

100 Vdc, 10 and 20 Amps, Differential/Common-Mode Filters



#### FEATURES

- Industry standard footprint (2"X 1", 2"X 1.6")
- 10 Amps and 20 Amps Filter Module
- PCB Mountable
- Provides both Differential and Common-Mode filtering
- 75VDC Input Voltage Maximum
- Suitable for use with Quarter-Brick and Half-Brick Series
- Designed to meet CE Mark 2004 certification

#### **PRODUCT OVERVIEW**

The FT series of EMI filters from DATEL significantly reduces both the common-mode and differential emissions injected back to the power source. These filters are offered in standard 2.00 x 1.00 x 0.46 and 2.00 x 1.60 x 0.50 inches packages. The FT10-100 filter is rated for 10 A of output current while the FT20-100 is rated for 20 A of output current. This FT series features 1500 Volts of DC isolation and operate over the case temperature range of  $-40^{\circ}$ C to  $+100^{\circ}$ C. These filters are suitable for use with Quarter-Brick and Half-Brick Series.

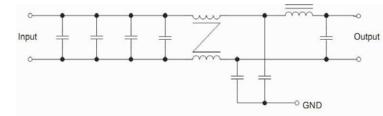
#### **APPLICATIONS:**

- Distributed Power Architectures
- Mobile telecommunication
- Industrial applications
- Battery operated equipment

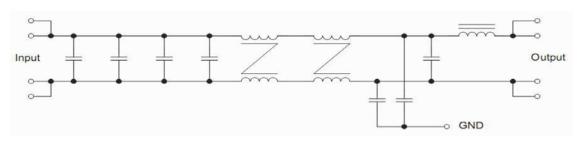
Contact DATEL for other series as well as other customizable options.

MODEL NUMBER	INPUT VOLTAGE MAXIMUM	INPUT SURGE VOLTAGE	OUTPUT RATED CURRENT MAXIMUM	DC RESISTANCE (+ Vin to + Vo)	DC RESISTANCE (- Vin to - Vo)
FT10-100	75 VDC	100 VDC	10 A	11.5 m Ω	4.5 m Ω
FT20-100	75 VDC	100 VDC	20 A	9.5 m Ω	5.7 m Ω

#### FUNCTIONAL BLOCK DIAGRAM



#### Figure 1 Internal Schematic for FT10-100 Module



#### Figure 2 Internal Schematic for FT20-100 Module



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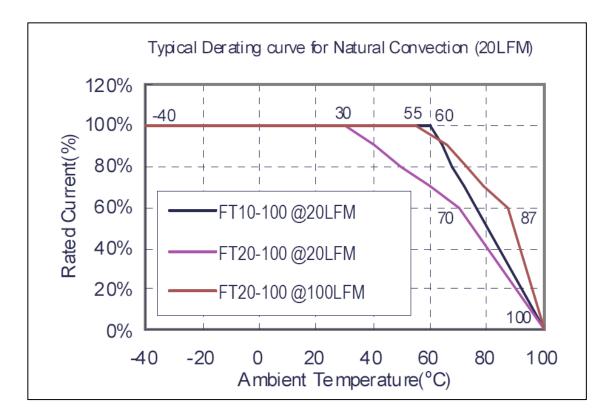
#### **ABSOLUTE MAXIMUM RATINGS**

Parameters	Conditions	Model	Min.	Typical	Max.	Units
Input Voltage						
Continuous	DC	All	0		75	Volts
Operating Case Temperature		All	-40		+100	°C
Storage Temperature		All	-55		+105	°C

#### **INPUT CHARACTERISTICS**

Note: All specifications are typical at nominal input, full load at 25°C unless otherwise noted

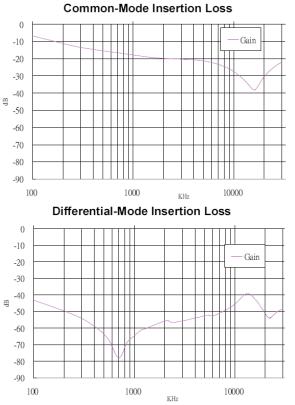
Parameters	Conditions	Model	Min.	Typical	Max.	Units
Operating Input Voltage		All			75	Volts
Input Surge Current		All		100		Vdc/100ms
Input / GND Isolation Voltage	1 minute, DC	All	1500			Volts
Output / GND Isolation Voltage	1 minute, DC	All	500			Volts
Isolation Resistance			10			MΩ
Case Materials		F	Plastic Case with Epoxy Potting			
Weight		FT10-100		30		grams
Weight		FT20-100		55		





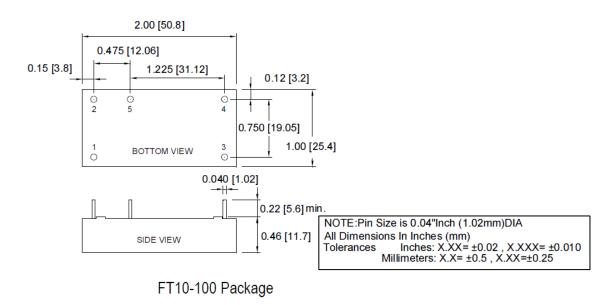
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### COMMON-MODE/DIFFERENTIAL-MODE



Typical Common-mode and Differential-mode Loss for FT10-100

### MECHANICAL DIMENSIONS Inches (mm)



DATEL, Inc. 120 Forbes Boulevard, Suite 125, Mansfield MA 02048 USA • Tel (503)964-5131 • www.datel.com • e-mail:help@datel.com

1000

1000

Typical Common-mode and Differential-mode Loss for FT20-100

**Differential-Mode Insertion Loss** 

KH2

KHz

Gain

V

10000

10000

Gain

0

-10

-20

-30 -40

-50

-60 -70

-80

0

-10

-20

-30

-40

-50

-60

-70

-80

-90

100

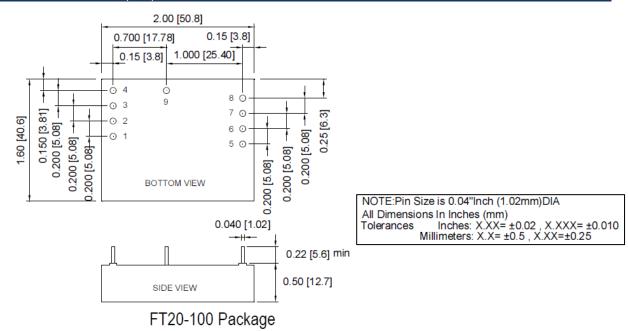
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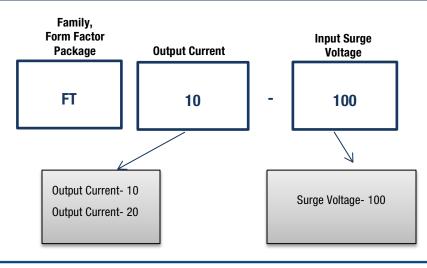
#### MECHANICAL DIMENSIONS Inches (mm)



#### **PIN CONNECTIONS**

PIN CONNECT	IONS FT10-100	PIN CONNECTIONS FT20-100		
PIN	FUNCTION	PIN	FUNCTION	
1	+ V Input	1,2	+ V Input	
2	- V Input	3,4	- V Input	
3	+ V Output	5,6	+ V Output	
4	- V Output	7,8	- V Output	
5	GND	9	GND	

#### PART NUMBER AND ORDERING INFORMATION



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