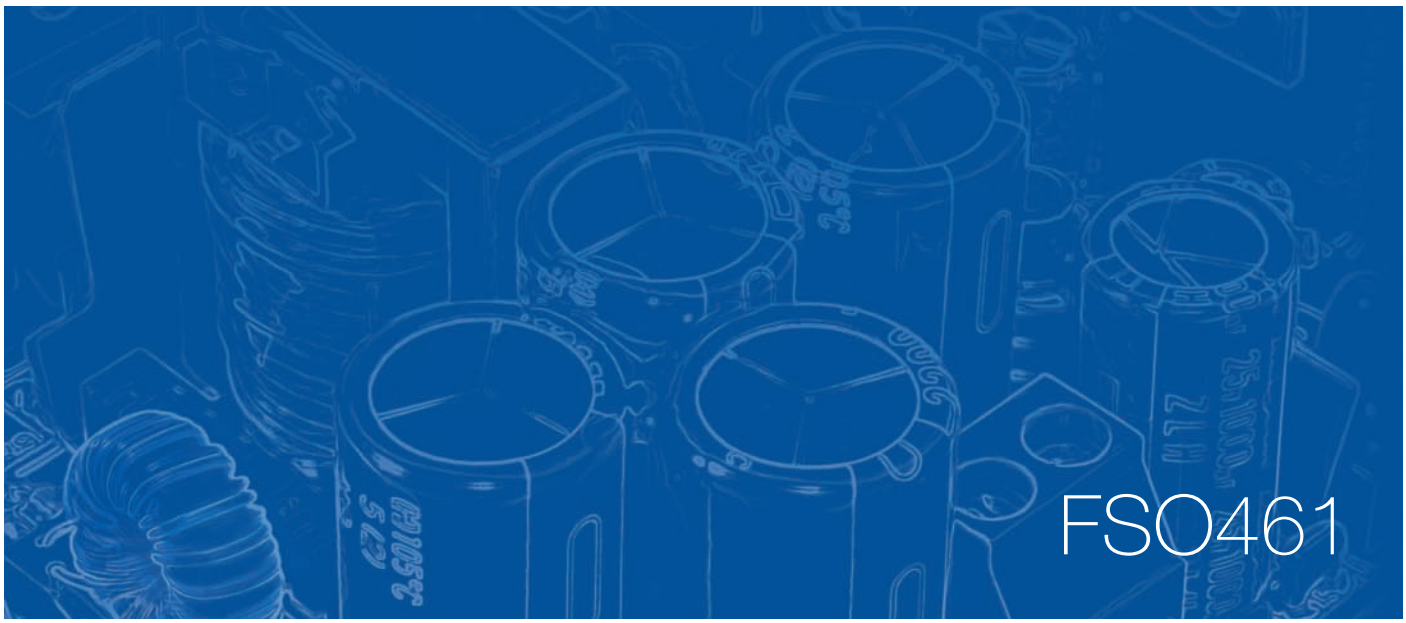


FSO461



- MIL-STD-461E Conducted Noise
- 28 A Output Current
- MIL-STD-1275 Transients (With DSF500)
- Up to 99% Efficiency
- -40 °C to +100 °C Operating Temperature
- MIL-STD-810F Shock & Vibration

Packaged in a compact half brick format the FSO461 EMC filter enables industrial grade DC-DC converters to be used in military COTS vetronic electrical environments by providing compliance with defence emissions standards such as MIL-STD-461E.

