Glary Power Technology

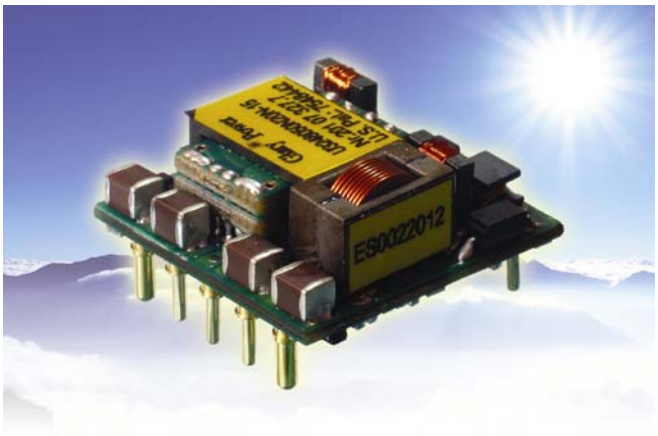
U32 Series

Micro Brick 80W／20A

Efficiency >93% | 226W/in³ | Open Frame Package | OCP | 6.4Mhrs MTBF

Remote ON OFF | INPUT 2:1 | OVP | OTP

Pb | RoHS 2002/95/EC



The high efficiency ***U32*** series provides up to 80W/20A output with 0.91"×0.91" Micro-Brick package, which is designed with the efficiently patented "Buck-Reset" topology. The low profile module design with open frame package reduces the shadow effect and provides the advanced thermal performance to simplify the system power design for users.

Preliminary Data Sheet

PART NUMBER SYSTEM

U32	48	050	a	b	c	d	-	15	XX	X
Series Name	Input Voltage	Output Voltage	Enable Logic	Pin Dimension	Standoff Height	Base-Plate		Output Current	Suffix	Version
U32	**48=**36V~75V	**Unit:** 0.1V Increments **120=**12V **050=**5V	**P:** Positive **N:** Negative	**0**：0.12" **1**：0.16" **2**：0.20"	**0**：0.02"	**O**：Open frame standard type	**-**	**00~20**：For output current rating	For marketing purpose only	

MODEL LIST (Contact to factory for special input / output)

Part Number *	Maximum Input		Maximum Output		Efficiency
U3248120abcd-03XXX	36V~75V	91W	12.0V/7A	84W	94%
U3248050abcd-08XXX	36V~75V	83W	5.0V/15A	75W	92%
U3248033abcd-10XXX	36V~75V	57W	3.3V/15A	50W	90%
U3248025abcd-10XXX	36V~75V	57W	2.5V/20A	50W	90%

Part Number *	Maximum Input		Maximum Output		Efficiency

REFERENCED THERMAL IMAGES

To be updated in next version	To be updated in next version

SPECIFICATIONS

Absolute Maximum Ratings		
Temperature	Operation Storage	-40°C to +110°C -55°C to +125°C
Input Voltage Range	Operation: 48V Models Transient (100mS): 48V Models	 -0.5V to +80Vdc 100V Maximum
Isolation Voltage	Input to Output	2.0KV Minimum
Remote Control		-0.5V to +12Vdc

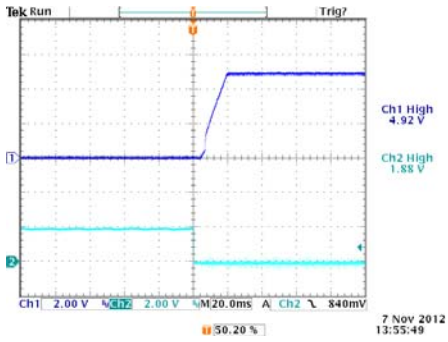
General Parameters		
Conversion Efficiency	Typical	See table
Switching Frequency	Typical	400KHz
MTBF	Bellcore TR-332 issue 6	6.4×10^6 hrs @GB/25°C (NT48050abcd-10XXX)
OTP	Internal	110°C(Tc) ±5°C
Weight	1/32 Brick	12g

