Features

2:1/4:1 Wide Input Range

Operating Temperature Range: -45°C~105°C

Approved to CE, RoHS & REACH

Safety Standards to IEC/EN 62368-1 & EN 50155

Efficiency up to 93%

EMI Class A & B

Single Output 12~48V DC

28SQBFxy-S-x-F300-IP Series

DC/DC PCB Mount Power Supply

Ideal Power's 28SQBFxy-S-x-F300-IP 300W Quarter Brick DC/DC Converters Series are certified to UKCA, CE, RoHS, REACH & EN 62368-1/IEC 62368-1/EN 50155 Standards and comply with Efficiency Regulations. These are primarily used in ITE, Audio & Video, Railway Industries, and customised solutions are available upon request.

Part Number Structure

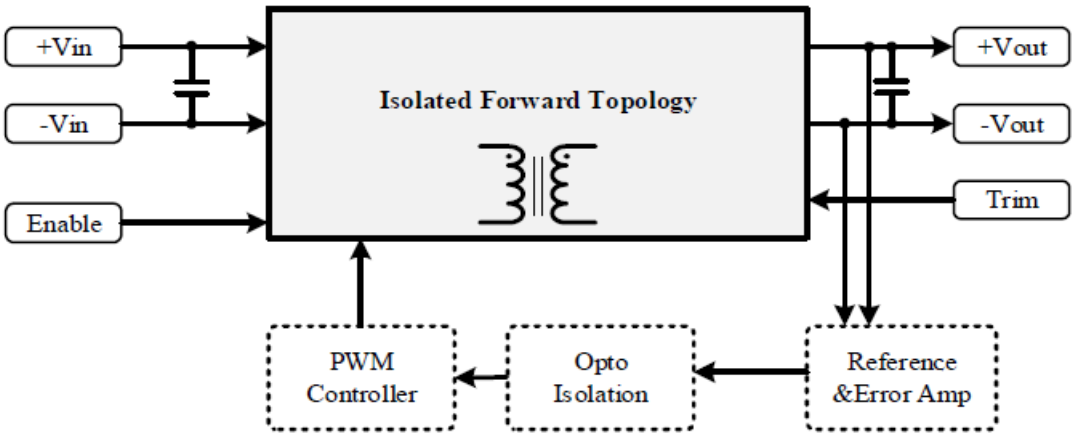
28SQBF	-	300	120	-	S	-	P	-	F	300
Series Name		Input Voltage (VDC)	Output Voltage (VDC)		Pin out		Remote control option		Shape	Watt
Supreme series **Q**uater **B**rick **F**ull size		**024 :** 18-36 **036** : 18-75 **300 :** 180-425	**120 :** 12 **150 :** 15 **240 :** 24 **280 :** 28 **480 :** 48		**S:** Dosa		**P:** Positive logic **N:** Negative logic		**F:** No Flange	200 300

Models

Model	Input Voltage (V) Range	Input Voltage (V) Nominal	Input Current (A) Full load	Output Voltage (V)	Output Current (A)	Output Power (W)	Efficiency Typ.(%)
28SQBF024120-□-□-F300-IP	18-36	24	13.44	12	25	300	93
28SQBF024150-□-□-F300-IP	18-36	24	13.58	24	20	300	92
28SQBF024240-□-□-F300-IP	18-36	24	13.58	28	12.5	300	92
28SQBF024280-□-□-F300-IP	18-36	24	13.58	48	10.71	300	92
28SQBF024480-□-□-F300-IP	18-36	24	13.44	12	6.25	300	93
28SQBF036120-□-□-F200-IP	18-75	36	6.10	24	16.66	200	91
28SQBF036150-□-□-F200-IP	18-75	36	6.17	28	13.33	200	90
28SQBF036240-□-□-F200-IP	18-75	36	6.17	48	8.33	200	90
28SQBF036280-□-□-F200-IP	18-75	36	6.17	12	7.14	200	90
28SQBF036480-□-□-F200-IP	18-75	36	6.10	24	4.16	200	91
28SQBF300120-□-□-F300-IP	180-425	300	1.08	28	25	300	92
28SQBF300150-□-□-F300-IP	180-425	300	1.09	48	20	300	91
28SQBF300240-□-□-F300-IP	180-425	300	1.09	12	12.5	300	91
28SQBF300280-□-□-F300-IP	180-425	300	1.09	24	10.71	300	91
28SQBF300480-□-□-F300-IP	180-425	300	1.08	28	6.25	300	92

Description

Ideal Power DC DC CONVERTER - Supreme series –Quarter Brick Full Size converter is composed of Isolated, board-mountable, fixed switching frequency DC-DC converters that use synchronous rectification to achieve extremely high-power conversion efficiency. These DC-DC converter modules use advanced power processing, control, and packaging technologies to enhance the performance, flexibility, reliability, and cost effectiveness of mature power components.