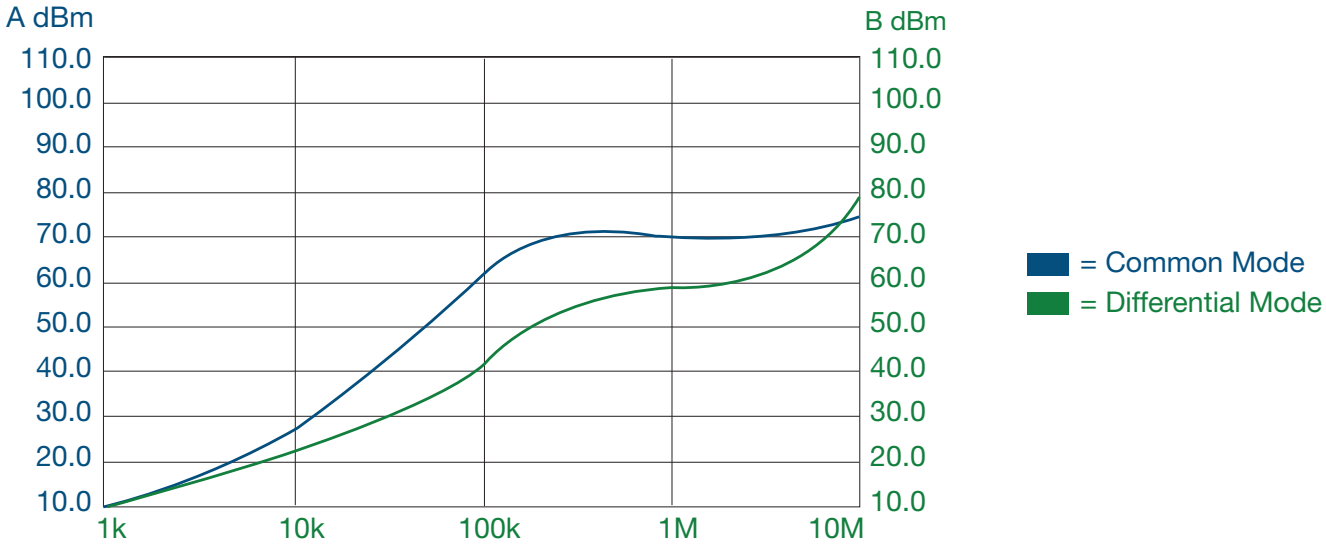
Encapsulated with thermally conductive compound the baseplate cooled FSO461 has a current capability of up to 28 A and when used in conjuction with a DSF500 meets the stringent surge requirements of MIL-STD-1275.

Input Characteristics

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Input Voltage - Operating	0	28	100	VDC	
Fusing					None fitted. External slow blow fuse or MCB recommended

Output Characteristics

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Output Voltage			100	VDC	Tracks input voltage, Vin = Iin x 0.013
Output Current			28	A	
Insertion Loss				dB	See fig 1



General Specifications

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Efficiency	94	97	99	%	
Isolation Voltage			500	VDC	Input and output to case
Series Resistance		0.013		Ω	
MTBF		8737		kHrs	MIL-STD 217F 40 ºC GB
Packaging Style	Photo-etched nickel-silver case with RoHS compliant conductive chromate finish and aluminium baseplate				
Weight		0.29 (130)		lbs (g)	

Environmental

Characteristic	Minimum	Typical	Maximum	Units	Notes & Conditions
Operating Temperature	-40		+100	ºC	Baseplate temperature
Storage Temperature	-55		+100	ºC	Ambient temperature
Salt Atmosphere			48		MIL-STD-810F. section 509.4
Shock					MIL-STD-810F section 516.5-5 Procedure 1
Vibration					MIL-STD-810F section 514.5C-17

Electromagnetic Compatibility (when used with specified DC-DC converters)

Standard	Test Level	Criteria	Notes & Conditions
MIL-STD-461E	CE102		With external components. See Apps Note.
DEF-STAN-59-54	DCE01 & 02		

Immunity

Standard	Test Level	Criteria	Notes & Conditions
MIL-STD-1275A/B/C/D			
DEF-STAN 61-5	Pt 6		
MIL-STD-704A	600 V input transient	Applied for 10 µs 50 Ω source impedance	

