MTS8D1 Series, 1 Watt, Dual Output

Features:

- SIP8 Package
- Regulated Output
- 2:1 Input Range
- I/O-Isolation 1000VDC
- -40…+80°C Operating Temperature Range
- Lead free Design, RoHS compliant
- Available Outputs: 3.3, 5, 9, 12, 15, 24VDC

Electrical specifications

(All specifications are typical at Ta=25°C, nominal input voltage and full load unless otherwise specified)

Input Specifications:	
Input Voltage Range	4.5-9, 9-18, 18-36, 36-72 VDC
Filter	Capacitor type

Output Specifications:	
Voltage Accuracy	±2% typ.
Ripple and Noise (at 20 MHz BW)	100mVp-p max.
Short Circuit Protection	Continuous, auto restart
Line Voltage Regulation	±0.2%
Load Voltage Regulation	±0.5%, load=10~100%
Temperature Coefficient	±0.02% / °C

General Specifications:	
Efficiency	Refer to the table
Switching Frequency	75kHz typ.
Input/Output Isolation Voltage	1000VDC
Input/Output Isolation Capacity	70 pF
Input/Output Isolation Resistanse	≥ 1000 MΩ
Reliability Calculated MTBF	> 1,000,000 hrs

Environmental Specifications:	
Operating Temperature (Ambient)	-40…+80°C
Case Temperature	+100°C max.
Storage Temperature	-55…+125°C
Derating	None Required
Humidity	Up to 90%, non-condensing
Cooling	Free-air convection

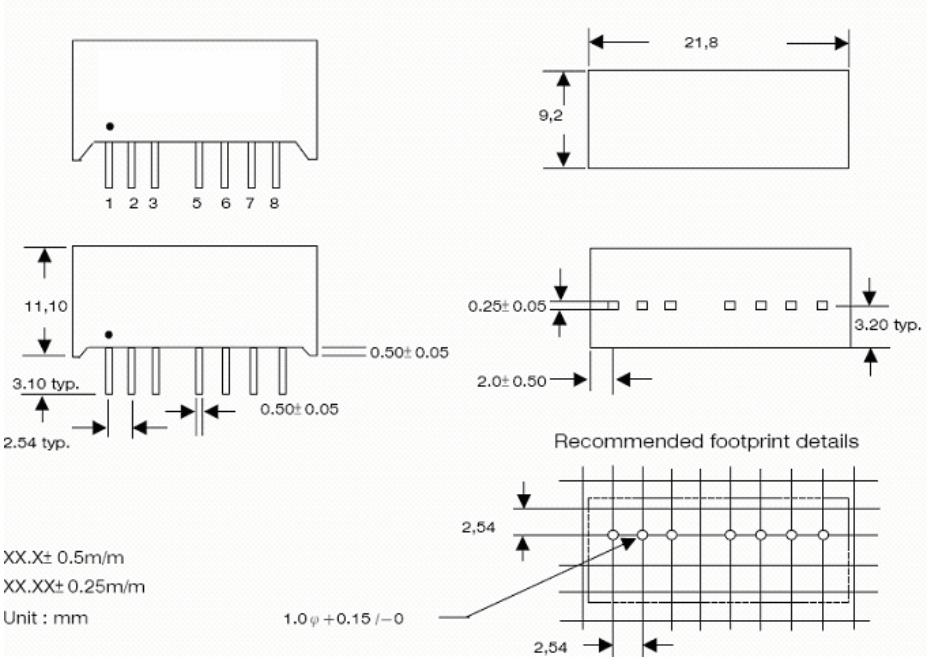
Physical Specifications:	
Dimensions	21.8x9.2x11.1mm
Case material	Non-conductive black plastic

Specifications are subject to change without notice.

Model Selection Guide

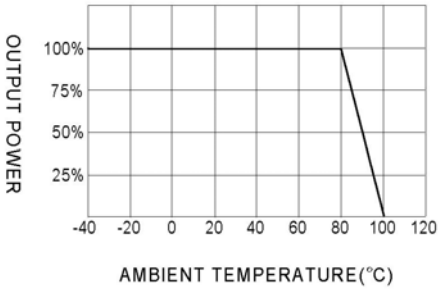
Models	INPUT VOLTAGE (VDC)	INPUT CURRENT NO LOAD (mA)	INPUT CURRENT FULL LOAD (mA)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (max.mA)	EFFICIENCY FULL LOAD (% TYP.)
MTS8D1-053.3	4.5-9	24	243	±3,3	±152	68
MTS8D1-0505		23	236	±5	±100	70
MTS8D1-0509		23	232	±9	±55	71
MTS8D1-0512		23	229	±12	±42	72
MTS8D1-0515		22	229	±15	±33	72
MTS8D1-0524		23	229	±24	±21	72
MTS8D1-123.3	9-18	24	236	±3,3	±152	70
MTS8D1-1205		12	113	±5	±100	73
MTS8D1-1209		12	111	±9	±55	74
MTS8D1-1212		11	110	±12	±42	75
MTS8D1-1215		11	110	±15	±33	76
MTS8D1-1224		12	111	±24	±21	75
MTS8D1-243.3	18-36	7	58	±3,3	±152	71
MTS8D1-2405		7	57	±5	±100	72
MTS8D1-2409		7	56	±9	±55	74
MTS8D1-2412		7	55	±12	±42	75
MTS8D1-2415		7	55	±15	±33	75
MTS8D1-2424		7	56	±24	±21	73
MTS8D1-483.3	36-72	3	29	±3,3	±152	72
MTS8D1-4805		4	28	±5	±100	73
MTS8D1-4809		4	28	±9	±55	74
MTS8D1-4812		4	27	±12	±42	76
MTS8D1-4815		4	27	±15	±33	76
MTS8D1-4824		4	28	±24	±21	75

Outline Dimensions and Pin Connections



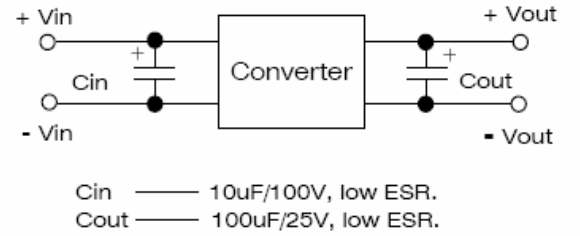
Pin Connections	
Pin Number	Single
1	-Vin
2	+Vin
3	Remote Ctrl
4	Omitted
5	NE
6	+Vout
7	-Vout
8	Common

Temperature Derating Graph



Application notes:

1. These converters will work without external capacitors but they are necessary in order to guarantee the full line load range. All parts have been tested using following recommended values.



2. Pin 3 is the outside control connection. This pin provides the converter ON/OFF. Output starts at low or open and stops when high. Voltage applied via a limiting resistor and switching diode. The converter is in a low power mode during the high level phase.

   Connection example

3. Pin 5 belongs to the secondary side. It just avoid s someone to reverses the primary and secondary.

4. Pin 8 (CS) provides a connection point to the main reservoir capacitor. Additional capacitance can be added from this to Pin 7. Any low ESR capacitor will improve ripple and noise in some measure. Starting values can be in the ranges of 100μF.