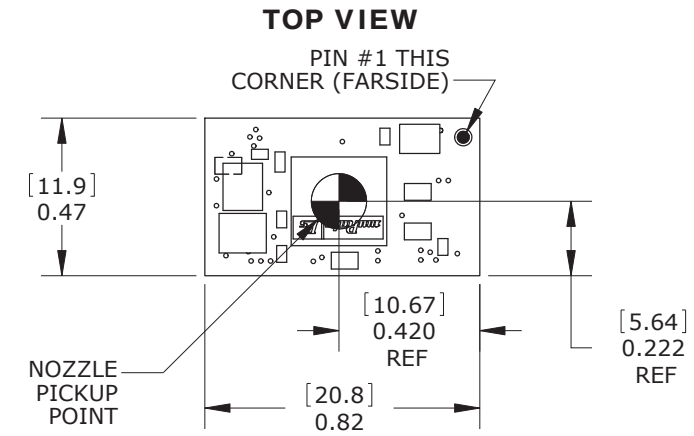
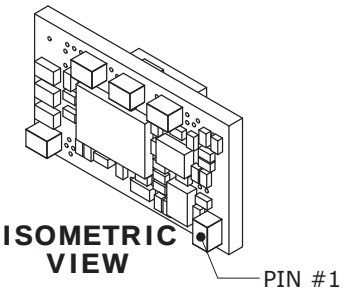
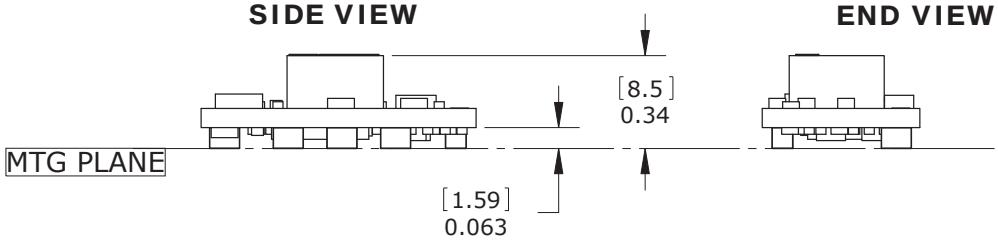
MECHANICAL SPECIFICATIONS



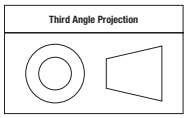




INPUT/OUTPUT CONNECTIONS OKI-T/36W-W40	
Pin	**Function**
1	On/Off Control*
2	+VIN
3	Ground (Common)
4	Trim
5	+VOUT

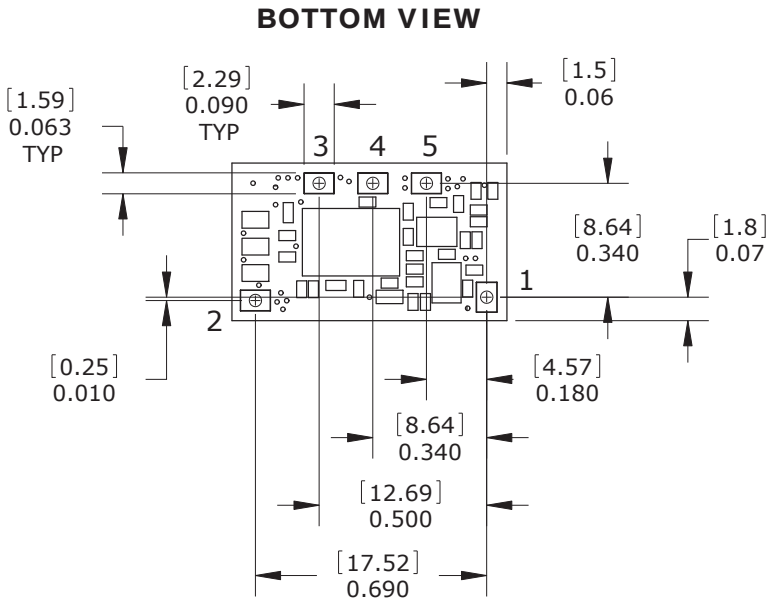
*The Remote On/Off can be provided with either positive (P suffix) or negative (N suffix) polarity

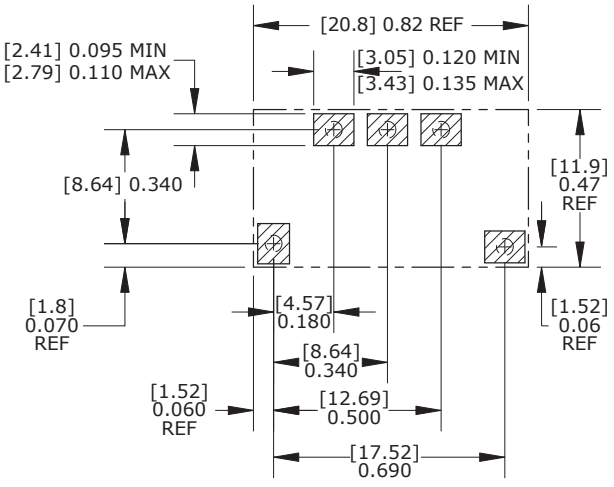
Dimensions are in inches (mm shown for ref. only).



Tolerances (unless otherwise specified):
.XX ± 0.02 (0.5)
.XXX ± 0.010 (0.25)
Angles ± 1°

Components are shown for reference only.