Input Data

Parameter	Notes and Conditions	Min.	Typ.	Max.	Unit
Transient Input Voltage Ranges	28SQBF024 models (100ms Max) 28SQBF036 models (100ms Max) 28SQBF300 models (100ms Max)	--	--	50 100 500	VDC
Operating Input Voltage Ranges	28SQBF024 models (100ms Max) 28SQBF036 models (100ms Max) 28SQBF300 models (100ms Max)	18 18 180	24 36 300	36 75 425	VDC
Under-Voltage Lockout Start up Voltage	28SQBF024 models (100ms Max) 28SQBF036 models (100ms Max) 28SQBF300 models (100ms Max)	--	--	18 18 180	VDC
Under-Voltage Lockout Shutdown Voltage	28SQBF024 models (100ms Max) 28SQBF036 models (100ms Max) 28SQBF300 models (100ms Max)	--	17 17 176	--	VDC
Over-Voltage Lockout Turn OFF Threshold	28SQBF024 models (100ms Max) 28SQBF036 models (100ms Max) 28SQBF300 models (100ms Max)	--	--	50 80 450	VDC
Over-Voltage Lockout Turn ON Threshold	28SQBF024 models (100ms Max) 28SQBF036 models (100ms Max) 28SQBF300 models (100ms Max)	36 75 425	--	--	VDC
Input Current	See model selection guide, Standby mode (OFF, UVLO) 8mA				
Enable Function Input	Positive logic ON OFF	Open Short or 0 ~ 1.2			VDC
	Negative logic ON OFF	Open Short or 0 ~ 1.2			VDC

Output Data

Parameter	Notes and Conditions	Min.	Typ.	Max.	Unit
Output Voltage Accuracy	VNOM 50% Load	--	--	±1.5	%
Line Regulation	Low Line to High Line	--	--	±0.3	%
Load Regulation	10% to 100% Load	--	--	±0.5	%
Ripple & Noise Voltage	Bandwidth 20MHz and with 1μF MLCC Output Capacitor	--	1.5	--	%Vpk-pk
Temperature Coefficient	--	--	--	+0.04	% /˚C
Transient Recovery Time	25% load step change	--	800	--	μSec
Transient Peak Deviation	ΔIo/Δt=2.5A/us	--	+2	--	%Vo
Start-Up Time	When use Enable Function	--	20	--	mSec.
Trimming Output Protection	VNOM 10% Load	--	+10	--	%
Output power protection	VNOM 10% Load	--	120	--	%
Over Voltage Protection	VNOM	--	120	--	%

General Specifications & Environmental Data

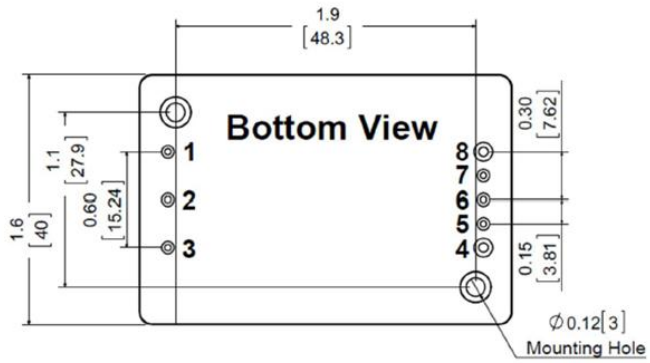
Parameter	Notes and Conditions	Min.	Typ.	Max.	Unit
Switching frequency	VNOM	200	--	300	kHz
Storage temperature range	All models	-60	--	125	C
Operating case temperature	All models	-45	--	105	m
Over temperature protection	All models, Auto. Recovery	--	110	--	C
Isolation Voltage Input to Output	All models, 1 Minute	2250	--	--	VDC
Isolation Resistance Input to Output	All models, 500VDC, At 70%RH	100	--	--	MΩ
Isolation Capacitance Input to Output	All models	--	1500	--	pF
Humidity (non-condensing)	All models	--	--	95	%
Calculated MTBF	BellCore-TR-332@ 50˚C G.B	--	1.5	--	M HR
Thermal shock	Environmental Engineering Experimental Tests	MIL-STD-810F			
Vibration		MIL-STD-810F			
Drop		MIL-STD-810F			
Weight	Shape-F (No Flange)	115 (4.06)			G (oz)
Dimensions	Shape-F (No Flange)	2.40” x 1.60” x 0.50” (60.0 x 40 x 12.7mm)			
Case Material	Metal				
Potting Material	Silicone				

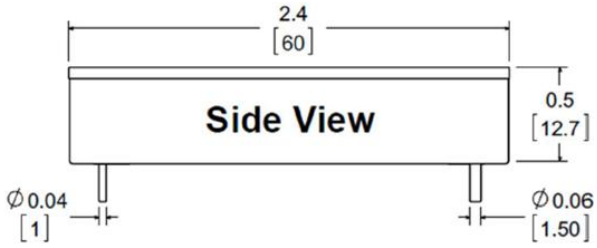
Standards Compliance

Parameter	Standard	Test conditions	Performance criteria
Environmental Compliance	Reach; RoHS	--	Pass
EMI	EN55032	--	Class A / Class B
ESD	EN61000-4-2	±4 kV Air Discharge 4 kV Contact Discharge	Crit. A
Radiated Immunity	EN61000-4-3	Level 2, 3 V/m	Crit. A
Fast Transient	EN61000-4-4	±2 kV Applied	Crit. A
Surge	EN61000-4-5	±2 kV Applied	Crit. A
Conducted Immunity	EN61000-4-6	Level 2, 3 V rms	Crit. A

It is recommended to protect the input by fuses or other protection devices.
Modules could meet EN55032 Class A and Class B standard with external components.
The information and specifications contained in this data sheet are believed to be correct at time of publication. All specifications are subject to change without notice. No rights under any patent accompany the sale of any such products or information contained herein.

Conducted EMI





Pin#	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	Enable	Enable
4	-Vout	-Vout
5	Trim	Com
6	+Vout	+Vout

Note:
Pin Pitch tolerance: ±0.01 [0.25]
Pin Dimensions: .XX±0.03 [.X±0.76mm]
Pin Material: Copper Alloy
Pin Plating: Gold
Dimensions in inches [mm]
Tolerances: .XX±0.02 [.X±0.5mm]
.XXX±0.001 [.X±0.025mm]