



TRI-MAG, Inc.
your **POWER Specialists**

1601 N. Clancy, Visalia, CA 93291
(209) 651-2222 Fax (209) 651-0188
ITT Telex Number: 4994462
Cable Address: "TRIMAG"

200Z SERIES

5-12 Watt

DC-DC CONVERTER

For display and High Voltage

DESCRIPTION

200Z Series DC-DC Converters are available with a wide range of input voltage ratings, enabling efficient operation in applications powered by batteries or unregulated voltage sources. The units range of regulated output voltages meets the requirement of most high-voltage applications, including those of gas-discharge, electroluminescent vacuum-fluorescent displays and other high-voltage applications. These small DC-DC Converters are also used in CMOS-based systems and many other applications requiring non-standard voltage levels. The DC-DC Converter offered with single, dual, and triple outputs deliver up to 12 watts of output power.

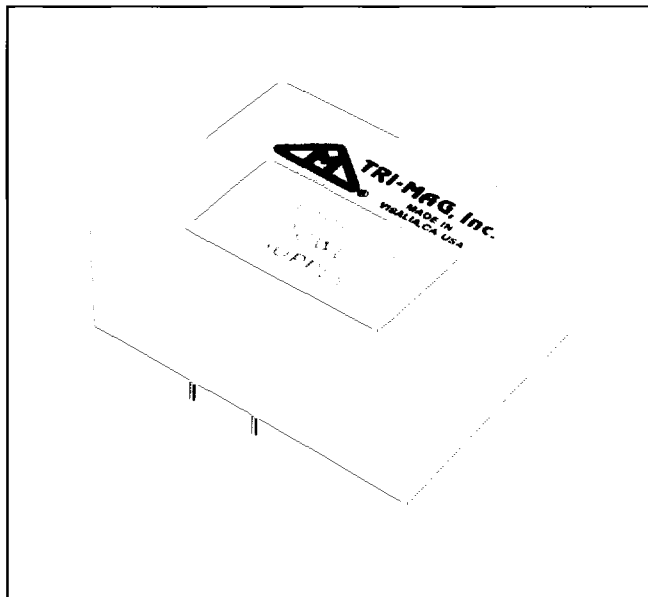
The versatility of the supplies is enhanced by design options that provide the user with capabilities for output shut-down, output-voltage adjustable, and pre-set output voltage reduction.

200Z DCQ ... External Adjustment: Output voltage can be adjusted by +10% of nominal.

200Z DCP ... Fixed Output Voltage

APPLICATIONS

- Vacuum-Fluorescent Display
- Battery-Powered System
- Distributed Power System



Standard Pin Connections

Terminal	Single Output	Dual Output	Options*
1	+ Vin	+ Vin	
2	Power Ground	Power Ground	
3	NC	NC	1, 3
4	+ Vout	+ Vout	2
5	Signal Ground	Signal Ground	
6	Signal Ground	- Vout or 2nd +Vout	

***1- Disable:** Output can be shut down by bringing pin 3 to within 0.7V of ground. In this state, housekeeping current is minimal.

***2- Output Voltage Adjustment:** Output voltage can be varied by $\pm 10\%$ of nominal output by adjusting an externally-accessible potentiometer.

***3- Output Voltage Stepdown:** Output voltage can be reduced to a preset level by shorting pin 3 to pin 4. This option is typically used to dim displays for nighttime use.



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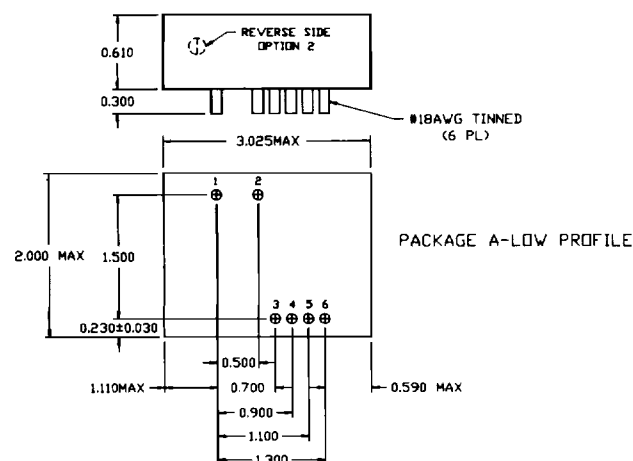
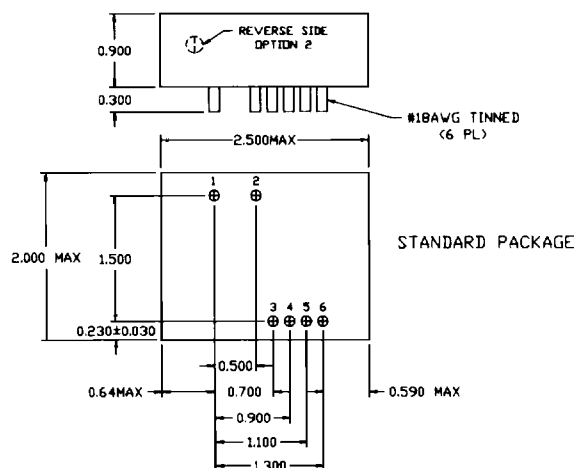
ELECTRICAL SPECIFICATIONS

Input Voltage Tolerance	+5%
Regulation (Line, Load and Temperature)	+3%
Ripple and Noise	Under 20VDC 1 % p-p, other voltages 3.0V p-p

GENERAL SPECIFICATIONS

Efficiency (at full load)	70% typical
Isolation Voltage	Non-Isolated.
Operating Frequency	25KHz min.
Operating Temperature	0° C to +70° C
Storage Temperature	-40° C to +100° C
Weight	3.0 Oz. (85.05 grams)
Case Material	Non-conductive Plastic

Specifications subject to change without notice.