RECOMMENDED PAD LAYOUT

MATERIAL:
SMT PINS: COPPER ALLOY

FINISH: (ALL PINS)
GOLD (5µ"MIN) OVER NICKEL (50µ" MIN)

Figure 2. **OKI-T/36W-W40** Mechanical Outline

Performance and Functional Specifications

See Note 1

Input	
Input Voltage Range	See Ordering Guide.
Isolation	Not isolated
Start-Up Voltage	18.4 V
Undervoltage Shutdown (see Note 15)	17 V min., 18.7V max.
Overvoltage Shutdown	None
Reflected (Back) Ripple Current (Note 2)	20 mA pk-pk
Internal Input Filter Type	Capacitive
Recommended External Fuse	5A fast blow
Reverse Polarity Protection	None. Please install external fuse.
Input Current:	
Full Load Conditions	See Ordering Guide
Inrush Transient	0.4 A2Sec.
Shutdown Mode (Off, UV, OT)	5 mA
Output in Short Circuit	60 mA
Low Line (Vin=Vmin)	2.0A. (Vout = 15V)
Remote On/Off Control (Note 5)	
Negative Logic ("N" model suffix)	ON = -0.3V to +1.2V OFF = (Vin -2.5V) to 40V or open
Current	1 mA max.
Positive Logic ("P" model suffix)	ON = Open pin (internally pulled up) or = (Vin -2.5V) to 40V or open OFF = -0.3V to +1.2V
Current	1 mA max.

Output	
Output Power	36W max.
Minimum Loading	No minimum load
Accuracy (50% load, untrimmed)	±2 % of Vset
Voltage Output Range (Note 13)	See Ordering Guide
Overvoltage Protection (Note 16)	None
Temperature Coefficient	±0.02% per °C of Vout range
Ripple/Noise (20 MHz bandwidth)	See Ordering Guide and note 8
Line/Load Regulation	See Ordering Guide and note 10
Efficiency	See Ordering Guide
Maximum Capacitive Loading (Note 14)	
Cap-ESR=0.001 to 0.01 Ohms	1,000 µF
Cap-ESR >0.01 Ohms	3,000 µF (min. cap. load 0 µF)
Current Limit Inception (Note 6)	
(98% of Vout setting, after warm up)	4.5 Amps
Short Circuit Mode	
Short Circuit Current Output	0.0 A
Protection Method	Hiccup autorecovery upon overload removal. (Note 17)
Short Circuit Duration	Continuous, no damage (output shorted to ground)
Prebias Startup	Converter will start up if the external output voltage is less than Vnominal.

Dynamic Characteristics	
Dynamic Load Response (50-100 load step, di/dt=1A/µSec, 5 Vout, Cout = 1&10µF ceramic)	TBDµSec max. to within ±2% of final value
Start-Up Time (Vin on or On/Off to Vout regulated)	8 mSec for Vout=nominal (Vin On) 8 mSec for Vout=nominal (Remote On/Off)
Switching Frequency	300 KHz

Environmental	
Calculated MTBF Telecordia method (4a)	TBD
Calculated MTBF MIL-HDBK-217N2 method (4b)	TBD
Operating Temperature Range (Ambient) See derating curves	-40 to +85 ˚C. with derating (Note 9)
Operating PC Board Temperature	-40 to +100 ˚Celsius max., no derating (12)
Storage Temperature Range	-55 to +125 deg. C.
Thermal Protection/Shutdown	+130 ˚Celsius
Relative Humidity	to 85%/+85 ˚C., non-condensing

Physical	
Outline Dimensions	See Mechanical Specifications
Weight	0.072 ounces (2.04 grams)
Safety	Meets UL/cUL 60950-1, CSA-C22.2 No. 60950-1, IEC/EN 60950-1
Restriction of Hazardous Substances	RoHS-6 (does not claim EU RoHS exemption 7b–lead in solder)
MSL Rating	2

Absolute Maximum Ratings	
Input Voltage (Continuous or transient) On/Off Control	0 V.to +40 Volts max. 0 V. min. to +Vin max.
Input Reverse Polarity Protection	None. Install external fuse.
Output Current (Note 7)	Current-limited. Devices can withstand a sustained short circuit without damage. The outputs are not intended to accept appreciable reverse current.
Storage Temperature	-55 to +125 ˚C.
Lead Temperature	See soldering specifications

Absolute maximums are stress ratings. Exposure of devices to greater than any of any of these conditions may adversely affect long-term reliability. Proper operation under conditions other than those listed in the Performance/Functional Specifications Table is not implied nor recommended.

Specification Notes:

(1) Specifications are typical at +25 °C, Vin=nominal (+24V.), Vout=nominal (+12V), full load, external caps and natural convection unless otherwise indicated. Extended tests at full power must supply substantial forced airflow.

All models are tested and specified with external 1 µF paralleled with 10µF ceramic/tantalum output capacitors and a 22 µF external input capacitor. All capacitors are low ESR types. These capacitors are necessary to accommodate our test equipment and may not be required to achieve specified performance in your applications. However, Murata Power Solutions recommends installation of these capacitors. All models are stable and regulate within spec under no-load conditions.

(2) Input Back Ripple Current is tested and specified over a 5 Hz to 20 MHz bandwidth. Input filtering is Cin=2 x 100 µF tantalum, Cbus=1000 µF electrolytic, Lbus=1 µH.

(3) Note that Maximum Power Derating curves indicate an average current at nominal input voltage. At higher temperatures and/or lower airflow, the DC/DC converter will tolerate brief full current outputs if the total RMS current over time does not exceed the Derating curve.

(4a) Mean Time Before Failure is calculated using the Telcordia (Belcore) SR-332 Method 1, Case 3, ground fixed conditions, Tpcboard=+25 ˚C, full output load, natural air convection.

(4b) Mean Time Before Failure is calculated using the MIL-HDBK-217N2 method, ground benign, +25ºC., full output load, natural convection.