

Features

- ◆ Ultra-wide 4:1 input range
- ◆ High efficiency up to 86 %
- ◆ Extended operating temperature range
-40°C to +85°C max.
- ◆ Indefinite short circuit protection
- ◆ I/O isolation 1500 VDC
- ◆ Built-in filter meets EN 55022, Class A and FCC, Level A without external components
- ◆ Remote On/Off
- ◆ Industry standard pinout
- ◆ Six-side shielded case
- ◆ Lead free design, fully RoHS compliant
- ◆ 3-year product warranty



The TEN 15WI series of DC/DC converters, comprising 10 different models, has been designed for a wide range of applications including communications, industrial systems and battery powered equipments. Full SMD-design with use of ceramic chip capacitors guarantees a high reliability and a long lifetime. Other features of this converters are internal filter to meet EN 55022, class A and FCC, level A and an extended temperature range of -40°C to +85°C.

Models

| Ordercode | Input voltage range | Output voltage | Output current max. | Efficiency typ. |
|---------------|--|----------------|---------------------|-----------------|
| TEN 15-2410WI | 9 – 36 VDC (24 VDC nominal) | 3,3 VDC | 3'000 mA | 78 % |
| TEN 15-2411WI | | 5,1 VDC | 2'950 mA | 82 % |
| TEN 15-2412WI | | 12 VDC | 1'250 mA | 85 % |
| TEN 15-2422WI | | ±12 VDC | ±625 mA | 85 % |
| TEN 15-2423WI | | ±15 VDC | ±500 mA | 86 % |
| TEN 15-4810WI | 18 – 75 VDC (48 VDC nominal) | 3,3 VDC | 3'000 mA | 78 % |
| TEN 15-4811WI | | 5,1 VDC | 2'950 mA | 82 % |
| TEN 15-4812WI | | 12 VDC | 1'250 mA | 85 % |
| TEN 15-4822WI | | ±12 VDC | ±625 mA | 85 % |
| TEN 15-4823WI | | ±15 VDC | ±500 mA | 86 % |

Input Specifications

| | | |
|-----------------------------------|--|--|
| Input current at no load | | 24 Vin models: 25 mA typ. 48 Vin models: 15 mA typ. |
| Input current at full load | 24 Vin; 24 Vin; 48 Vin; 48 Vin; | 3.3 Vout models: 528 mA typ. other output models: 740 mA typ. 3.3 Vout models: 264 mA typ. other output models: 370 mA typ. |
| Surge voltage (100 msec. max.) | | 24 Vin models: 50 V max. 48 Vin models: 100 V max. |
| Conducted noise (input) | | EN 55022 level A, FCC part 15, level A |

Output Specifications

| | | |
|-------------------------------------|---|---------------------------------|
| Voltage set accuracy | | ±1 % |
| Regulation | - Input variation Vin min. to Vin max. - Load variation 10 – 100 % | 0.5 % max. 1 % max. |
| Ripple and noise (20 MHz Bandwidth) | | 80 mVpk-pk max. |
| Temperature coefficient | | ±0.02 %/K |
| Output current limitation | | >110 % of Iout max., foldback |
| Short circuit protection | | indefinite (automatic recovery) |
| Capacitive load | single output models: dual output models: | 470 µF max. 220 µF max. |

General Specifications

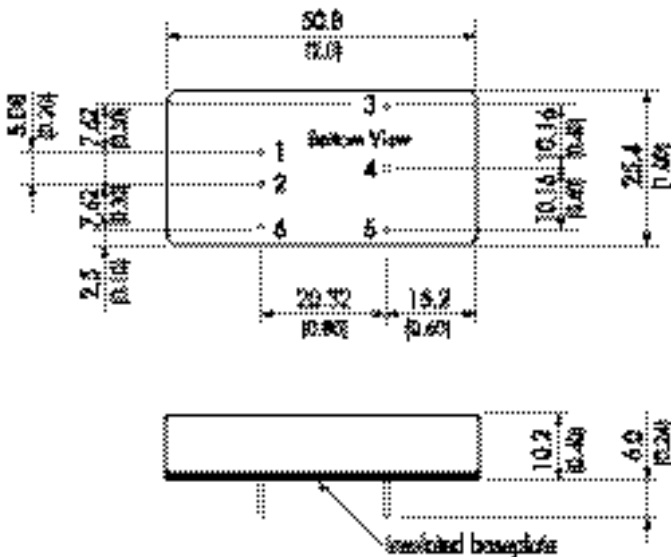
| | | |
|--|--|--|
| Temperature ranges | - Operating - Case temperature - Storage | -40°C to +85°C +100°C max. -55°C to +125°C |
| Derating | | 3.5 %/K above 70°C |
| Humidity (non condensing) | | 95 % rel H max. |
| Reliability, calculated MTBF (MIL-HDBK-217F, @ +25°C, ground benign) | | >700'000 h |
| Isolation voltage (60 sec) | - Input/Output | 1'500 VDC |
| Isolation capacity | - Input/Output | 1200 pF typ |
| Isolation resistance | - Input/Output (500 VDC) | >1'000 MOhm |
| Switching frequency (fixed) | | 330 kHz typ. (pulse width modulation) |
| Remote On/Off: | - On: - Off: - Off idle current: | 2.5 ... 5.5 VDC or open circuit. -0.7 ... 0.8 VDC or short circuit pin 2 and pin 6 10 mA max. |
| Safety standards | | cUL/UL 60950-1, IEC/EN 60950-1 |
| Safety approvals | | CSA File No. 226037 http://directories.csa-international.org |

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

Physical Specifications

| | |
|-----------------------|--|
| Casing material | copper, nickel plated |
| Baseplate material | non conductive FR4 |
| Potting material | Silicon TSE-3331A/B (flammability to UL 94V-0) |
| Weight | 32 g (1.09 oz) |
| Soldering temperature | max. 265°C / 10 sec. |

Outline Dimensions



| Pin-Out | | |
|---------|---------------|------------|
| Pin | Single | Dual |
| 1 | +Vin (Vcc) | +Vin (Vcc) |
| 2 | -Vin (GND) | -Vin (GND) |
| 3 | +Vout | +Vout |
| 4 | No pin | Common |
| 5 | -Vout | -Vout |
| 6 | Remote On/Off | |

Dimensions in [mm], () = Inch
 Pin diameter: 1.0 ±0.05 (0.039 ±0.002)
 Pin pitch tolerances: ±0.25 (±0.01)
 Casing tolerances: ±0.5 (±0.02)

Specifications can be changed any time without notice