

## DC/DC-Converter

Ultra Low Noise  
TYL / TVL Series  
1.5 - 5 Watt

- Ultra low ripple and noise
- Full SMD - design with ceramic capacitors
- Ideal for noise sensitive analog circuits and audio systems
- Single- and dual output
- Tightly regulated output
- High output stability
- Short circuit protection
- Shielded metal case
- 2 years warranty



NEW

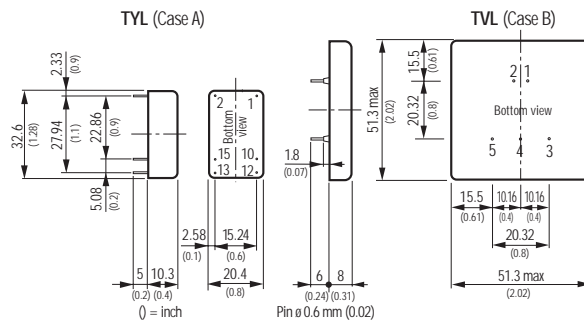
The TYL and TVL Series are DC/DC-Converter with very low output ripple and noise specification. These DC/DC-Converter are ideal solution for noise sensitive applications as analoge circuits, audio applications, reference voltages or in mesuring systems. SMD-technology and a 100 % production test ensure a very high reliability of these products.

Models / Modelle					
Order code	Input voltage	Output 1	Output 2	Ripple and	Case
TYL 05-05S30 TYL 05-12S12 TYL 05-15S10 TYL 05-05WS08 TYL 05-12WS06 TYL 05-15WS05	5 VDC (4.75 – 6 VDC)	5 VDC / 300 mA 12 VDC / 120 mA 15 VDC / 100 mA + 5 VDC / 80 mA + 12 VDC / 65 mA + 15 VDC / 53 mA	- 5 VDC / 80 mA - 12 VDC / 65 mA - 15 VDC / 53 mA	4 mVpk-pk 4 mVpk-pk 4 mVpk-pk 4 mVpk-pk 4 mVpk-pk 4 mVpk-pk	A A A A A A
TVL 05-1220 TVL 05-1225 TVL 05-1516 TVL 05-1520	5 VDC (4.75 – 6 VDC)	+ 12 VDC / 200 mA + 12 VDC / 250 mA + 15 VDC / 160 mA + 15 VDC / 200 mA	- 12 VDC / 200 mA - 12 VDC / 125 mA - 15 VDC / 160 mA - 15 VDC / 100 mA	2 mVpk-pk 2 mVpk-pk 2 mVpk-pk 2 mVpk-pk	B B B B

Output Specifications	Ausgangsspezifikationen		
Voltage accuracy	Einstellgenauigkeit		± 2 %
Regulation - Input variation	Regelabweichungen - Eingangsspannungsänderung	TYL models	± 0.3 %
		TVL models	± 0.6 %
- Load variation 10 – 100 %	- Laständerung 10 – 100 %	TYL models	± 0.3 %
		TVL models	± 0.35 %
Ripple and noise (20 MHz Bandwidth)	Restwelligkeit und Schaltspitzen (20 MHz Bandbreite)	TYL models	8 mVpk-pk max.
		TVL models	2 mVpk-pk max.
		For ripple and noise reduction less than 1 mV consult factory	
Output current limitation	Ausgangsstrombegrenzung		< 110 %
Short circuit protection	Kurzschlussicherheit		continuous / dauernd
General Specifications	Allgemeine Spezifikationen		
Temperature ranges - Operating - Storage	Temperaturbereiche - Betrieb - Lagerung		- 25 °C ... + 71 °C
			- 40 °C ... + 100 °C
Derating above 50°C	Leistungsreduktion ab 50°C		2.5 % / °C
Temperature coefficient	Temperaturkoeffizient		0.02 % / °C
Stability (Temperature drift)	Stabilität (Temperaturdrift)	TYL models	30 mV / 8h max.
		TVL models	10 mV / 8h max.
Humidity (non condensing)	Feuchtigkeit (nicht belauend)		95 %
Efficiency	Wirkungsgrad		55 – 65 %
Reliability, MTBF (MIL-HDBK-217E)	Zuverlässigkeit, MTBF (MIL-HDBK-217E)	TYL models	>1'000'000 h at 25 °C
		TVL models	> 500'000 h at 25 °C
Isolation / Safety	Isolation / Sicherheit		
Isolation I/O	Prüfspannung E/A		500 VDC
Isolation resistance (500 VDC)	Isolationswiderstand (500 VDC)		>10 MOhm
Shock	Schock	acceleration 20 G max.	11ms
Vibration	Vibration	5 to 10 Hz 10 mmp / 10 to 55 Hz	acceleration 2 G
Weight	Gewicht	TVL models	15 gr
		TYL models	32 gr

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

Alle Spezifikationen bei Nominal-Eingangsspannung, Vollast +25°C nach Aufwärmzeit, ausgenommen anders spezifiziert



**Pin-Out TVL Series**

Pin	Dual output
1	+V in (Vcc)
2	-V in (GND)
3	+V out
4	Common
5	-V out

**Pin-Out TYL Series**

Pin	Single output	Dual output
1	-V in (GND)	-V in (GND)
10	-V out	-V out
12	-V out	Common
13	+V out	Common
15	+V out	+V out
24	+V in (Vcc)	-V in (GND)