

- 3:1 Input range for railway system
- Efficiency to 91%
- 2.0"x1."x0.4" package
- OTP/ OCP/ OVP
- Remote ON/OFF
- Continuous short circuit protection
- Meets EN50155
- Meets UL60950-1 (Basic Isolation)
- Low input current at no load



| Model Number | Input Voltage | Output Voltage | Output Current max | Input No Load | Current Full Load | % Eff. | Capac. Load max. |
|--------------|---------------|----------------|--------------------|---------------|-------------------|--------|------------------|
| TP20T-110S05 | 43 – 160 V | 5 VDC | 4 A | 3 mA | 205 mA | 88 | 5600 μ F |
| TP20T-110S12 | 43 – 160 V | 12 VDC | 1.67 A | 3 mA | 202 mA | 90 | 1000 μ F |
| TP20T-110S15 | 43 – 160 V | 15 VDC | 1.33 A | 3 mA | 203 mA | 89 | 1000 μ F |
| TP20T-110D12 | 43 – 160 V | \pm 12VDC | \pm 0.83 A | 3 mA | 204 mA | 89 | 680 μ F |
| TP20T-110D15 | 43 – 160 V | \pm 15VDC | \pm 0.67 A | 3 mA | 205 mA | 89 | 350 μ F |

NOTE: All Specifications are Typical at Nominal Line 110VDC, Full load, and 25°C Unless Otherwise Noted / © TP2015

INPUT SPECIFICATIONS

INPUT VOLTAGE RANGE110V 43V – 160VDC
 INPUT SURGE VOLTGE (100ms max) 200VDC max
 INPUT UNDER-VOLTAGE LOCKOUT..... power down 38V
 power up..... 40V

POSITIVE LOGIC REMOTE ON/OFF CONTROL

Logic Compatibility CMOS or Open Collector TTL, ref. to $-V_{in}$
 Module ON $>+3.5$ to 75VDC or Open Circuit
 Module OFF..... <1.2 Vdc

NEGATIVE LOGIC REMOTE ON/OFF CONTROL

Module ON <1.2 Vdc
 Module OFF..... $>+3.5$ to 75VDC or Open

INPUT FILTER..... PI Type

OUTPUT SPECIFICATIONS

| | | |
|-------------------------------------|----------------------|----------------------------|
| Voltage Accuracy..... | | ±1.5% max |
| Voltage Balance (Dual Output) | | ±1.0% max |
| Ripple and Noise, 20MHz BW | Vo = 5V | max. 75mVpp. |
| | Vo = 12V/ 15V | max. 100mVpp. |
| Temperature Coefficient | | ±0.03%/C max |
| Line Regulation | | ±0.2%. |
| Load Regulation | Single | ±0.5% max |
| | Dual | ±1.0% max |
| External Trim Adj. Range | (only single output) | ±10% |
| Short Circuit Protection | | continuous |
| Over Voltage Protection | | Zener or TVS |
| Current Limit | | 110% - 160% Nominal Output |
| Start up time | single | 15ms typ. |
| | Dual | 25ms typ. |

GENERAL SPECIFICATIONS

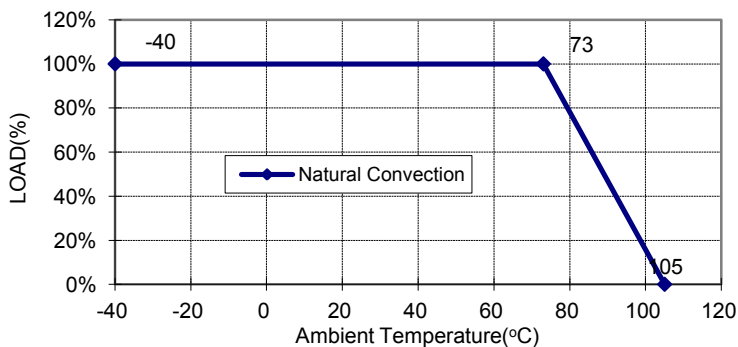
| | | |
|----------------------------------|--|------------------------|
| ISOLATION VOLTAGE..... | Input/ Output; Input/Case | 2250VDC min |
| | Output/Case | 1500VDC min |
| ISOLATION RESISTANCE | | 1000 MOhm |
| ISOLATION CAPACITANCE | | 1000pF typ. |
| SWITCHING FREQUENCY | | 270kHz typ. |
| OPERATING TEMPERATURE RANGE..... | | -40°C TO +85°C |
| DE-RATING ABOVE 73°C | Linear to Zero Power at | 105°C |
| CASE TEMPERATURE | note 3) | 105°C max |
| STORAGE TEMPERATURE RANGE..... | | -55°C TO +125°C |
| EMI | conductive EMI meets | EN55022 Class A |
| EMC | meets EN50155 (EN50121-3-2) | with external filter |
| SHOCK/VIBRATION | meets EN50155 (EN61373) | |
| CASE MATERIAL | Aluminium base plate with plastic case | |
| DIMENSIONS | 2.0×1,0×0.40 INCHES | (50.8 × 25.4 × 10.2mm) |

