	89.75	91.24	91.40	91.03	90.40	89.46	88.66	87.68	86.51
36	81.22	88.43	90.23	90.86	90.88	90.43	89.83	89.08	88.30	87.52
48	77.42	86.02	88.54	89.38	89.70	89.48	88.96	88.30	87.66	86.92
75	67.82	79.10	83.30	85.18	85.82	85.87	85.60	84.98	84.28	83.48

Load (A)

Efficiency Plot



	0.0	1.5	3.0	4.5	6.0	7.5	9.0	10.5	12.0	13.5	15.0
18	1.40	1.40	1.73	2.26	3.07	4.13	5.45	7.05	9.12	11.48	14.52
24	1.46	1.43	1.71	2.16	2.82	3.70	4.78	6.19	7.67	9.48	11.70
36	1.79	1.73	1.96	2.44	3.02	3.76	4.76	5.94	7.36	8.94	10.69
48	2.24	2.19	2.44	2.91	3.56	4.31	5.29	6.52	7.95	9.50	11.29
75	3.57	3.56	3.96	4.51	5.22	6.20	7.40	8.83	10.60	12.59	14.84

Load (A)

Power Loss Plot

General specifications and the performances referring to standard series only, no special customer specification display here except requested items.