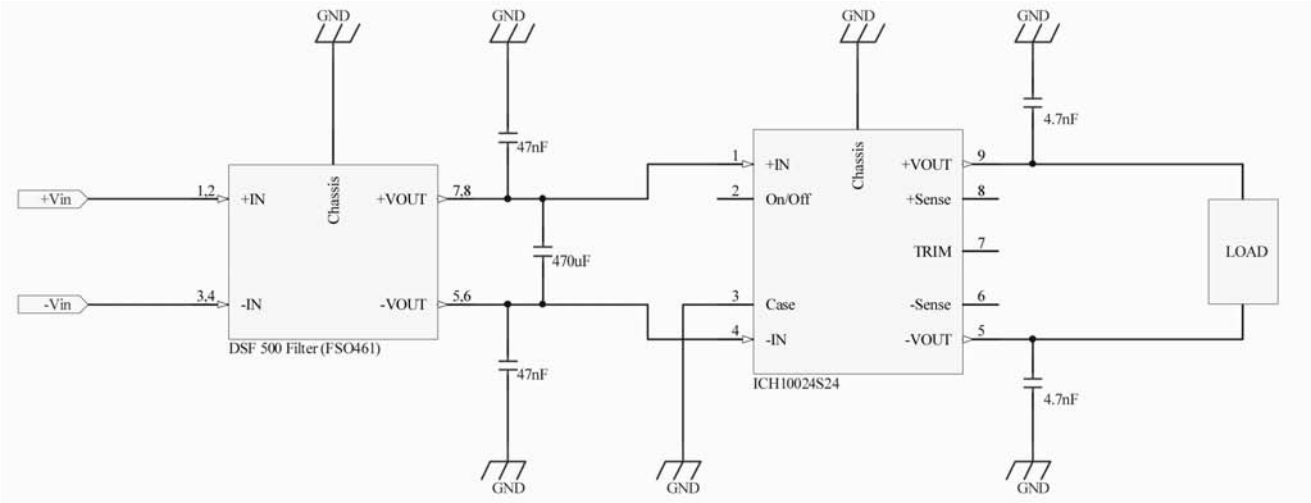
Safety Agency Approvals

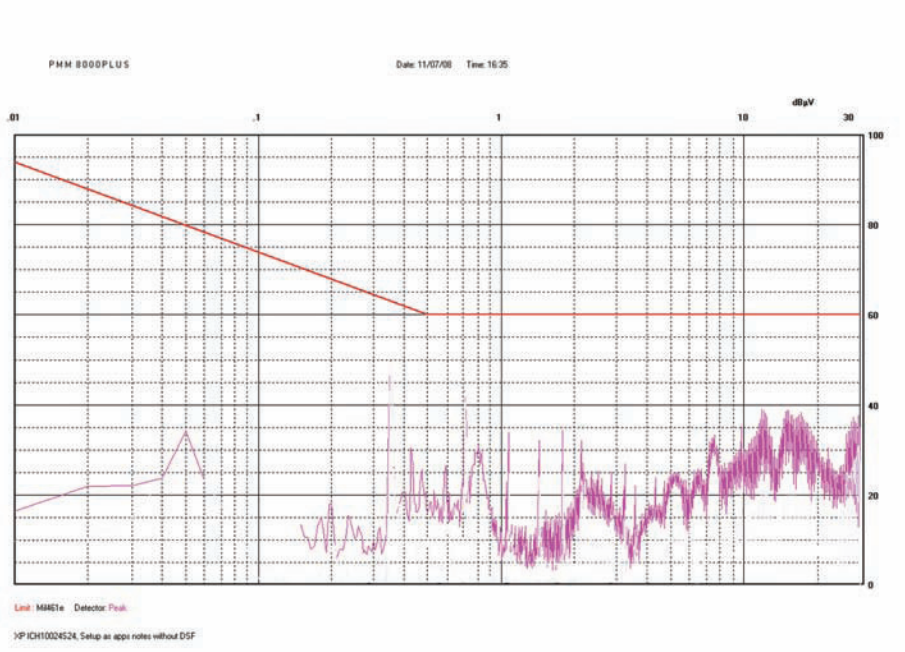
Standard	Safety Standard	Category
CE	Low Voltage Directive (LVD)	Low Voltage Directive

Application Notes

MIL-STD-461E CE102 filter circuits.