NOTE:

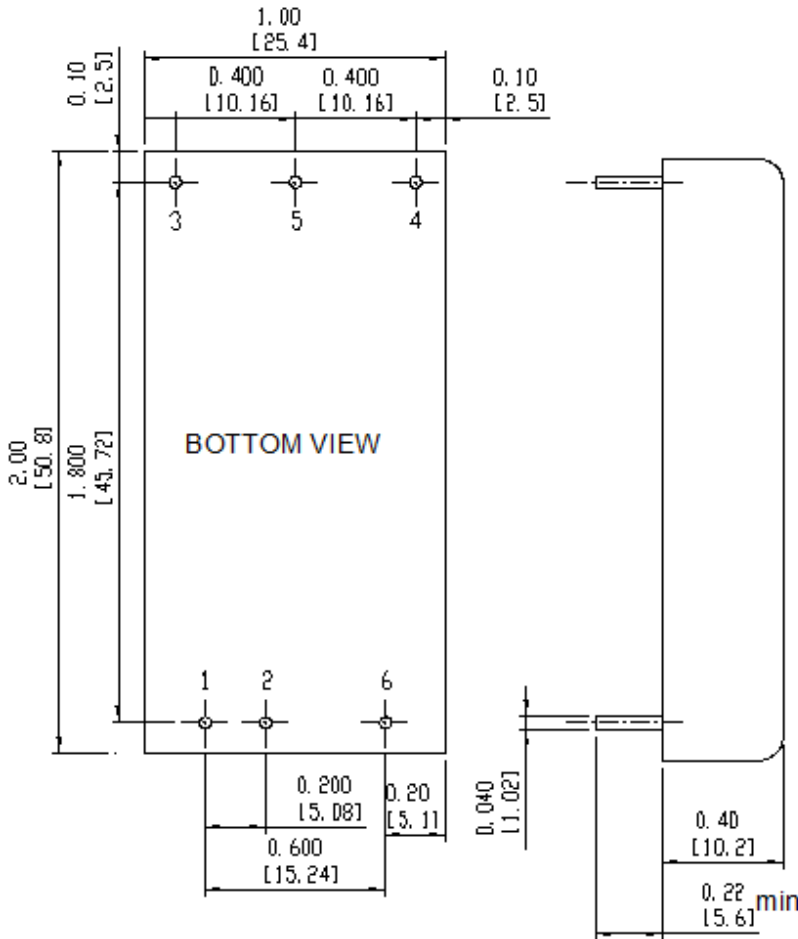
1. LINE REGULATION: Measured From High Line To Low Line
2. LOAD REGULATION: Measured From Full Load To Zero Load
3. Maximum case temperature under any operating conditions should not be exceeded 105°C
4. Suffix "N" to the model number with negative logic remote ON/OFF

POWER DERATING

Typical Derating curve for Natural Convection

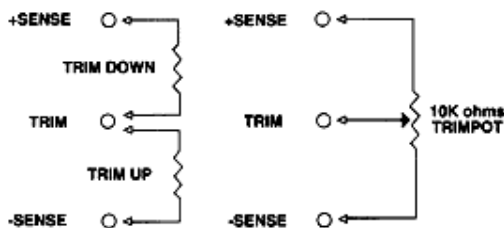


MECHANICAL SPECIFICATIONS



| PIN CONNECTION | | |
|----------------|---------------|--------|
| Pin | Single | Dual |
| 1 | +Vin | +Vin |
| 2 | -Vin | -Vin |
| 3 | +Vout | +Vout |
| 4 | Trim | Common |
| 5 | -Vout | -Vout |
| 6 | Remote ON/OFF | |

External Output TRIM REMOTE ON/OFF CONTROL



Logic Compatibility CMOS or Open collector TTL ref. to -Vin
 Modul ON >+3.5 to 75VDC or Open Circuit
 Module OFF <1.2 Vdc

