

Product Brief: Belleta™ iQC Series – Single Output SMT Quarter Brick

Belleta™ iQC Series DC/DC Power Modules 48V Input, 8-25A Output Surface Mount Quarter Brick



The Belleta Series offers a robust surface-mount quarter brick power module with true useable power. Thanks to its low component count and single-board open-frame design, it provides both better electrical and thermal performance, and lower cost than many other suppliers' quarter brick product offerings. The Belleta iQC Series utilizes a compensating interconnect that ensures a reliable connection is made between the power module and the motherboard.

Features

- **Standard SMT Quarter Brick Footprint**
- **Low Weight – 30g typical**
- **Low Profile, 8.1mm (0.32")**
- **Up to 25A of output current**
- **High efficiency – greater than 90%**
- **Up to 75W of output power in high ambient temperature, low airflow environments with minimal power derating**
- **Basic insulation – 1500Vdc**
- Choice of remote on/off configuration
- Industry standard output voltage adjustment
- Remote Sense
- Constant switching frequency
- Full, auto-recovery protection:
 - Input under voltage
 - Output over voltage
 - Current limit
 - Short circuit
 - Thermal limit
- UL 60950 (US and Canada), VDE 0805, CB scheme (IEC950)
- CE Mark (EN60950)
- Multiple patents pending

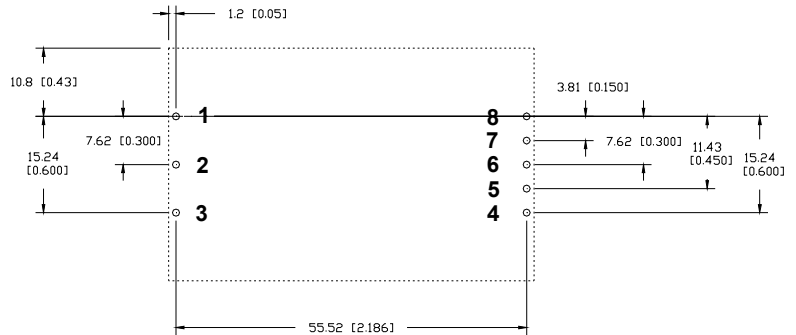
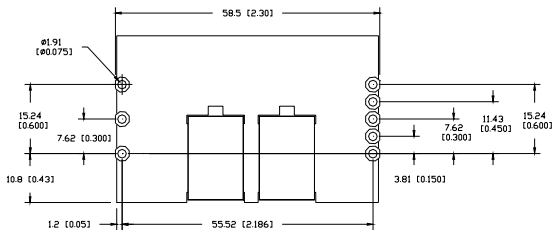
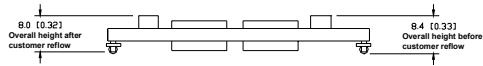
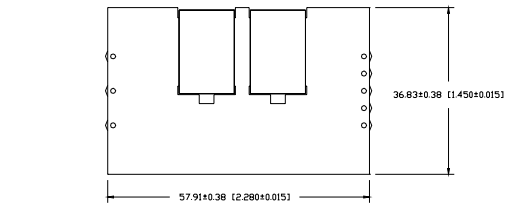
Base Product Code	Input Voltage	Output Voltage	Output Current	Efficiency
iQC48015A050V	36-75V	5V	15A	90%
iQC48008A050V	36-75V	5V	8A	90%
iQC48020A033V	36-75V	3.3V	20A	89%
iQC48010A033V	36-75V	3.3V	10A	90%
iQC48020A025V	36-75V	2.5V	20A	86%
iQC48010A025V	36-75V	2.5V	10A	87%
iQC48025A018V	36-75V	1.8V	25A	84%
iQC48015A018V	36-75V	1.8V	15A	85%
iQC48025A015V	36-75V	1.5V	25A	81%
iQC48025A012V	36-75V	1.2V	25A	78%

Typical Performance

Input Characteristics		
Operating input range	36-75V	
Transient input voltage	100V	100mS max
Turn-on voltage	33V	
Turn-off voltage	30V	
Start-up time	90 mS	On/Off to 90% Vout
Input Current	4A max.	Vin = 0 to 75V
Output Characteristics		
Output voltage tolerance	+/- 3% max	Over line, load, and temp to end of life
Efficiency	see product table	Io,max
Line regulation	1 mV	Over rated input
Load regulation	2 mV	Over rated load
Output voltage adjustment	90%-110%	%Vo,nom
Output ripple	50 mVp-p	20MHz bandwidth
Dynamic response	Load step 25% of Io,max	
Transient voltage	200 mV	slew rate =0.1A/us
Recovery time	100 uS	
Ripple frequency	300 kHz	Fixed
Protection		
Current limit inception	140% of Io,rated	
Short circuit	Io,rated	Auto-recovery hiccup
Output overvoltage	125% of Vout,nom	Auto-recovery hiccup
Environmental		
Operating temperature	-40C to 120C	Measurement point in full datasheet



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Footprint –Top View

PIN	FUNCTION	PIN	FUNCTION
1	Vin (+)	4	Vo (-)
2	On/Off	5	Sense (-)
3	Vin (-)	6	Trim
		7	Sense (+)
		8	Vout (+)

Ordering Information

Product Identifier	Package Size	Platform	Input Voltage	Output Current/Power	Output Units	Main Output Voltage	# of Outputs	Safety Class	Feature Set
i	Q	C	48	015	A	050	V	- 0	00
TDK Innoveta	Quarter-brick	Belleta-SMT	36-75V	008 – 8A 010 – 10A 015 – 15A 020 – 20A 025 – 25A	Amps	050 – 5V 033 – 3.3V 025 – 2.5V 018 – 1.8V 015 – 1.5V 012 – 1.2V	Single		00 – Standard

Feature Set	On/Off Logic
00	Positive
01	Negative



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