ICH100

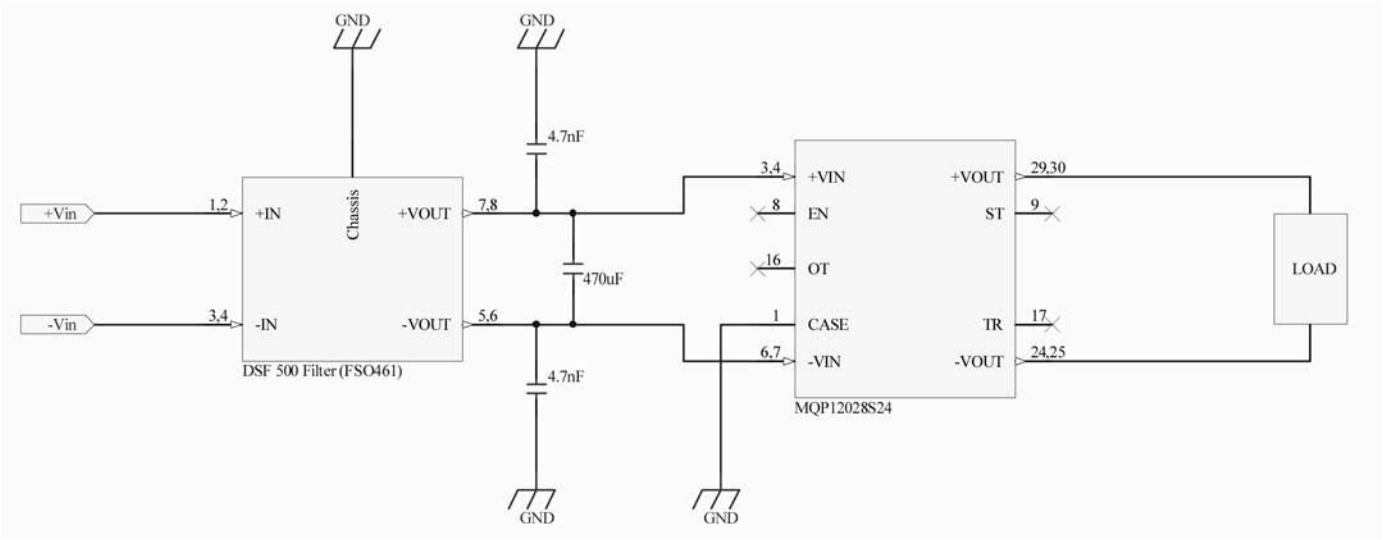


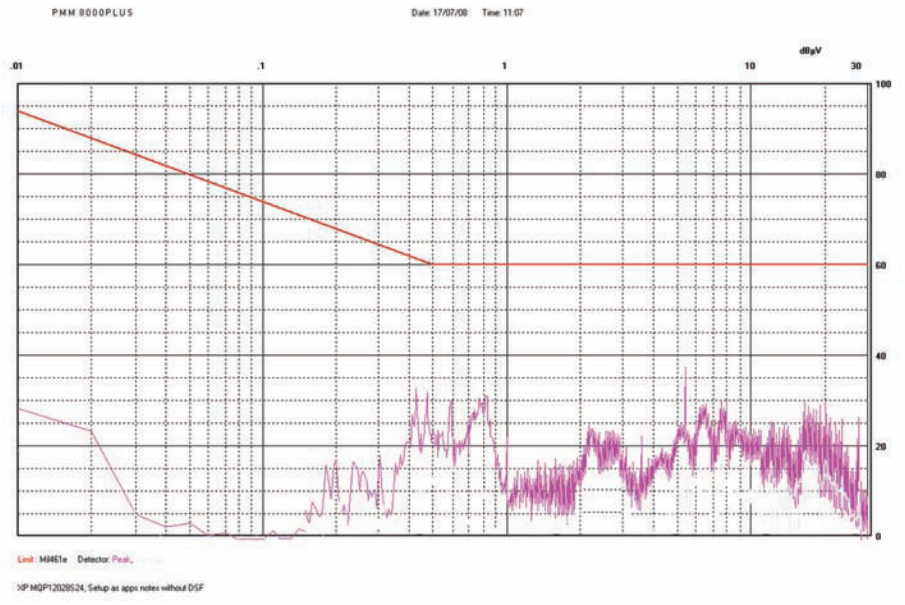


Application Notes

MIL-STD-461E CE102 filter circuits.

