EMI INPUT FILTER 28 VOLT INPUT

STF28-461 EMI FILTER 0.8 AMP

FEATURES

- **Fully qualified to Class H or K**
- **Passive components for maximum tolerance in space environments**
- **–55° to +125°C operation**
- 28 volt input
- Up to 0.8 amps throughput current
- 50 dB minimum attenuation at 500 kHz
- Compliant to MIL-STD-461C, CE03
- Compatible with MIL-STD-704E DC power bus

MODEL	
STF28-461	0.8 amp

Size (max.): 0.975 x 0.800 x 0.270 (24.77 x 20.32 x 6.86 mm)
See Section B8, cases A1, for dimensions.
Weight: 10.3 grams typical, 11.5 grams maximum
Screening: Standard, Class H, or Class K (MIL-PRF-38534)
See Section C2 for screening options, see Section A5 for ordering information.

DESCRIPTION

The STF28-461™ EMI filter module has been designed as a companion for Interpoint SMSA flyback power converters. Multiple SMSA power converters can be operated from a single filter provided the total power line current does not exceed the filter maximum rating. The STF filter will reduce the SMSA's power line reflected ripple current to within the limit of MIL-STD-461C, Method CE03, as shown in the example of Figures 4 and 5.

The STF filter is fabricated using thick film hybrid technology and is sealed in a metal package for space, military, aerospace and other applications requiring EMI suppression.

SCREENING AND REPORTS

The STF28-461 filter offers three screening options – Standard, Class H, or Class K. See Section C2, Quality Assurance, pages C2-7 through C2-9, for descriptions. Detailed reports on product performance are also available and are listed on page C2-9.

OPERATION

The SMSA power converter has an internal capacitor across its input power terminals. When the SMSA and STF filters are used together, this capacitor becomes part of the filter and forms its final LC output section.

The STF filter provides both differential and common mode rejection bringing DC/DC converters into compliance with MIL-STD-461C CE03. It is designed to be used with the SMSA, SMHF, and MCH Series of converters. The STF filter can be used with multiple converters up to the rated current of the filter.

For more information, contact your Interpoint representative listed in Section A5.

CRANE

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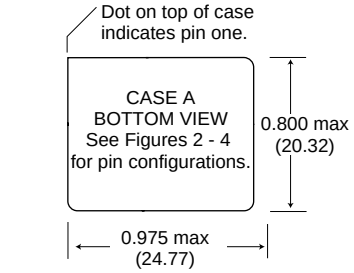
CASE A



Materials

Header	Kovar/Nickel/Gold (Case A3, Kovar/Nickel)
Cover	Kovar/Nickel
Pins	Kovar/Nickel/Gold, matched glass seal

Case dimensions in inches (mm)

Tolerance ±0.005 (0.13) for three decimal places
±0.01 (0.3) for two decimal places
unless otherwise specified

CAUTION

Heat from reflow or wave soldering may damage the device. Solder pins individually with heat application not exceeding 300°C for 10 seconds per pin.

