

Certificate

Management system as per
DIN EN ISO 9001:2015



The Certification Body TÜV NORD CERT GmbH hereby confirms as a result of the audit, assessment and certification decision according to ISO/IEC 17021-1:2015, that the organization

Infineon Technologies AG
Am Campeon 1-15
85579 Neubiberg
Germany

with the locations according to the annex

operates a management system in accordance with the requirements of DIN EN ISO 9001:2015 and will be assessed for conformity within the 3 year term of validity of the certificate.

Scope

Design, manufacturing, sales and marketing of semiconductor components and software

Certificate Registration No. 44 100 181646
Audit Report No. 3538 1382

End of validity of previous certificate: 2025-02-06
Valid from 2025-02-26
Valid until 2028-02-06
Initial certification 2018



Visit our database to
verify the validity of
this certificate.

Essen, 2025-02-26


Certification Body at TÜV NORD CERT GmbH

TÜV NORD CERT GmbH
Am TÜV 1, 45307 Essen
www.tuev-nord-cert.com

TÜV®



Deutsche
Akkreditierungsstelle
D-ZM-12007-01-00



MANAGEMENT SYSTEM CERTIFICATE

Certificate no.:
120787-2012-AQ-USA-ANAB

Initial certification date:
20 September, 2012

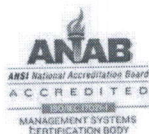
Valid:
14 December, 2024 – 13 December, 2027

This is to certify that the management system of
onsemi Corporate Headquarters
5701 N. Pima Road, Scottsdale, AZ 85250, USA
and the sites as mentioned in the appendix accompanying this certificate

has been found to conform to the Quality Management System standard:
ISO 9001:2015

This certificate is valid for the following scope:
Design and manufacture of semiconductors and associated system solutions.

Place and date:
Katy, TX, 29 January, 2025

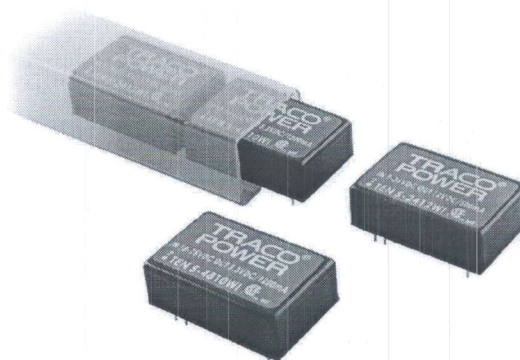


For the issuing office:
DNV - Business Assurance
1400 Ravello Drive, Katy, TX, 77449-5164, USA


Sherif Mekkawy
Management Representative

Features

- ◆ Ultra wide 4:1 input range
- ◆ DIP-24 Package with standard pinout
- ◆ Full SMD design
- ◆ Extended operating temperature range
-40°C to +85°C max.
- ◆ High efficiency
- ◆ Excellent load and line regulation
- ◆ Indefinite short circuit protection
- ◆ I/O isolation 1500VDC
- ◆ Built-in Filter to meet EN 55022, Class A
and FCC, level A
- ◆ Lead-free design, fully RoHS compliant
- ◆ 3-year product warranty



The TEN 5WI series is a family of high performance dc-dc converter modules with 5 W output power, featuring ultra wide input voltage ranges of 9 - 36 VDC or 18 - 75 VDC. They come in a shielded DIP-24 metal package with industry-standard footprint.

A high efficiency allows -40°C to +70°C operation ambient temperatures at full load. Typical applications for these converters are battery operated equipment and distributed power architectures in communication, instrumentation and industrial electronics, everywhere where a wide input voltage range is required.

Models				
Ordercode	Input voltage range	Output voltage	Output current max.	Efficiency typ.
TEN 5-2410WI	9 - 36 VDC (24 VDC nominal)	3.3 VDC	1200 mA	75 %
TEN 5-2411WI		5 VDC	1000 mA	78 %
TEN 5-2412WI		12 VDC	500 mA	83 %
TEN 5-2413WI		15 VDC	400 mA	82 %
TEN 5-2421WI		±5 VDC	±500 mA	78 %
TEN 5-2422WI		±12 VDC	±250 mA	83 %
TEN 5-2423WI		±15 VDC	±200 mA	82 %
TEN 5-4810WI	18 - 75 VDC (48 VDC nominal)	3.3 VDC	1200 mA	75 %
TEN 5-4811WI		5 VDC	1000 mA	78 %
TEN 5-4812WI		12 VDC	500 mA	83 %
TEN 5-4813WI		15 VDC	400 mA	82 %
TEN 5-4821WI		±5 VDC	±500 mA	78 %
TEN 5-4822WI		±12 VDC	±250 mA	83 %
TEN 5-4823WI		±15 VDC	±200 mA	82 %