MQP120

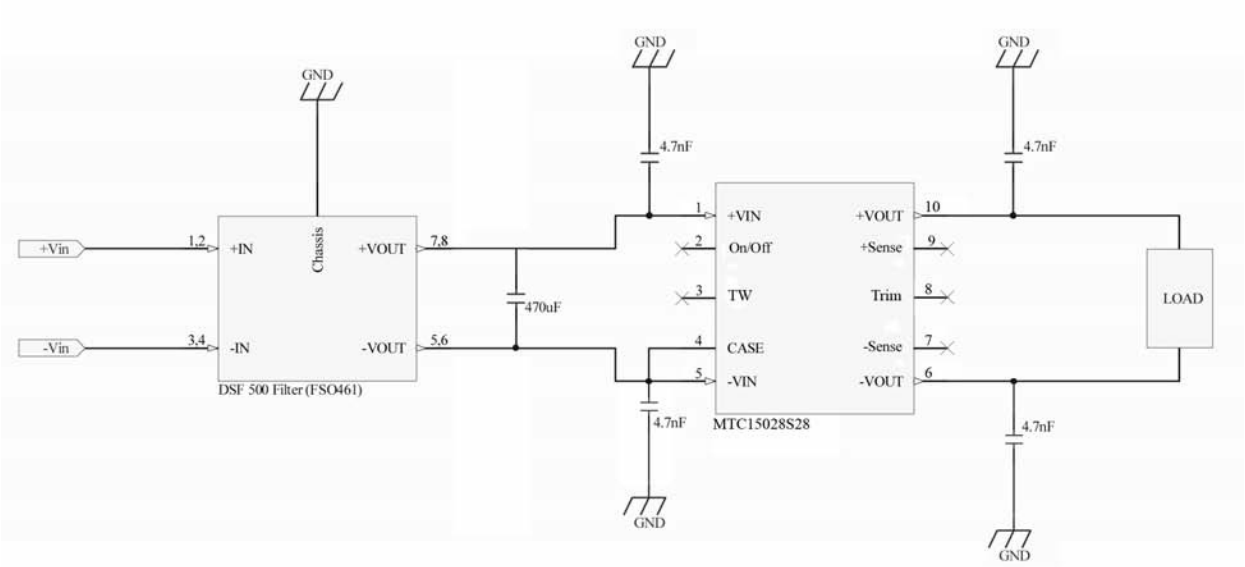


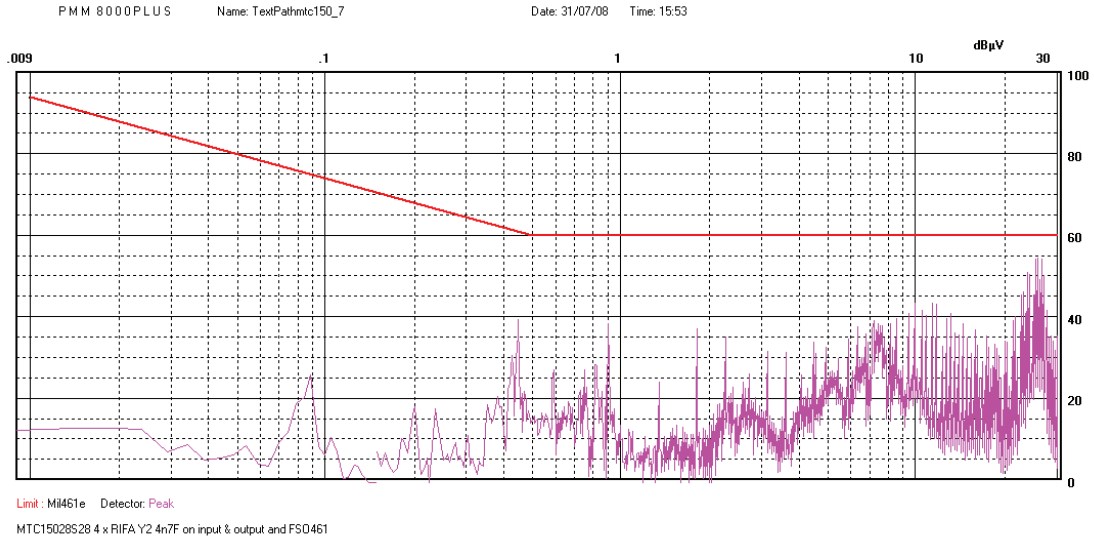


Application Notes

MIL-STD-461E CE102 filter circuits.