FIGURE 1: CASE A MAXIMUM DIMENSIONS

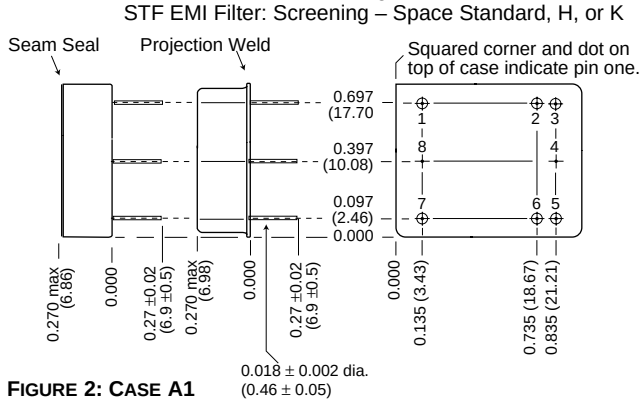


FIGURE 2: CASE A1

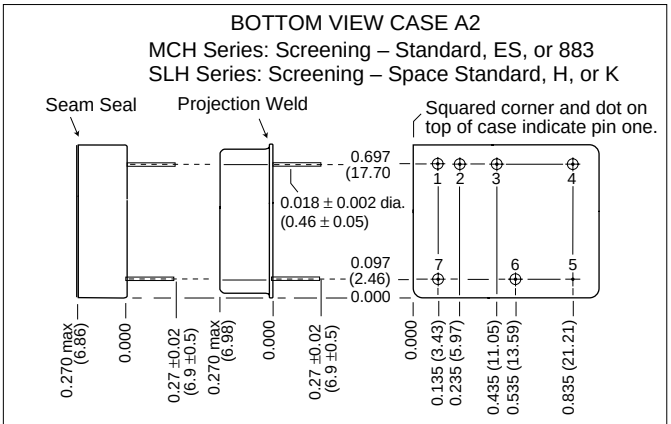


FIGURE 3: CASE A2

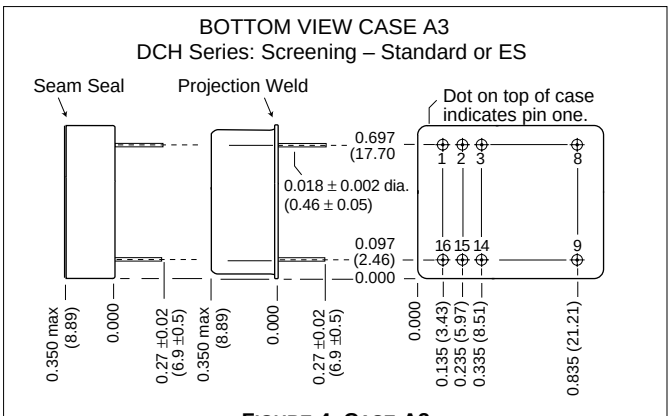


FIGURE 4: CASE A3

Note: Although every effort has been made to render the case drawings at actual size, variations in the printing process may cause some distortion. Please refer to the numerical dimensions for accuracy.

SPACE PRODUCTS

ELEMENT EVALUATION TEST PERFORMED (COMPONENT LEVEL)	STANDARD (O)		CLASS H		CLASS K	
	M/S	P	M/S	P	M/S	P
Element Electrical	yes	no	yes	yes	yes	yes
Element Visual	no	no	yes	yes	yes	yes
Internal Visual	no	no	yes	no	yes	no
Temperature Cycling	no	no	no	no	yes	yes
Constant Acceleration	no	no	no	no	yes	yes
Interim Electrical	no	no	no	no	yes	no
Burn-in	no	no	no	no	yes	no
Post Burn-in Electrical	no	no	no	no	yes	no
Steady State Life	no	no	no	no	yes	no
Voltage Conditioning /Aging	no	no	no	no	no	yes
Visual Inspection	no	no	no	no	no	yes
Final Electrical	no	no	yes	yes	yes	yes
Wire Bond Evaluation*	no	no	yes	yes	yes	yes
SEM	no	no	no	no	yes	no
SLAM™/C-SAM: Input capacitors only (Add'l test, not req. by H or K)	no	no	no	yes	no	yes

Notes
- M/S Active components (Microcircuit and Semiconductor Die)
- P Passive components
- * Not applicable to EMI filters that have no wirebonds

Definitions
Element Evaluation: Component testing/screening per MIL-STD-883 as determined by MIL-PRF-38534
SEM: Scanning Electron Microscopy
SLAM™: Scanning Laser Acoustic Microscopy
C-SAM: C - Mode Scanning Acoustic Microscopy

Applies to the following products:

SMFLHP Series
SMFL Series
SMHP Series (O&H only)
SMTR Series
SSP Series
SMHF Series
SMSA Series
SLH Series
SLIM Module
SFME120 EMI Filter
SFME28 EMI Filter
SFCS EMI Filter
SFMC EMI Filter
STF EMI Filter

QA SCREENING
SPACE PRODUCTS

ENVIRONMENTAL SCREENING TEST PERFORMED (END ITEM LEVEL)	STANDARD (O)	CLASS H	CLASS K
Non-destruct bond pull* Method 2023	no	no	yes
Pre-cap inspection Method 2017, 2032	yes	yes	yes
Temperature cycle Method 1010, Cond. C	yes	yes	yes
Constant acceleration Method 2001, 3000 g	yes	yes	yes
PIND Test Method 2020, Cond. B	no	no	yes
Radiography Method 2012	no	no	yes
Pre burn-in test	yes	yes	yes
Burn-in, Method 1015, 125°C			
96 hours	yes	no	no
160 hours	no	yes	no
2 x 160 hour (includes mid BI test)	no	no	yes
Final electrical test MIL-PRF-38534, Group A	yes	yes	yes
Hermeticity test			
Fine Leak, Method 1014, Cond. A	yes	yes	yes
Gross Leak, Method 1014, Cond. C	yes	yes	yes
Final visual inspection Method 2009	yes	yes	yes

Test methods are referenced to MIL-STD-883 as determined by MIL-PRF-38534.

Note
* Not applicable to EMI filters that have no wirebonds.

Applies to the following products:

SMFLHP Series	SMHF Series	SFME28 EMI Filter
SMFL Series	SMSA Series	SFCS EMI Filter
SMHP Series (O&H only)	SLH Series	SFMC EMI Filter
SMTR Series	SLIM Module	STF EMI Filter
SSP Series	SFME120 EMI Filter	