



- 1.0 watt output power
- 14-pin DIP socket compatible
- 100 Megohm isolation at 500 Vdc
- Dual tracking regulated outputs
- 5, 12, 24, 28 or 50 Vdc input ranges
- ± 12 or ± 15 Vdc outputs
- No external components required
- Solid-potted epoxy module

The DIP_DT series of dc-dc converters can provide up to 1.0 watt of regulated, isolated power in a dual-tracking output configuration. These micro-miniature devices are constructed using state-of-the-art hybrid micro-electronic techniques. Low in cost, high in reliability, these dual tracking dc-dc converters are designed for on-board power conversion and regulation of a single voltage to another \pm voltage without any modifications to the main power supply or additional power bussing.

The 14-pin DIP configuration allows easy implementation in any existing or new design. Only 1" x .5" x .35" in size, the DIP_DT case allows easy board placement and requires less than 0.6 square inches of space.

The DIP_DT's internal circuitry utilizes a non-saturating transformer, operating at a nominal frequency of 125 kHz, which reduces reflected line transients and eliminates the need for external EMI/RFI shielding. No additional components are required

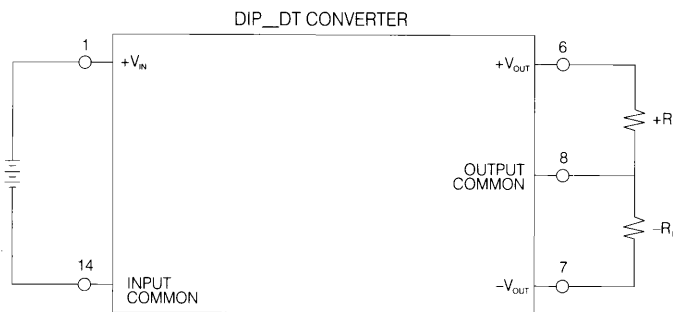
for the device to operate over its operating specifications.

Users may elect to use a dual output DIP_DT converter to provide a single output at double the rated output voltage. The double voltage connection is achieved by leaving the normal output common pin (Pin 8) unconnected and using either the positive or negative V_{OUT} pin for the output common connection.

In most applications, the units will deliver the full rated output power over the full specified operating temperature range. However, internally generated heat must be removed, either through the pins or through the external surface of the package. Case temperature should not be allowed to exceed 90°C.

The units are protected against short-circuits and overloads by a constant current limit. The current limit is approximately 150% of full rated load, and the converters can sustain a short-circuit for approximately 30 seconds.

DIP_DT TYPICAL CONNECTION DIAGRAM:



DIP_DT TYPICAL CONNECTION DIAGRAM

Figure 1

NOTE:

External output capacitors are not required, but may be used to carry transient loads beyond spec. limits or for additional ripple suppression. The output load(s) may be connected between any two output terminals provided maximum specified source currents are not exceeded.

TYPICAL CHARACTERISTICS: $T_A = 25^\circ\text{C}$, $V_{IN} = \text{nominal unless specified otherwise.}$

INPUT VOLTAGE RANGE: 5V models — 4.5 to 5.5 Vdc;

12V models — 10.8 to 14.0 Vdc;

24V models — 20.0 to 28.0 Vdc;

28V models — 24.0 to 32.0 Vdc;

50V models — 44.0 to 56.0 Vdc

OUTPUT VOLTAGE TOLERANCE: $\pm 0.5\text{V}$ No Load

OUTPUT POWER: 1.0W

LOAD REGULATION: 10mV (typ), 50mV (max) No Load to Full Load

LINE REGULATION: 5mV (typ), 20mV (max) from Low Line to High Line, at Full Load

ISOLATION: 100 Megohm minimum at 500 Vdc.

CONVERTER FREQUENCY: Approx. 125 kHz.

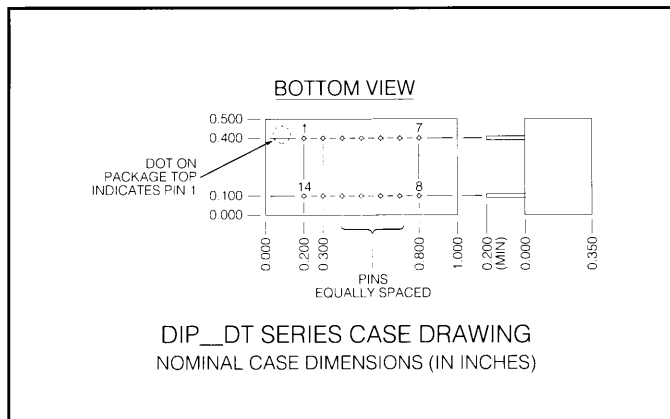
OUTPUT VOLTAGE TEMPERATURE COEFFICIENT: .005%/°C

OPERATING TEMPERATURE: -20°C to $+70^\circ\text{C}$

STORAGE TEMPERATURE: -40°C to $+125^\circ\text{C}$
(rate of change = $10^\circ\text{C}/\text{Min Max}$)

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	MAXIMUM LOAD ($T_A = -20^\circ\text{C TO } +70^\circ\text{C}$)	EFFICIENCY (FULL LOAD) MIN	CURRENT (NO LOAD) MAX	OUTPUT RIPPLE MAX
	Vdc	Vdc	mA	%	mA	mVpp
DIP512DT	5	± 12	41.7	46	125	60
DIP515DT	5	± 15	33.3	46	125	60
DIP1212DT	12	± 12	41.7	46	85	60
DIP1215DT	12	± 15	33.3	46	85	60
DIP2412DT	24	± 12	41.7	46	12	60
DIP2415DT	24	± 15	33.3	46	12	60
DIP2812DT	28	± 12	41.7	46	13	60
DIP2815DT	28	± 15	33.3	46	13	60
DIP5012DT	50	± 12	41.7	46	5.5	60
DIP5015DT	50	± 15	33.3	46	5.5	60

CASE DRAWING



DESIGNATIONS	PIN
+ V_{IN}	1
+ V_{OUT}	6
- V_{OUT}	7
Output common	8
Input common	14
ALL OTHER PINS — NO CONNECTION	