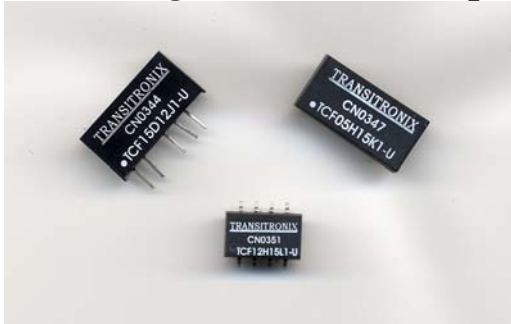


TCF-series

Single and Dual Output DC/DC Converter - Unregulated



- > 1-Watt Miniature Package
- > Fixed Input Range
- > Efficiencies 75% (typical)
- > No Heat Sink Required
- > No Other Components Required
- > 1,000 VDC Isolation

ELECTRICAL SPECIFICATIONS

All specifications are typical at nominal input, full load, and 25°C unless otherwise noted.

INPUT SPECIFICATIONS

Input Voltage Range (DC)	5V nominal	4.5V to 5.5V	Maximum Input Voltage: 7VDC
	12V nominal	10.8V to 13.2V	Maximum Input Voltage: 15VDC
	24V nominal	21.6V to 26.4V	Maximum Input Voltage: 28VDC
Input Filter	Pi Filter		

OUTPUT SPECIFICATIONS

Output Voltage Range (DC)	Single Output	Dual Output
		3.3V at 200mA
	5V at 200mA	±5V at 100mA
	9V at 110mA	±9V at 55mA
	12V at 83mA	±12V at 42mA
	15V at 66mA	±15V at 33mA
	24V at 42mA	
Ripple and Noise, 20Hz – 300KHz BW	75mVp-p Typ	
Temperature Coefficient	± 0.03%/°C	
Output Voltage Accuracy	± 5.0%	

GENERAL SPECIFICATIONS

Switching Frequency	100KHZ Typ
Isolation Voltage	1000VDC
Isolation Resistance	10 ⁹ Ohms Min.
Isolation Capacitance	30pF
No Load Power Consumption	10.0% nominal power Typ
Short Circuit Protection	1 second

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature Range	-40°C to +85°C
Storage Temperature Range	-55°C to +125°C
Case Temperature	15°C
MTBF	1.0 x 10 ⁶ Hours

PHYSICAL SPECIFICATIONS

Case Material	Plastic UL94-V0		
Dimensions (length x width x height) (inches)	SIP: 0.75 x 0.24 x 0.4	DIP: 0.8 x 0.4 x 0.3	SMT: 0.5 x 0.3 x 0.25

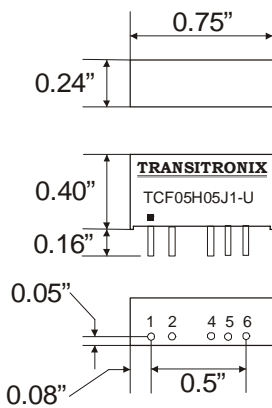
PART NUMBERS

Vin	Single Output			Dual Output	
	SIP Package	DIP Package	SMT Package	SIP Package	DIP Package
5VDC	TCF05H03J1-U	TCF05H03K1-U	TCF05H03L1-U	TCF05D05J1-U TCF05D09J1-U TCF05D12J1-U TCF05D15J1-U	TCF05D05K1-U TCF05D09K1-U TCF05D12K1-U TCF05D15K1-U
	TCF05H05J1-U	TCF05H05K1-U	TCF05H05L1-U		
	TCF05H09J1-U	TCF05H09K1-U	TCF05H09L1-U		
	TCF05H12J1-U	TCF05H12K1-U	TCF05H12L1-U		
	TCF05H15J1-U	TCF05H15K1-U	TCF05H15L1-U		
12VDC	TCF12H03J1-U	TCF12H03K1-U	TCF12H03L1-U	TCF12D05J1-U TCF12D09J1-U TCF12D12J1-U TCF12D15J1-U	TCF12D05K1-U TCF12D09K1-U TCF12D12K1-U TCF12D15K1-U
	TCF12H05J1-U	TCF12H05K1-U	TCF12H05L1-U		
	TCF12H09J1-U	TCF12H09K1-U	TCF12H09L1-U		
	TCF12H12J1-U	TCF12H12K1-U	TCF12H12L1-U		
	TCF12H15J1-U	TCF12H15K1-U	TCF12H15L1-U		
24VDC	TCF24H03J1-U	TCF24H03K1-U		TCF24D05J1-U TCF24D09J1-U TCF24D12J1-U TCF24D15J1-U	TCF24D05K1-U TCF24D09K1-U TCF24D12K1-U TCF24D15K1-U
	TCF24H05J1-U	TCF24H05K1-U			
	TCF24H09J1-U	TCF24H09K1-U			
	TCF24H12J1-U	TCF24H12K1-U			
	TCF24H15J1-U	TCF24H15K1-U			

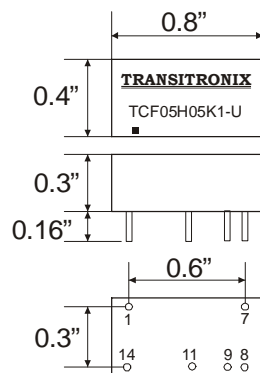
PACKAGE DRAWING

All dimensions in inches

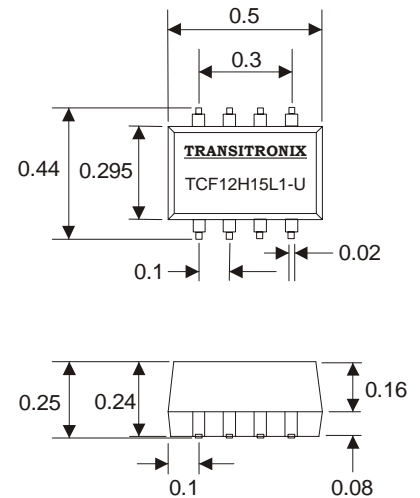
SIP Package Dimensions



DIP Package Dimensions



SMT Package Dimensions



PIN CONNECTIONS

PIN	Single Output			Dual Output	
	SIP Package	DIP Package	SMT Package	SIP Package	DIP Package
1	+Vin	Ground	Ground	+Vin	Ground
2	Ground		+Vin	Ground	
3			NC		
4	-Vout		0V	-Vout	
5			+Vout	0Vout	
6	+Vout		NC	+Vout	
7		NC	NC		NC
8		-Vout	NC		0Vout
9		+Vout			+Vout
11					-Vout
14		+Vin			+Vin