200Z SERIES SINGLE OUTPUT SPECIFICATIONS

Model-Type	Input Voltage (Vdc)	Output Voltage (Vdc)	Output Current mA (max)
200ZDCQ88210	+5	+55	100
200ZDCQ88211	+5	+180	30
200ZDCQ88212	+5	+200	30
200ZDCQ88213	+5	+250	20
200ZDCQ88214	+12	+130	90
200ZDCQ88215	+12	+180	65
200ZDCQ88216	+12	+200	60
200ZDCQ88218	+12	+350	35
200ZDCQ88236	+12	+55	170
200ZDCQ88169	+12	+190	60
*200ZDCQ88225A	+12	+120	70
200ZDCQ88131	+24	+350	35
200ZDCQ88142	+24	+55	150
200ZDCQ88143	+24	+130	90
200ZDCQ88219	+28	+180	65
200ZDCQ88220	+28	+200	60

*Package Type A. Low Profile.

For output voltage other than shown above, please consult the manufacturer.



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200Z SERIES

CONTINUED

200Z SERIES DUAL OUTPUT SPECIFICATIONS

*Model-Type	Input Voltage (Vdc)	Output		Output	
		Voltage (Vdc)	Current mA (typ)	Voltage (Vdc)	Current mA (typ)
200ZDCQ88221	12	55	110	+20	300
200ZDCQ88222	12	70	84	-120	84
200ZDCQ88224	12	100	70	-90	30
200ZDCQ88225	12	110	50	-110	50
200ZDCQ88226	12	55	120	+132	40
200ZDCQ88227	12	180	40	+90	50
200ZDCQ88228	12	190	30	-160	40
200ZDCQ88134	12	32	315	+20	100
200ZDCQ88235	12	90	84	-100	84
200ZDCQ88262	12	50	225	+20	35
*200ZDCQ88225A	12	110	50	-110	50
200ZDCQ88229	15	200	25	-200	25
200ZDCQ88230	28	100	25	-100	25

*Package Type A. Low Profile.

Specifications subject to change without notice.

200Z SERIES FIXED OUTPUT VOLTAGE SINGLE & DUAL OUTPUT SPECIFICATIONS

Model-Type	Input Voltage (Vdc)	Output		Output	
		Voltage (Vdc)	Current mA (typ)	Voltage (Vdc)	Current mA (typ)
200ZDCP88201	5	12	420	-	-
200ZDCP88202	5	24	210	-	-
200ZDCP88203	5	5	500	-5	500
200ZDCP88204	5	12	210	-12	210
200ZDCP88205	5	15	165	-15	165
200ZDCP88206	12	12	210	-12	210
200ZDCP88207	12	15	165	-15	165
200ZDCP88208	12	18	140	-18	140
200ZDCP88109	12	200	60	-	-
200ZDCP88217	12	250	45	-	-
200ZDCP88223	12	100	60	-100	60
200ZDCP88107	15	200	25	-200	25
200ZDCP88158	20	45	150	-	-
200ZDCP88100	24	250	20	-	-
200ZDCP88157	24	185	65	-	-
200ZDCP88175	24	80	60	-80	60
200ZDCP88230	28	100	25	-100	25

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ELECTRICAL SPECIFICATIONS

Input Voltage Tolerance	±5%
Regulation (Line, Load and Temperature)	±3%
Ripple and Noise	+5V, 100mV p-p, other voltage 3.0V p-p

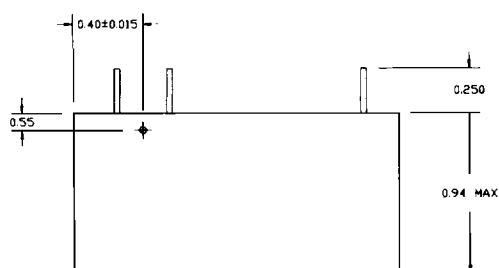
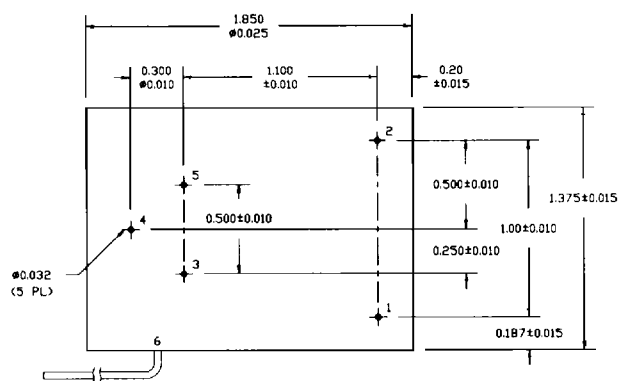
GENERAL SPECIFICATIONS

Efficiency (at full load)	70% typical
Isolation Voltage	Non-Isolated.
Operating Frequency	25KHz min.
Operating Temperature	0° C to +70° C
Storage Temperature	-40° C to +100° C
Weight	2.0 Oz. (56 grams)
Case Material	Non-conductive Plastic

200Z SERIES TRIPLE OUTPUT SPECIFICATIONS

Model-Type	Input Voltage (Vdc)	Output		Output		Output	
		Voltage (Vdc)	Current mA (typ)	Voltage (Vdc)	Current mA (typ)	Voltage (Vdc)	Current mA (typ)
200ZDCP88181-01	+12	+180	27	+90	7	+5	200
200ZDCP88181-02	+24	+180	27	+90	7	+5	200

Specifications subject to change without notice.



Pin Connections

1	+ Vin
2	Input Common
3	+ 180 Vout
4	+ 90 Vout
5	Output Common
Flying Lead 6: + 5 Vout	