MTC150

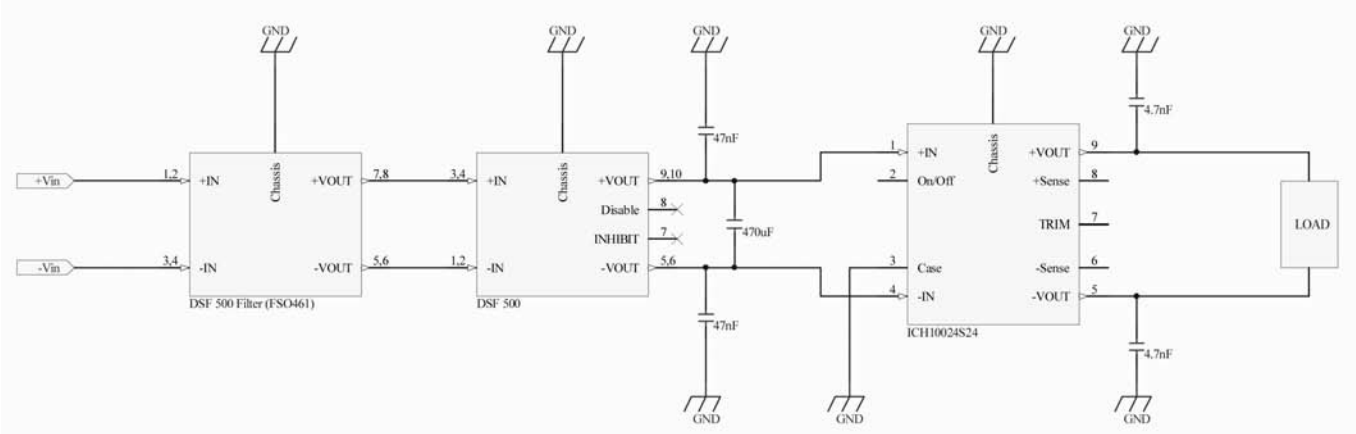


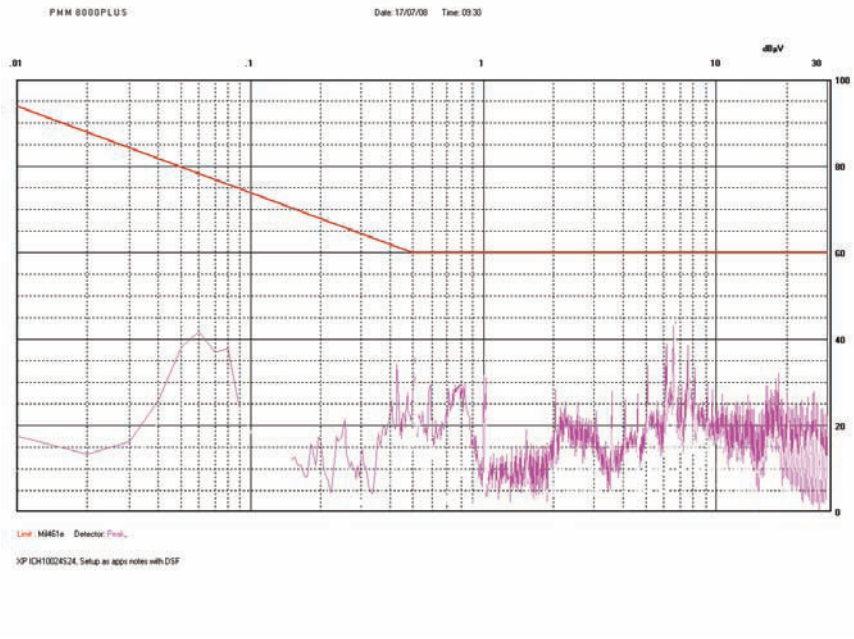


Application Notes

MIL-STD-461E CE102 filter circuits.

