DESCRIPTION

PRODUCT COVERED:

USR, CNR – Component Power Supplies “SSQE” model series, followed by two digit numeric, one alpha character, five digit numeric and may or may not be followed by a dash and the letter “G” or additional alpha/numeric characters denoting non-safety critical options. See “NOMENCLATURE BREAKDOWN AND ELECTRICAL RATINGS.””

ELECTRICAL RATINGS:

Typical Model Designation:

SSQE	48	T	20	033 -	X
I	II	III	IV	V	VI

I - Model Series: SSQE

II - Nominal Input Voltage:

48 = 36 - 75 Vdc range, 48 Vdc nominal

III - Input/Output Type:

T- Thru-hole
S – Surface-mount

IV - Output Current Rating:

10 = 10 A
13 = 13 A
15 = 15 A
* 25 = 25 A (for 1.2 V through **3.3** V output only)
20 = 20 A

V - Output Voltage Rating:

012 = 1.2 Volt dc
015 = 1.5 Volt dc
018 = 1.8 Volt dc
020 = 2.0 Volt dc
025 = 2.5 Volt dc
033 = 3.3 Volt dc
050 = 5.0 Volt dc

VI - Options Suffix - X = Maybe followed by a dash (-) and suffix letters and/or numbers denoting non-safety-critical options such as, but not limited to, open frame, positive or negative shutdown, Lucent compatible, non-standard pin configuration, increased electric strength, etc.

GENERAL:

The products covered by this Report are dc/dc converters intended to supply dc output power. They are provided with input and output pins for connection to their nominal rated dc source of supply. All components are intended to be mounted on printed wiring boards.

ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

Use – For use only in (or with) complete equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.

Special Considerations – The following items are considerations that were used when evaluating this product.

USR/CNR indicates investigation to the U.S. and Canadian (Bi-National) Standard for Safety of Information Technology Equipment, Including Electrical Business Equipment, CAN/CSA C22.2, No. 60950-1 * UL 60950-1, First Edition.

Production dielectrics are performed on this product.

Conditions of Acceptability – When installed in the end product, consideration shall be given to the following:

1. This component has been judged on the basis of the required spacings in the Standard for Safety of Information Technology Equipment, Including Electrical Business Equipment, CAN/CSA C22.2, No. 60950-1 UL 60950-1, First Edition, Sub-Clause 2.10, which would cover the component itself if submitted for Listing.

2. All models are intended to be supplied from an isolated secondary circuit and have been evaluated for Basic Insulation between the input and output circuits.

3. The input and output connectors (pins) are suitable for factory wiring only.

4. The power supplies have been evaluated for use in a Pollution Degree 2 environment.

5. Abnormal and Component Failure Tests were conducted with the power supply input protected by an external UL Listed fuse, rated 20 A for all models except for 5 V output models, which were protected by 5 A fuse **and 3.3 V/25 A output models which were protected by 15 A fuse**. If a fuse rated greater than specified above is used, additional testing may be required.

6. The power supply was submitted and tested for a manufacturer's recommended *Tc maximum temperature of 120°C except for 5 V output models which Tc is maximum 125^{0}C and 3.3 V output in which Tc at T401 input coil is maximum 125°C and maximum 100°C **(up to 20 A rating)/ 105^{0}C (3.3 V /25 A output models)** at IC202 case.

7. If the input meets all of the requirements for SELV or TNV-2, the outputs may be considered SELV. Output voltages remain within SELV limits, even with internally generated non-SELV voltages, if any. Single Component Failure and Basic Insulation Bypass Tests were performed on the power supply.

8. The units were tested for zero tolerance input voltage.

9. Special spacing consideration should be given to the end-use product as the spacings between the unit and mounting surface have not been evaluated.

*

10. Special enclosure consideration should be given to the end-use installation. Hazardous voltage is available on the surface of the PWB. The end-use product should be reviewed to determine whether accessibility requirements are met for the end-use product.

