



## **MINA PLANAR MAGNETIC**

### **T-48-3.3-5-20-15-83W-FC**

**SINGLE ENDED FORWARD TRANSFORMER TOPOLOGY**

**NOMINAL INPUT VOLTAGE 48 VOLTS**

**DUAL OUTPUT NOMINAL OUTPUT-1 VOLTAGE 3.3 VOLTS/20 AMPS**

**NOMINAL OUTPUT-2 VOLTAGE 5 VOLTS/15 AMPS**

### **PLANAR TRANSFORMER SPECIFICATION**

One of the most significant components that goes into a power supply is the power transformer, Mina can provide you with our unique planar magnetic for your next design or retrofit your existing product with our planar transformer and inductor. With our fifteen years of research and development using new material we can produce new planar constructions thereby producing a highly efficient planar transformer that is lower in cost compared to conventional wire or copper wound transformers across all switch mode power conversion topology and power levels. These planar transformers are available for all switch mode topologies and they provide shielding to minimize or eliminate radiated EMI and RFI. They are suitable for Zero Voltage Switching (ZVS), Zero Current Switching (ZCS) or hard switching application. This is a Single ended Forward topology planar transformer. If pins 6-9 are shorted and connected to chassis ground, radiated EMI will be minimized or eliminated. They are suitable for Zero Voltage Switching (ZVS), Zero Current Switching (ZCS) or hard switching application. They also meet military, aerospace, industrial and telecommunication applications requirements. If you do not find a transformer suitable for your applications, we will be glad to provide customer one. Please let us know what you want by either sending us e-mail or completing the form on our website "What I Want". We will respond immediately.

#### **ELECTRICAL SPECIFICATION<sup>1</sup>**

PARAMETER	UNITS
Input Voltage Range	48 – 76 VDC
Input Current Peak To Peak	8.5 Amps Maximum (Low Line) <sup>2</sup>
Input Current Average (RMS)	5.6 Amps Maximum (Low Line) <sup>2</sup>
Nominal Output Voltage-1	3.3 Volts
Nominal Output Voltage-2	5 Volts
Output-1 Current	20 Amps Maximum
Output-2 Current	15 Amps Maximum
Primary Turns	6 Turns
Secondary-1 Turn	1 Turn
Secondary-2 Turn	1 Turn
Auxiliary output voltage	15 Volts
Auxiliary turns	4 Turns
Flux Density Peak to Peak	112 mT Maximum
Switching Frequency	300 kHz Minimum
Maximum Duty Cycle	45.0 %
Maximum Temperature Rise Hot Spot	10 <sup>0</sup> C
Efficiency At Maximum Power	99.5%
Isolation Voltage Primary to Core	1500 VDC
Isolation Voltage Primary to Secondary	2500 VDC
Isolation Voltage Secondary To Core	1500 VDC
Primary DC Resistance	0.01Ω
Secondary DC Resistance	0.02 Ω

**1. See 100 W Class Mechanical Specification And Electrical Winding Orientation Data Sheet**

**2. Assumes Converter efficiency is 80%**