ICH100 With DSF500

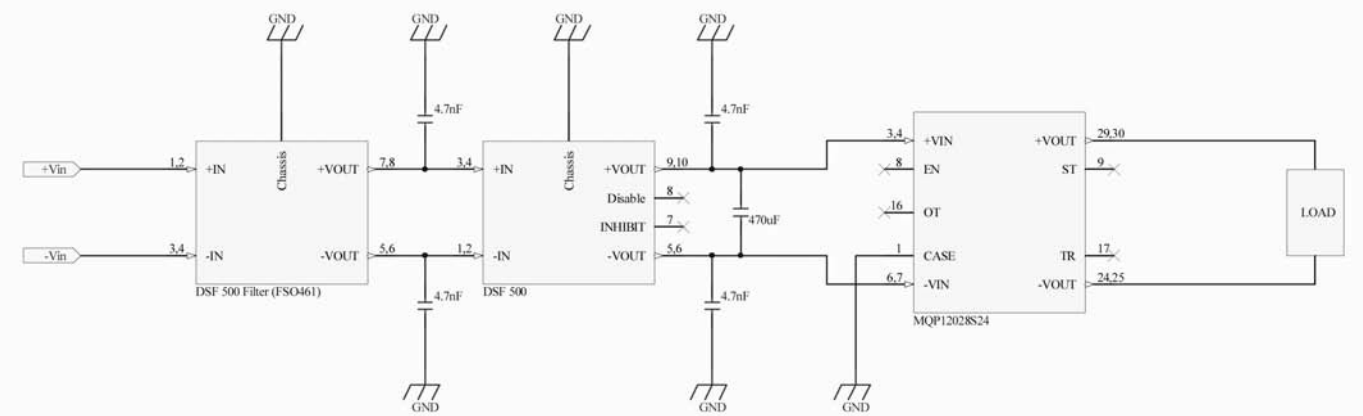


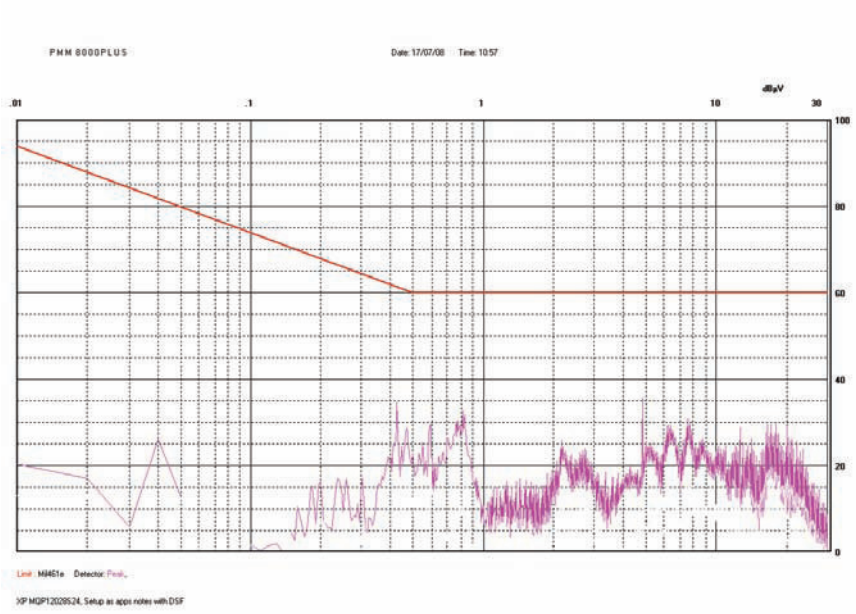


Application Notes

MIL-STD-461E CE102 filter circuits.