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

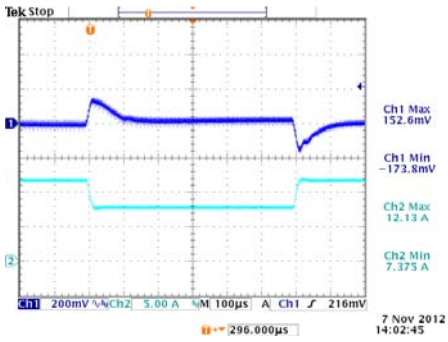
Input		
Operation Voltage Range	48V Models	+36V to +75Vdc
Reflected Ripple Current	L_{EXT} = 10uH	30mA rms/100mAp-p
Power ON Voltage Ranges	48V Models	+34.0V to +36.0Vdc
Power OFF Voltage Ranges	48V Models	+31.2V to +33.2Vdc
Off State Input Current	V_{NOM}	3mA Max
Latch-State Input Current	V_{NOM}	8mA Max
Input Capacitance	48V Models	6.0uF Max

Output		
Voltage Accuracy	Typical	±1.0%
Line Regulation	Full Input Range	±0.2%
Load Regulation	10%~100%	±0.2%
Temperature Drift	-40°C ~100°C	±0.03%/°C
Output Tolerance Band	All Conditions	±4%
Ripple & Noise (20MHz)	Peak-Peak (RMS)	3% (1%) V_O
Over Voltage Protection	V_{NOM}, 10% Load	115~130 %V_O
Output Current Limits	V_{NOM}	108%~125%
Voltage Trim	V_{NOM}, 10% Load	±10%
Input Ripple Rejection (<1KHz)	V_{NOM}, Full Load	-50dB
Step Load (2.5A/μS)	50%~75% Load	±6%Vo/500μS
Start-Up Delay Time	V_{NOM}, Full Load	20mS/250mS

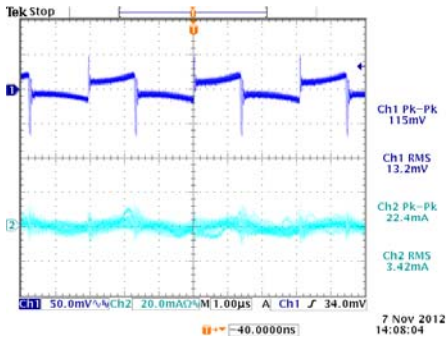
TYPICAL WAVES AND CURVES



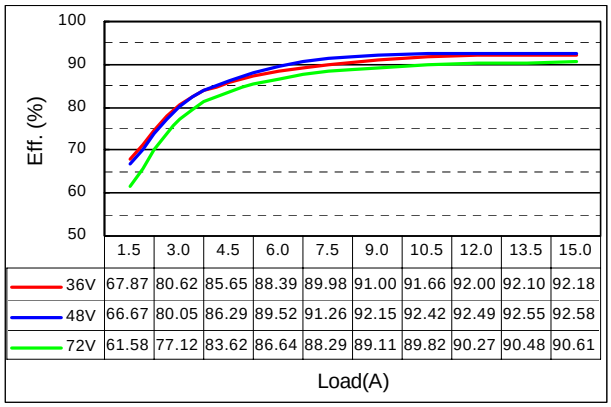
Start-up waveform of U3248050abcd-15XXX
(V_{IN}: 48V, Load: 15A)



Transient response of U3248050abcd-15XXX
(V_{IN}: 48V, Load: 12A/8.0A@2.5A/µS)

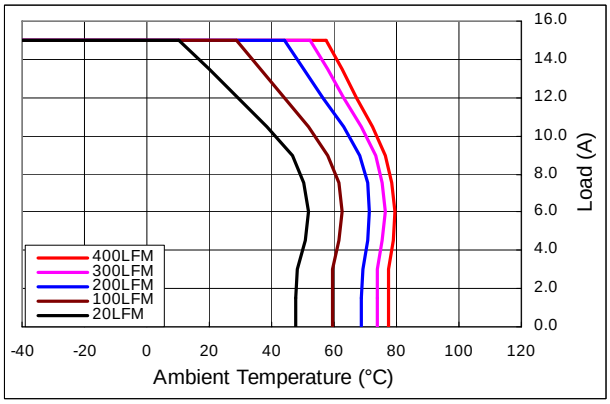


Input/Output ripples of U3248050abcd-15XXX
(V_{IN}: 48V, Load: 15A, L_{IN}=10uH)