11. **All units rated 1.2 Vdc through 2.5 Vdc at 25 A output were** tested with 60 LFM air-**cooling. Units rated 3.3 Vdc at 25 A output were tested with 100 LFM air-cooling. Air-cooling is** applied from +Vin to -Vin pins

ZERTIFIKAT • CERTIFICATE • 認証書 • СЕРТИФИКАТ • CERTIFICADO • CERTIFICAT

America

CERTIFICATE

No. B 08 11 24238 01122

Holder of Certificate: **Power-One, Inc.**
740 Calle Plano
Camarillo, CA 93012-8583
USA

Production Facility(ies): 41950, 59929

Certification Mark:

Product: **AC-DC and DC-DC converters (DC/DC Converters)**

Model(s): **SSQE Series, followed by two digit numeric, one alpha character, five digit numeric and may or may not be followed by a dash and the letter 'G' or suffix letters and/or numbers denoting non-safety-critical options such as, but not limited to, open frame, positive or negative shutdown, Lucent compatible, non-standard pin configuration, increased electric strength, etc.**

Parameters:

Rated Input Voltage:	48 VDC nominal (36 – 75 VDC range)
Input Source:	SELV or TNV-2
Rated Input Current:	
Rated Output Voltage:	1.2 – 5.0 VDC
Rated Output Current:	10 A or 13 or 15 A or 20 A or 25 A

See attachment for additional model details.

Tested according to: EN 60950-1/A11:2004

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. The certification mark must not be altered in any way. See also notes overleaf.

Test report no.: 095-800001168101-000

Date, 2008-11-19

319769

America

ATTACHMENT TO CERTIFICATE NO. B 08 11 24238 01122 FOR POWER-ONE, INC

These models are component type switch mode type dc-to-dc converters designed to be soldered on to printed circuit boards or plugged into end-user sockets. These converters are designed to be connected to a source of supply that is an isolated secondary circuit or battery. The input should be either SELV or TNV-2 though other sources of input may be considered with further investigation in the end-use equipment.

Typical Model Designation:

SSQE	48	T	20	033	-	X
I	II	III	IV	V		VI

I — Model Series: SSQE

II — Nominal Input Voltage:

48 = 36 -75 Vdc range, 48 Vdc nominal

III — Input/Output Type:

T- Thru-hole
S – Surface-mount

IV — Output Current Rating:

25 = 25 A (for 1.2 V to 3.3 V output models only)
20 = 20 A
15 = 15 A
13 = 13 A
10 = 10 A

V — Output Voltage Rating:

012 = 1.2 Volt dc
015 = 1.5 Volt dc
018 = 1.8 Volt dc
020 = 2.0 Volt dc
025 = 2.5 Volt dc
033 = 3.3 Volt dc
050 = 5.0 Volt dc

VI — Options Suffix - X = Maybe followed by a dash (-) and suffix letters and/or numbers denoting non-safety-critical options such as, but not limited to, open frame, positive or negative shutdown, Lucent compatible, non-standard pin configuration, increased electric strength, etc.

America

ATTACHMENT TO CERTIFICATE NO. B 08 11 24238 01122 FOR POWER-ONE, INC

Special Considerations – The following items are considerations that were used when evaluating these products.

All models are intended for building-in, to be soldered onto a PWB or plugged in to special end-user socket.

Conditions of Acceptability – When installed in the end-use equipment, the following are among the considerations to be made:

1. All models are intended to be supplied from an isolated secondary circuit and have been evaluated for basic insulation between the input and output circuits.
2. The power supplies have been evaluated for use in a Pollution Degree 2 environment.
3. Abnormal and Component Failure Tests were conducted with the power supply input protected by an external UL Listed fuse, rated 20 A for all models except for 5V output models which is protected by 5 A. If a fuse rated greater than specified is used, additional testing may be required.
4. The power supply was submitted and tested for a manufacturer's recommended *Tc maximum temperature of 120°C except for 5V output models in which Tc is maximum 125°C and 3.3 V output in which Tc at T401 input coil is maximum 125°C or maximum 100°C at IC202 case. *Tc = is measured at T401 coil (PWB)
5. If the input meets all of the requirements for SELV or TNV-2, the outputs may be considered SELV. Output voltages remain within SELV limits, even with internally-generated non-SELV voltages, if any. Single Component Failure and Basic Insulation Bypass Tests were performed on the power supply.
6. The units were tested for zero tolerance input voltage.
7. Special spacing consideration should be given to the end-use product, as the spacings between the unit and mounting surface have not been evaluated.
8. Special enclosure consideration should be given to the end-use installation. Hazardous voltage is available on the surface of the PWB. The end-use product should be reviewed to determine whether accessibility requirements are met for the end-use product.
9. The units were tested with air-cooling applied from + Vin to -Vin pins.

