

Electrical Specifications (cont'd)

Thermal performance See Technical Reference Note	Operating ambient Non-operating ambient	-40 °C to +85 °C -40 °C to +125 °C
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Protection

Short circuit	Hiccup, non-latching
Overvoltage	Hiccup, non-latching

Minimum Recommended System Capacitance	3/6/10 A Model	20 A Model
Input capacitance	1 μ F	10 μ F
Output capacitance	10 μ F	50 μ F

Operating Information

Output Power (Max.)	Input Voltage	Output Voltage	Output Current (Min.)	Output Current (Max.)	Efficiency (Typical)	Regulation Line	Load	Standard Model Numbers
15 W	3-14.0 Vdc	0.59-5.1 Vdc	0 A	3 A	92%	$\pm 0.2\%$	$\pm 0.5\%$	LGA03C-00SADJJ
30 W	3-14.0 Vdc	0.59-5.1 Vdc	0 A	6 A	92%	$\pm 0.2\%$	$\pm 0.5\%$	LGA06C-00SADJJ
50 W	3-14.0 Vdc	0.59-5.1 Vdc	0 A	10 A	92%	$\pm 0.2\%$	$\pm 0.5\%$	LGA10C-00SADJJ
75 W	4.5-14.0 Vdc	0.59-5.1 Vdc	0 A	15 A	93%	$\pm 0.2\%$	$\pm 0.5\%$	LGA15C-01SADJJ
100 W	4.5-14.0 Vdc	0.59-5.1 Vdc	0 A	20 A	91%	$\pm 0.2\%$	$\pm 0.5\%$	LGA20C-01SADJJ

Model Number System with Options



Product Family	Rated Output Current	Performance	Input Voltage	Type of Output	Options	RoHS Compliance
LGA	XX	C	- 00	SADJ	X	J
	Rated Output Current 03 = 3 Amp 06 = 6 Amp 10 = 10 Amp 15 = 15 Amp 20 = 20 Amp	Performance C = Cost Optimized	Input Voltage 00 = 3-14.0 V 01 = 4.5-14.0 V	Type of Output Single Adjustable Output	Options X = Various Options (see Sales Rep)	RoHS Compliance J = Pb free (RoHS 6/6 compliant)

Heatsink Number System with Options



Product Family	Product	Purpose	Height*
LGA	- HTSK	- KIT	- XXX
Land Grid Array	Heatsink	Heatsink and Adhesive	Total Height (LGA20 + Heatsink) 045 = 0.45" 048 = 0.48" 050 = 0.50"

*Height is the total height of the LGA20C-00SADJJ with heatsink attached.

Application Equations

Setting Output Voltage

Default output voltage: 0.591 V

The output voltage may be adjusted with a resistor placed between the "Trim" and "-Sense" pin.

The formula for calculating the value of this resistor is:

$$R_{trim}(k\Omega) = \frac{1.182}{V_{out} - 0.591}$$

See Technical Reference Note for other trimming methods.

Setting Under Voltage Lock Out - 3, 6, 10 A Models

Default Turn-on voltage: 2.9 V (300 mV Hysteresis)

The Turn-on voltage may be adjusted with a resistor placed between the "Enable" and "Ground" pins.

The formula for calculating the value of this resistor is:

$$R_{uvlo}(k\Omega) = \frac{14.81 * 6.81}{(6.81 * V_{Turn_on}) - 18.16}$$

*** ONLY USE WITH OPEN COLLECTOR DEVICE**
*** DO NOT DRIVE PIN WITH A VOLTAGE**

Setting Under Voltage Lock Out - 15 and 20 A Models

Default Turn-on voltage: 4.3 V (300 mV Hysteresis)

The Turn-on voltage may be adjusted with a resistor placed between the "Enable" and "Ground" pins.

The formula for calculating the value of this resistor is:

$$R_{uvlo}(k\Omega) = \frac{30.1 * 4.22}{(8.577 * V_{Turn_on}) - 34.32}$$

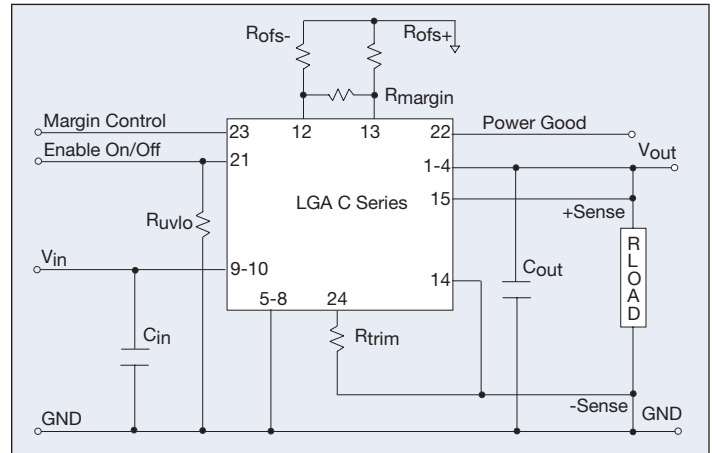
*** ONLY USE WITH OPEN COLLECTOR DEVICE**
*** DO NOT DRIVE PIN WITH A VOLTAGE**

Setting Margin Control

To margin the output up, pull the margin control pin high. To margin down, pull the margin control pin low. If the pin is left floating, the feature is disabled. The maximum margining range is $\pm 33\%$ of the output default voltage setting, with maximum output at 5.5 V

$$V_{margin_up} = 0.1182 * \frac{R_{margin}}{R_{ofs+}} * \frac{R_{trim} + 2k}{R_{trim}}$$

$$V_{margin_down} = 0.1182 * \frac{R_{margin}}{R_{ofs-}} * \frac{R_{trim} + 2k}{R_{trim}}$$



External input fusing is recommended.

Notes:

1. Measured as per recommended minimum system capacitance.
2. $di/dt = 10 \text{ A}/\mu\text{s}$, $V_{in} = \text{Norm}$, $T_c = 25^\circ\text{C}$, load change = 50% to 100% I_{max} .
3. Internal input capacitance is rated 16 Vdc maximum.

Component Height	
Model #	DIM A in (mm)
LGA03 LGA06 LGA10	0.129 (3.27)
LGA15	0.180 (4.57)
LGA20	0.210 (5.33)

1	Vout
2	Vout
3	Vout
4	Vout
5	GND
6	GND
7	GND
8	GND
9	Vin
10	Vin
11	NC
12	- Offset
13	+ Offset
14	- Sense
15	+ Sense
16	NC
17	NC
18	NC
19	NC
20	NC
21	Enable
22	Power Good
23	Margin Control
24	Trim

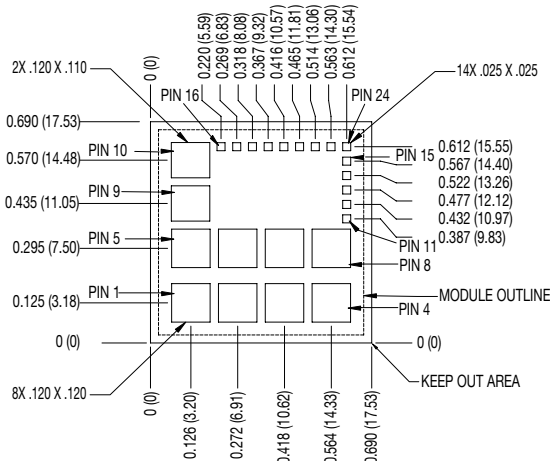


Figure 1 is a detailed drawing of the 16-pin connector. It shows a 4x4 grid of pins. The dimensions are as follows:

- Overall width: 0.104 (2.64)
- Overall height: 0.114 (2.90)
- Pin pitch (horizontal): 0.024 (0.61)
- Pin pitch (vertical): 0.024 (0.61)
- Pin 1 dimensions: 0.042 (1.07) x 0.114 (2.90)
- Pin 2 dimensions: 0.177 (4.50) x 0.114 (2.90)
- Pin 3 dimensions: 0.114 x 0.114 8X
- Pin 4 dimensions: 0.114 (2.90) x 0.114 (2.90)
- Pin 5 dimensions: 0.114 (2.90) x 0.114 (2.90)
- Pin 6 dimensions: 0.114 (2.90) x 0.114 (2.90)
- Pin 7 dimensions: 0.114 (2.90) x 0.114 (2.90)
- Pin 8 dimensions: 0.114 (2.90) x 0.114 (2.90)
- Pin 9 dimensions: 0.114 (2.90) x 0.114 (2.90)
- Pin 10 dimensions: 0.114 (2.90) x 0.114 (2.90)
- Pin 11 dimensions: 0.114 (2.90) x 0.114 (2.90)
- Pin 12 dimensions: 0.114 (2.90) x 0.114 (2.90)
- Pin 13 dimensions: 0.114 (2.90) x 0.114 (2.90)
- Pin 14 dimensions: 0.114 (2.90) x 0.114 (2.90)
- Pin 15 dimensions: 0.114 (2.90) x 0.114 (2.90)
- Pin 16 dimensions: 0.114 (2.90) x 0.114 (2.90)

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