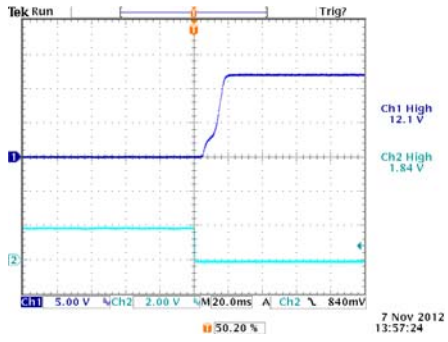


	1.5	3.0	4.5	6.0	7.5	9.0	10.5	12.0	13.5	15.0
36V	67.87	80.62	85.65	88.39	89.98	91.00	91.66	92.00	92.10	92.18
48V	66.67	80.05	86.29	89.52	91.26	92.15	92.42	92.49	92.55	92.58
72V	61.58	77.12	83.62	86.64	88.29	89.11	89.82	90.27	90.48	90.61

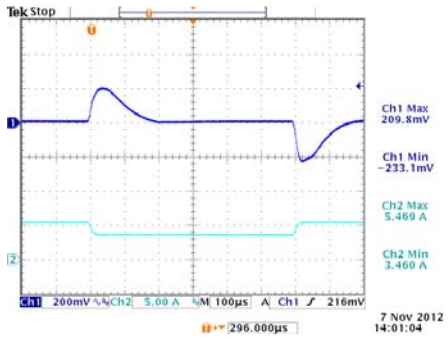
Efficiency plot of U3248050abcd-15XXX



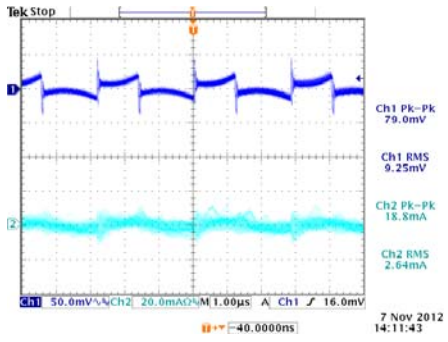
Derating curves of U3248050abcd-15XXX for T_C= 110°C



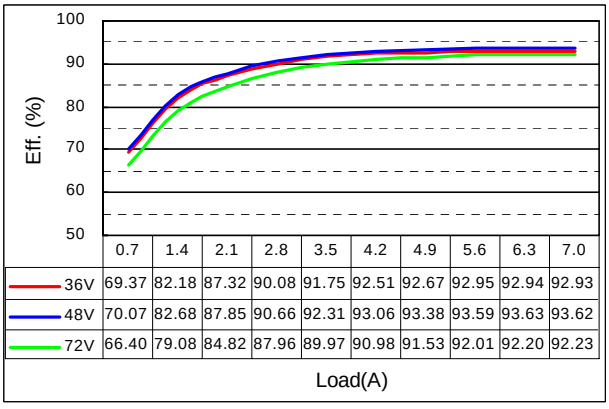
Start-up waveform of U3248120abcd-07XXX
(V_{IN}: 48V, Load: 7A)



Transient response of U3248120abcd-07XXX
(V_{IN}: 48V, Load: 5A/3A@2.5A/µS)

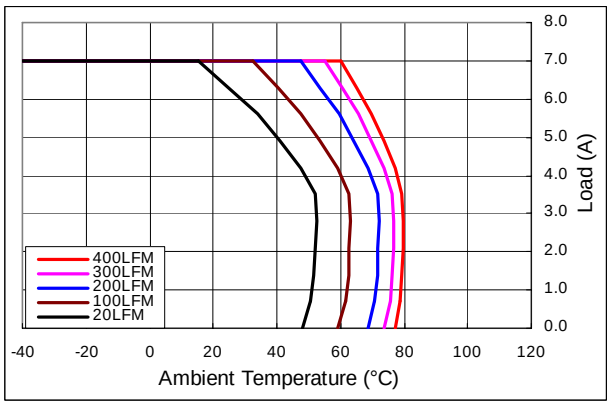


Input/Output ripples of U3248120abcd-07XXX
(V_{IN}: 48V, Load: 7A, L_{IN}=10uH)