IEC IECEE CB SCHEME

Ref. Certif. No.

DE 3 - 57987

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE CERTIFICATS D'ESSAIS DES EQUIPEMENTS ELECTRIQUES (IECEE) METHODE OC

CB TEST CERTIFICATE
CERTIFICAT D'ESSAI OC

Product Produit	AC-DC and DC-DC converters (DC/DC Converters)
Name and address of the applicant Nom et adresse du demandeur	Power-One, Inc. 740 Calle Plano Camarillo, CA 93012-8583, USA
Name and address of the manufacturer Nom et adresse du fabricant	Power-One, Inc., 740 Calle Plano, Camarillo, CA 93012-8583, USA
Name and address of the factory Nom et adresse de l'usine	BCM Electronics Corporation SDN BHD, Kulim Hi-tech Park, Phase 1, Plot 21, Jalan Hi-Tech 4, 09000 Kulim, Kedah Darulaman, MALAYSIA For further information please see attachment
Rating and principal characteristics Valeurs nominales et caractéristiques principales	Input (DC): 48 VDC nominal (36 – 75 VDC range) Input Source: SELV or TNV-2 Output (DC): 1.2 – 5.0 VDC (Model Dependent) 10 A or 13 A or 15 A or 20 A or 25 A Temperature, Case (Tc): 3.3 V output units: 125°C at T401 input Coil PWB or 100°C at IC202 5 V output units: 125°C at T401 input Coil PWB All other units: 120°C at T401 input Coil PWB For further information please see attachment.
Trade mark (if any) Marque de fabrique (si elle existe)	Power-One
Model/type Ref. Ref. de type	SSQE Series For series information please see attachment
Additional information (if necessary) Information complémentaire (si nécessaire)	SMT
A sample of the product was tested and found to be in conformity with Un échantillon de ce produit a été essayé et a été considéré conforme à la	IEC 60950-1:2001
as shown in the Test Report Ref. No. which form part of this certificate comme indiqué dans le Rapport d'essais numéro de référence qui constitue une partie de ce certificat	095-800001168101-000

This CB Test Certificate is issued by the National Certification Body
Ce Certificat d'essai OC est établi par l'Organisme **National de Certification**

Date, 2008-12-08
CB 08 11 24238 01123

William A Wenthold

William Wenthold

TÜV SÜD Product Service GmbH · Certification Body · Ridlerstrasse 65 · D-80339 München

TÜV SÜD Product Service

B 08.04

Additional factory information:

Name and address of the factory (59929) Power-One, LTD.
Nom et adresse de l'usine
Autopista Las Americas Km.22,
Zone Franca Las Americas,
11606 Santa Domingo,
Dominican Republic

GENERAL PRODUCT INFORMATION:

These models are component type switch mode type dc-to-dc converters. All models are intended for building-in and are designed to be soldered on to printed circuit boards or plugged into end-user sockets.

These converters are designed to be connected to a source of supply that is an isolated secondary circuit or battery. The input should be either SELV or TNV-2 though other sources of input may be considered with further investigation in the end-use equipment.

TYPICAL MODEL DESIGNATION:

SSQE	48	T	20	033	-	X
I	II	III	IV	V	-	VI

I – Model Series: SSQE

II – Nominal Input Voltage: 48 = 48 Vdc nominal (36 -75 Vdc range)

III – Input/Output Type: T – Thru-hole
S – Surface-mount

IV – Output Current Rating: 25 = 25 A (for 1.2 V to 3.3 V output models only)
20 = 20 A
15 = 15 A
13 = 13 A
10 = 10 A

V – Output Voltage Rating: 012 = 1.2 Volt dc
015 = 1.5 Volt dc
018 = 1.8 Volt dc
020 = 2.0 Volt dc
025 = 2.5 Volt dc
033 = 3.3 Volt dc
050 = 5.0 Volt dc

VI – Options Suffix: - X = Maybe followed by a dash (-) and suffix letters and/or numbers denoting non-safety-critical options such as, but not limited to, open frame, positive or negative shutdown, Lucent compatible, non-standard pin configuration, increased electric strength, etc.

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TÜV SÜD Product Service