

MTF50



- Wide Input Voltage Range 10–50 VDC
- Active Surge Protection
- Max Output Power 50 W
- Wide Temperature Range –55 °C to 100 °C
- MIL–STD–461 and DEF–STAN 59–411
- MIL–STD–1275 and DEF–STAN 61–5
- 3 Year Warranty

Specification

Input

- | | |
|---------------------|---|
| Input Voltage Range | • 15.5–40VDC |
| Input Transient | • 10–50 V for 10 s
600 V for 10 μ s 50 Ω source resistance per MIL-STD-704A, 100 V for 50 ms 0.5 Ω source resistance per MIL-STD-1275A, \pm 250 V for 100 μ s as per MIL-STD-1275A |

Output

- | | |
|----------------|---|
| Output Voltage | • Clamped <50 VDC |
| Output Power | • 50 W maximum |
| Inhibit | • Off = TTL Low or short circuit
On = TTL High or open circuit |

General

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|-----------------------------|--|
| Efficiency | • 97% typical |
| Resistance | • 0.25 Ω input to output
<0.1 Ω case to case pin at 10A |
| Inhibited Power Dissipation | • 0.1 W |
| Inrush Current | • 25 A at 28 Vin |
| Fusing | • External fusing required |
| MTBF | • 846 kHrs to MIL-HDBK-217F at +40 °C, GF |

Environmental

- | | |
|-----------------------|--|
| Operating Temperature | • –40 °C to +85 °C ambient
–40 °C to +100 °C case
Extended Temperature Range: (option -LT)
–55 °C to +85 °C ambient
–55 °C to +100 °C case |
| Storage Temperature | • –55 °C to +125 °C |
| Operating Altitude | • Tested to 70000 ft (21336 m) |
| Operating Humidity | • 88% relative humidity
240h MIL-STD-810D Method 507.2 |
| Shock | • 100 g MIL-STD-810D Method 516.3 |
| Vibration | • 5 to 500 Hz MIL-STD-810D Method 514.3 |
| Bump | • 2000 Bumps in each axis
40 g MIL-STD-810D Method 516.3 |
| Salt Atmosphere | • 48 hours MIL-STD-810E Method 509.1 |

EMC

- | | |
|--------------------------|--|
| Conducted Emissions | • EN55022 conducted level B.
MIL-STD-461E/F/G, CE101 & CE102
DEF-STAN 59-411 DCE01/DCE02 |
| Immunity | • MIL-STD-704E, MIL-STD 704A & MIL-STD-1275A-E
DEF-STAN 61-5 part 6 issue 5 |
| Conducted Susceptibility | • MIL-STD-461E/F/G, CS101, CS114, CS115 & CS116 |

Safety

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|------------------|---|
| Safety Approvals | • CE & UKCA meets all applicable directives & legislation |
|------------------|---|

EMC standards are met when used in conjunction with the MTC series of DC/DC converters

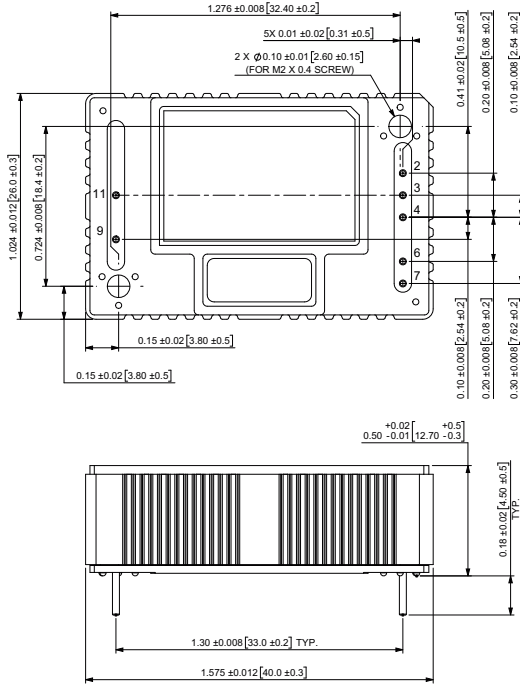
Models & Ratings

Output Voltage	Input Voltage	Efficiency	Model Number
50VDC max	15.5-40VDC	97%	MTF50

Notes

1. Add suffix '-LT' to the part number for extended temperature range version (-55 °C).
2. Add suffix '-ESS' to the part number for extended environmental stress screening.

