

NON-ISOLATED DC/DC CONVERTERS

8.3 Vdc - 14 Vdc Input

0.75 Vdc - 5.0 Vdc/16 A Output

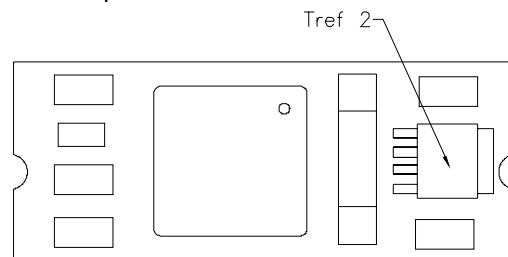
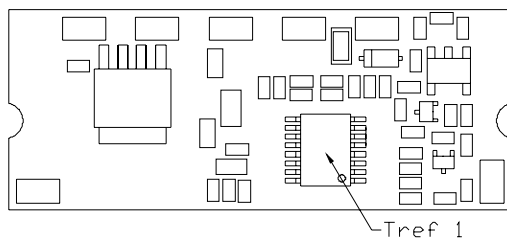


General Specifications

Parameter	Min	Typ	Max	Notes
Efficiency				Measured at Vin=12 V, full load
Vo=5.0 V	-	94%	-	
Vo=3.3 V	-	92%	-	
Vo=2.5 V	-	90%	-	
Vo=1.8 V	-	88%	-	
Vo=1.5 V	-	87%	-	
Vo=1.2 V	-	85%	-	
Vo=0.75 V	-	79%	-	
Switching Frequency	265 kHz	300 kHz	335 kHz	
Over Temperature Shutdown ¹	-	130 °C	-	
Output Trim Range (Wide Trim)	0.7525 V	-	5 V	
Remote Sense Compensation	-	-	0.5 V	
MTBF	2,666,488 hours			Calculated Per Bell Core SR-332 (Io =80% Io,max; Vo=5 V; Vin=12 V; Ta = 25°C)
Dimensions				
Inches (L x W x H)	1.30 x 0.53 x 0.315			
Millimeters (L x W x H)	33.02 x 13.46 x 8.00			
Weight	-	8 g	-	

Notes: All specifications are typical at 25 °C unless otherwise stated.

1. The Tref temperature measurement location. For reliable operation the Tref 1 and Tref 2 must not exceed 130 °C.



Control Specifications

Parameter	Min	Typ	Max	Notes
Remote On/Off				
Signal Low (Unit Off)	-0.2 V	-	0.3 V	SRBC-16A2A0; Remote On/Off pin open, Unit on.
Signal High (Unit On)	-	-	Vin, max	
Signal Low (Unit On)	-0.2 V	-	0.3 V	SRBC-16A2AL; Remote On/Off pin open, Unit on.
Signal High (Unit Off)	2.5 V	-	Vin, max	
Voltage Sequencing				
Sequencing Delay Time	10 mS	-	-	Delay from Vin, min to application of voltage on SEQ pin
Sequencing Slew Rate Capability	-	-	2 V/mS	Vin, min to Vin, max; Io, min to Io, max; Vseq<Vo
Tracking Accuracy				
Power-Up	-	100 mV	200 mV	
Power-Down	-	300 mV	500 mV	

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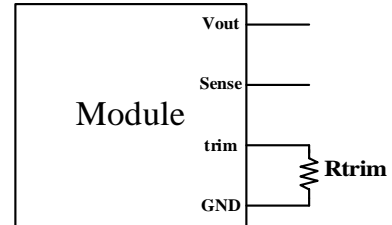
0.75 Vdc - 5.0 Vdc/16 A Output



Output Trim Equations

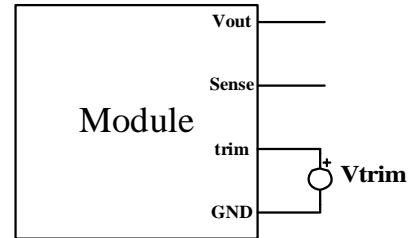
Equation for calculating the trim resistor (in Ω) given the desired adjusted voltage (V_{adj}) is shown below. The Trim Up resistor should be connected between the Trim pin and Ground.

$$R_{trimup} = \frac{10500}{V_{adj} - 0.7525} - 1000$$

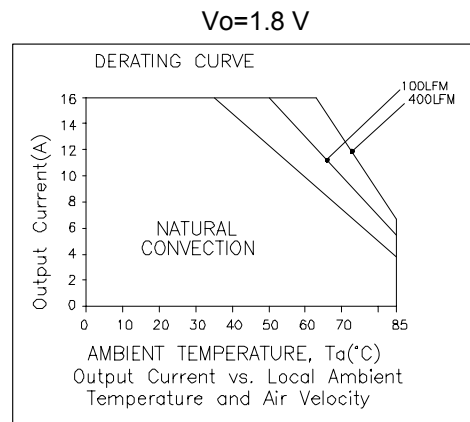
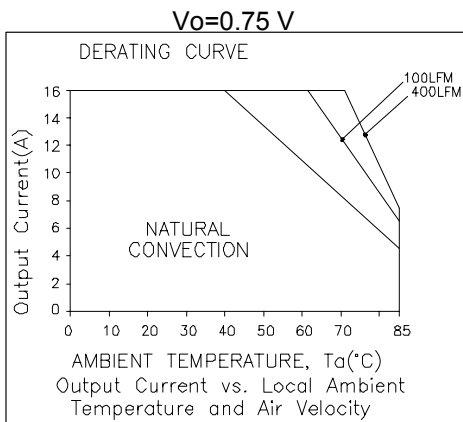
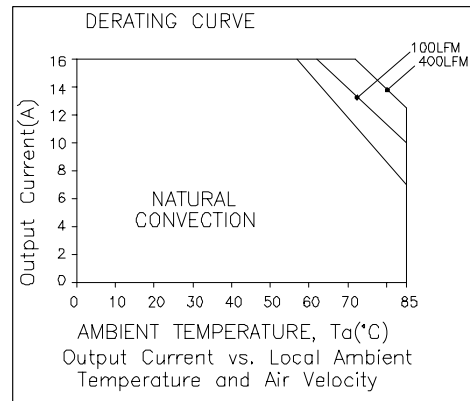
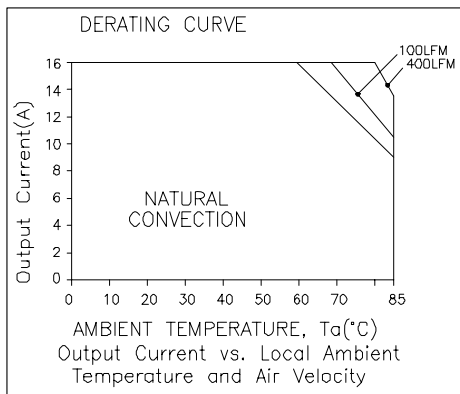


Equation for calculating the trim voltage (in V) given the desired adjusted voltage (V_{adj}) is shown below. The Trim Up voltage should be connected between the Trim pin and Ground.

$$V_{trimup} = 0.7 - 0.0667 \times (V_{adj} - 0.7525)$$



Thermal Derating Curves



$V_o=0.75\text{ V}$

$V_o=1.8\text{ V}$

$V_o=3.3\text{ V}$

$V_o=5.0\text{ V}$