MQP120 With DSF500

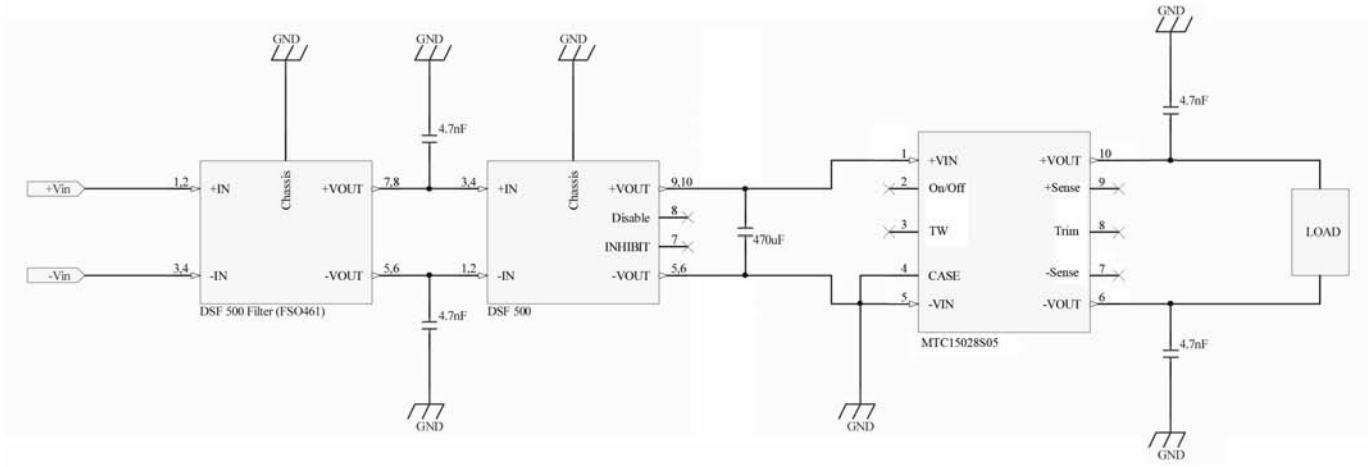


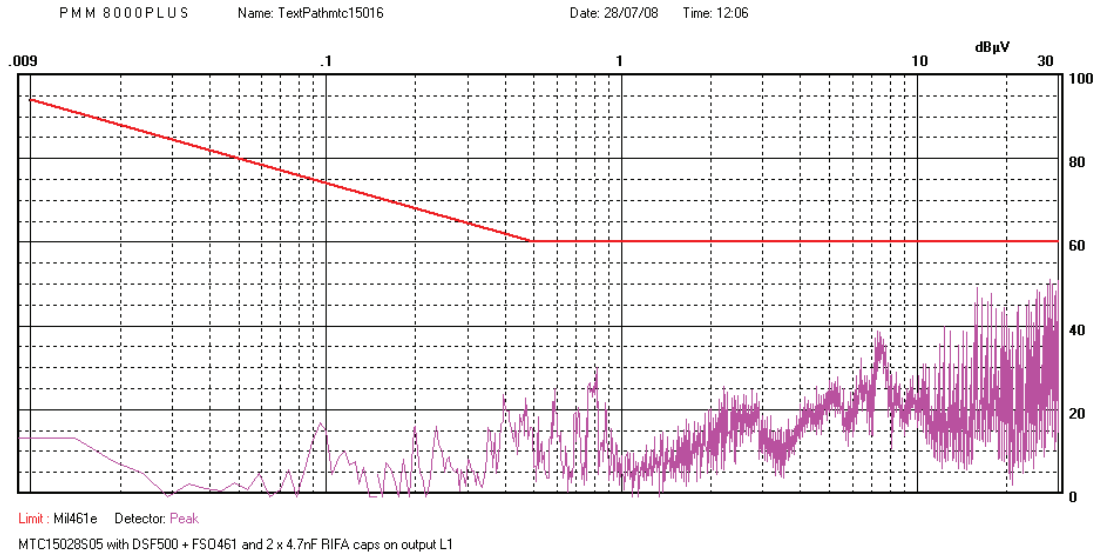


Application Notes

MIL-STD-461E CE102 filter circuits.

MTC150 With DSF500



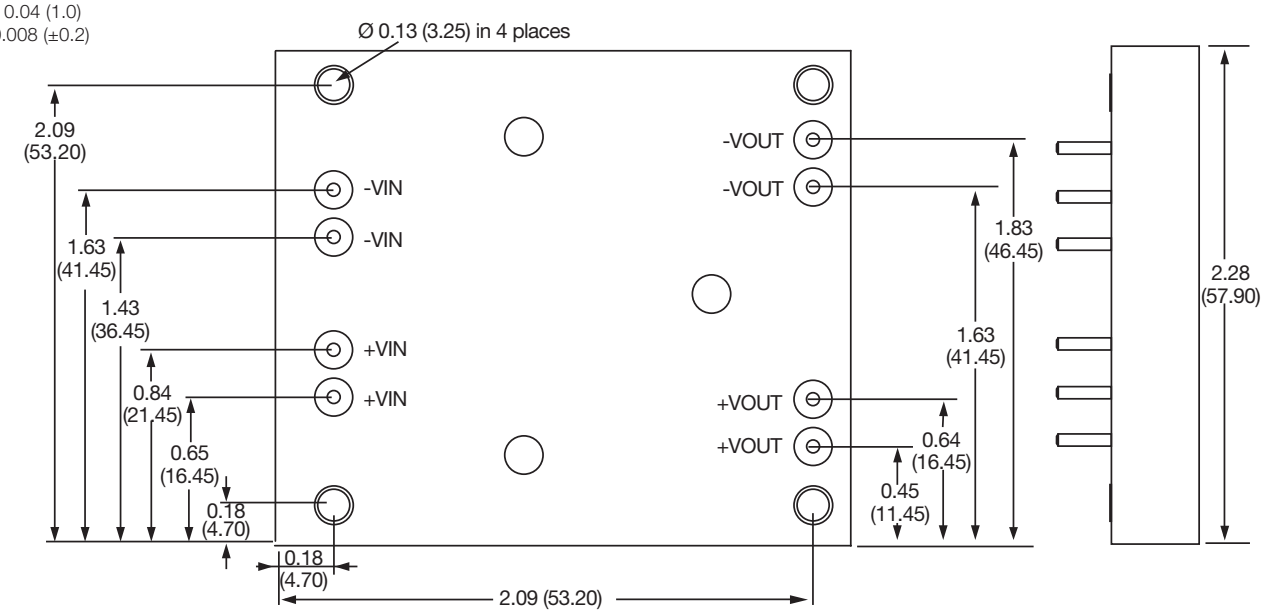


Mechanical Details

All dimensions in inches (mm).

FSO461 - Filter

Weight: 0.36 lbs (160 g).
Pin diameter 0.04 (1.0)
Tolerance ±0.008 (±0.2)



Pin	Function
1	-VIN
2	-VIN
3	+VIN
4	+VIN
5	-VOUT
6	-VOUT
7	Module Inhibit (INH)
8	Disable (DIS)
9	+VOUT
10	+VOUT