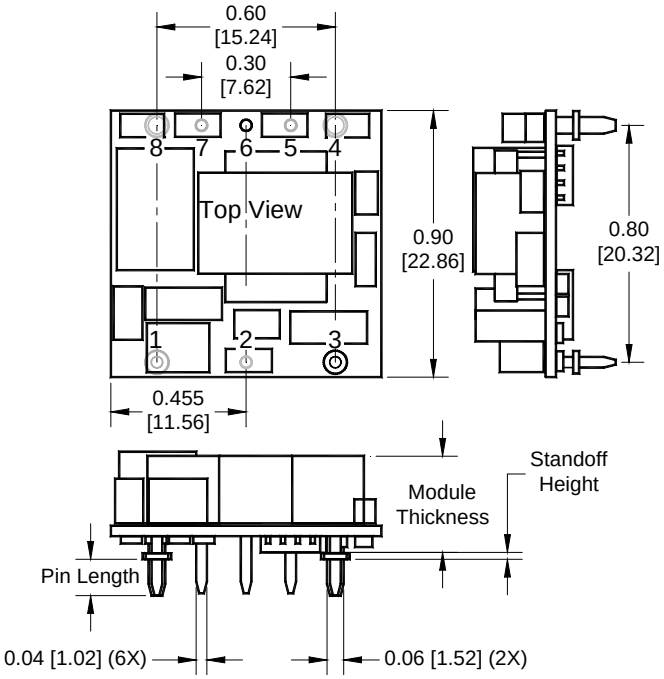
	0.7	1.4	2.1	2.8	3.5	4.2	4.9	5.6	6.3	7.0
36V	69.37	82.18	87.32	90.08	91.75	92.51	92.67	92.95	92.94	92.93
48V	70.07	82.68	87.85	90.66	92.31	93.06	93.38	93.59	93.63	93.62
72V	66.40	79.08	84.82	87.96	89.97	90.98	91.53	92.01	92.20	92.23

Efficiency plot of U3248120abcd-07XXX



Derating curves of U3248120abcd-07XXX for T_C= 110°C

OPEN FRAME PACKAGE



Micro Brick U32 series

Dimensions and Pin Connections

Designation	Function Description	Pin #
+Vi	Positive input	**1**
Remote	ON/OFF control	**2**
-Vi	Negative input	**3**
-Vo	Negative output	**4**
-S	Negative remote sense	**5**
TRIM	Output voltage adjust	**6**
+S	Positive remote sense	**7**
+Vo	Positive output	**8**

Dimensions: inches (mm)

Tolerances: .xx±0.02 (.x±0.5)
.xxx±0.01 (.x±0.25)

Mass: 8g / Micro brick N32 series
10g / NS series 1/16 brick

Base plate: None

Pin material: Copper alloy or Brass

Pin plating: Golden over Nickel

NOTE:

1. **It is recommended that the input should be protected by fuses or other protection devices.**
2. All specifications are typical at nominal input, full load and 25°C unless otherwise noted.
3. Specifications are subject to change without notice.
4. Printed or downloaded datasheets are not subject to Glary document control.
5. Product labels shown, including safety agency certificates, may vary based on the date of manufacture.
6. Information provided in this documentation is for ordering purposes only.
7. This product is not designed for use in critical life support systems, equipment used in hazardous environments, nuclear control systems or other such applications, which necessitate specific safety and regulatory standards other than the ones listed in this datasheet.

IMPORTANT

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

※ In order to secure effective usage of converter and the validity of Glary's service and warranty coverage, please refer to the application notes for general usage. For needs of usage beyond the application notes, please contact to Glary headquarter or our regional sales representative office for help.