Input Specifications

Input current no load	24 Vin models 48 Vin models	20 mA typ. 10 mA typ.
Start-up voltage / under voltage shut down	24 Vin models 48 Vin models	9 VDC / 8.5 VDC typ. 18 VDC / 16 VDC typ.
Surge voltage (1 sec. max.)	24 Vin models 48 Vin models	50 V max. 100 V max.
Conducted noise (input)	EN 55022 level A, FCC part 15, level A	

Output Specifications

Voltage set accuracy	±2.0 % max.	
Regulation	- Input variation Vin min. to Vin max. - Load variation 10 - 100 %	±0.5 % max. single output models 1.0 % max. dual output models 1.0 % max. balanced load 25 - 100 % 5.0 % max. unbalanced load
Ripple and noise (20 MHz Bandwidth)	80 mVpk-pk max	
Temperature coefficient	±0.02 %/K	
Current limitation	>110 % of Iout max., constant current	
Short circuit protection	indefinite (automatic recovery)	
Capacitive load	3.3 / 5 VDC models 12 / 15 VDC models dual output models	470 µF max. 100 µF max. 100 µF max.

General Specifications

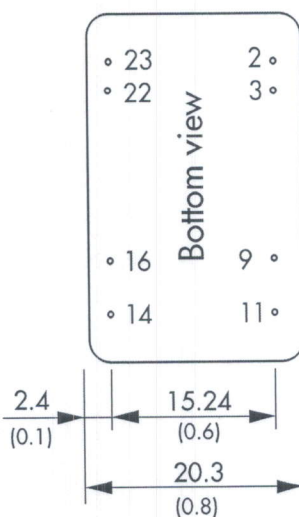
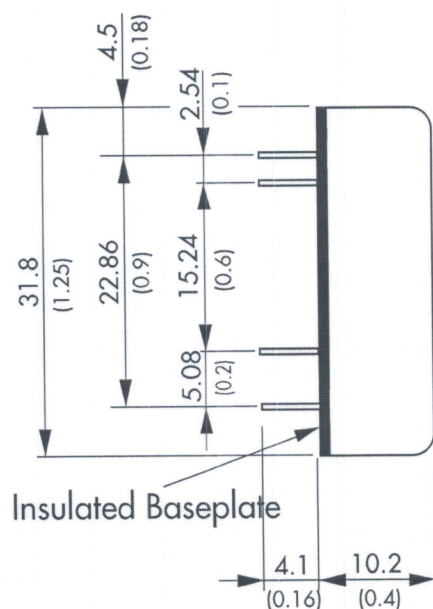
Temperature ranges	- Operating - Case temperature - Storage	-40°C to +85°C +100°C max. -40°C to +125°C
Derating	3.5 %/K above +70°C	
Humidity (non condensing)	95 % rel H max.	
Reliability, calculated MTBF (MIL-HDBK217F, at +25°C, ground benign)	>800'000 h	
Isolation voltage (60 sec.)	- Input/Output	1'500 VDC
Isolation capacitance	- Input/Output	1000 pF typ
Isolation resistance	- Input/Output (500 VDC)	>1'000 M Ohm
Switching frequency	290 - 450 kHz (PFM)	
Safety standards	cUL/UL 60950-1, IEC/EN 60950-1	
Environmental compliance	- Reach - RoHS	www.tracopower.com/info/reach-declaration.pdf directive 2011/65/EU

All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

Physical Specifications

Casing material	black anodized aluminium
Baseplate material	non conductive FR4
Potting material	epoxy (UL 94V-0 rated)
Weight	17 g (0.49 oz)
Soldering temperature	max. 260°C / 10 sec.

Supporting documents: www.tracopower.com/overview/ten5wi

Outline Dimensions


Pin-Out		
Pin	Single	Dual
2	-Vin (GND)	-Vin (GND)
3	-Vin (GND)	-Vin (GND)
9	No pin	Common
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	Common
22	+Vin (Vcc)	+Vin (Vcc)
23	+Vin (Vcc)	+Vin (Vcc)

NC = Not connected

Dimensions in [mm], () = Inch
Pin diameter $\varnothing 0.5 \pm 0.05$ (0.02 ± 0.002)
Tolerances ± 0.5 (± 0.02)
Pin pitch tolerances ± 0.35 (± 0.014)

Specifications can be changed without notice! Make sure you are using the latest documentation, downloadable at www.tracopower.com