

- 3:1 Input Range for railway System
- Efficiency to 91%
- 2.05"x1.2"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.
TPQ40T-110S33	43 – 160 V	3.3 VDC	10 A	10 mA	1555 mA	88	10 mF
TPQ40T-110S05	43 – 160 V	5 VDC	8 A	10 mA	1865 mA	89	8 mF
TPQ40T-110S12	43 – 160 V	12 VDC	3.33 A	10 mA	1840 mA	90	3.3 mF
TPQ40T-110S15	43 – 160 V	15 VDC	2.66 A	10 mA	1840 mA	91	2.7 mF
TPQ40T-110D12	43 – 160 V	± 12VDC	± 1.66 A	10 mA	1865 mA	89	1.6 mF
TPQ40T-110D15	43 – 160 V	± 15VDC	± 1.33 A	10 mA	1865 mA	89	1.3 mF

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

### INPUT SPECIFICATIONS

INPUT VOLTAGE RANGE .....110V ..... 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 –Vin  
 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. 100mVpp.
	Vo = 12V/ 15V .....	max. 150mVpp.
	Vo = 24V/ 28V .....	max. 240mVpp.
	Vo = 48V .....	max. 480mVpp.
Temperature Coefficient .....		±0.02%/C max
Line Regulation .....		±0.2%.
Load Regulation .....	Single .....	±0.5% max
	Dual .....	±1.0% max
External Trim Adj. Range .....		±10%
Short Circuit Protection .....		continuous
Over Voltage Protection .....		Zener or TVS
Current Limit .....		110% - 160% Nominal Output
Start up time .....		15ms typ.

### GENERAL SPECIFICATIONS

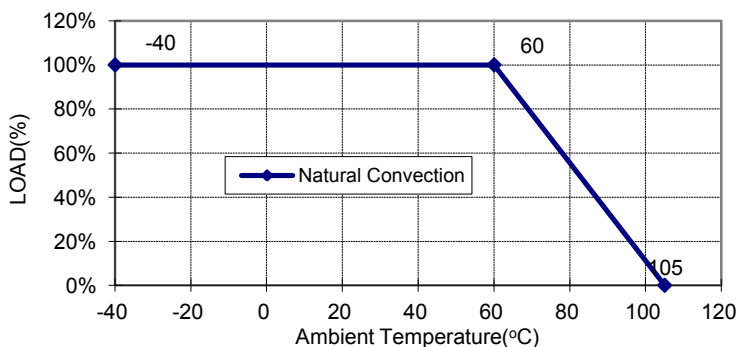
ISOLATION VOLTAGE.....	Input/ Output; Input/Case .....	2250VDC min
	Output/Case .....	1500VDC min
ISOLATION RESISTANCE .....		1000 MOhm
ISOLATION CAPACITANCE .....		1000pF typ.
SWITCHING FREQUENCY .....		270kHz typ.
OPERATING TEMPERATURE RANGE.....		-40°C TO +85°C
DE-RATING ABOVE 60°C .....		Linear to Zero Power at 105°C
THERMAL SHUT DOWN; CASE TEMPERATURE ...note 3) .....		110°C typ.
STORAGE TEMPERATURE RANGE.....		-40°C TO +105°C
EMC .....		meets EN50155 (EN50121-3-2) with external filter
SHOCK/VIBRATION .....		meets EN50155 (EN61373)
CASE MATERIAL .....		Aluminium base plate with plastic case
DIMENSIONS .....		2.05×1,2×0.40 INCHES (52.0 × 30.5 × 10.2mm)

#### NOTE:

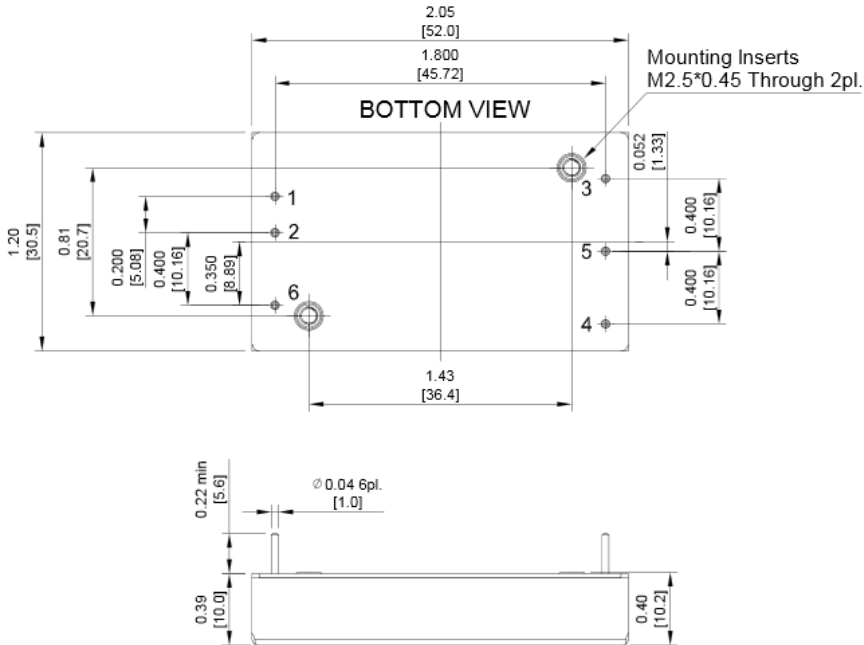
1. LINE REGULATION: Measured From High Line To Low Line
2. LOAD REGULATION: Measured From Full Load To Zero Load
3. Maximum case temperature under any operating conditions should not be exceeded 105°C
4. Suffix "N" to the model number with negative logic remote ON/OFF

### POWER DERATING

Typical Derating curve for Natural Convection

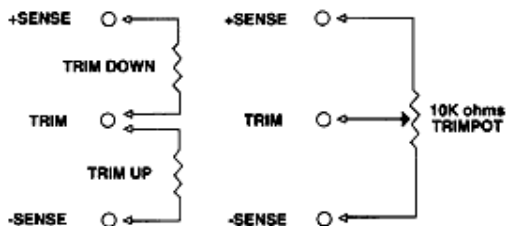


### MECHANICAL SPECIFICATIONS



PIN CONNECTION		
PIN	Single Output	Dual Output
1	+V Input	+V Input
2	-V Input	-V Input
3	+V Output	+V Output
4	Trim	-V Output
5	-V Output	Common
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