Mechanical Details



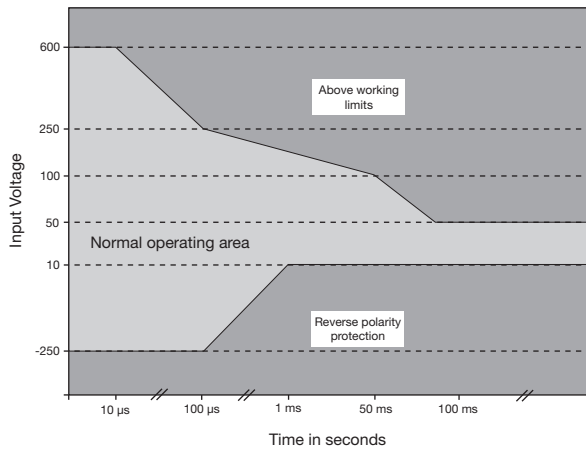
Pin	Function
1	No Pin
2	Case
3	Y-cap
4	-Vin
5	No Pin
6	+Vin
7	INH
8	No Pin
9	+Vout
10	No Pin
11	-Vout
12	No Pin
13	No Pin
14	No Pin

Notes

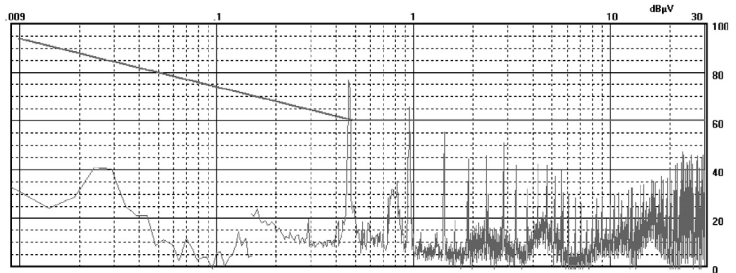
1. Dimensions are in inches (mm)
2. Tolerance: ±0.02 (±0.5) except where indicated
3. Weight: 0.06 lbs (25 g)
4. Materials & Finish:
 - Pin - Diameter: 0.032 (0.8)
Material: Cu Zn30 2.5 µm Ni
Finish: 0.2-0.5 µm AU (HV 170-200)
 - Mounting Hole - Diameter: 0.102 (2.6)
 - Case - Material: Aluminium (Al Mg Si 0.5)
Finish: Chromated
 - Nameplate - Non-conductive plastic

Application Notes

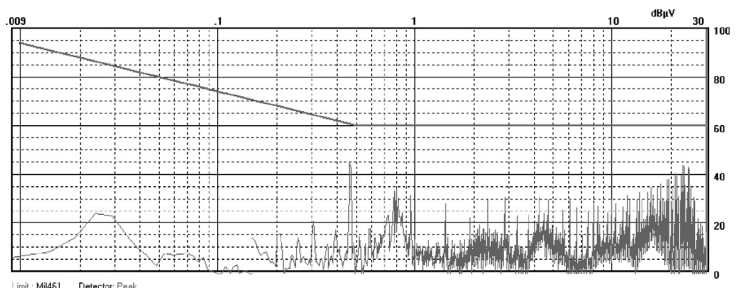
Safe Operating Area



Conducted Emissions



MTC0528S12 without MTF50 filter



MTC0528S12 with MTF50 filter

EMC Connection Diagram

