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AVX Discharge Capacitors

GENAUE DEFINITION AUF ANFRAGE!

EXACT DEFINITION ON REQUEST!

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In 1979, Thomson Passive Components (acquired by the AVX Corporation in 1998) developed the **CONTROLLED SELF-HEALING technology** for medium power dry filtering capacitors.

In 1988, AVX started the development of **CONTROLLED SELF-HEALING technology** for impregnated DC filtering capacitors (TRAFIM series). This product range is very popular and has been licensed by other manufacturers.

Improvements of film technology and its metallization the last 10 years have led to a significant increase of the energy density available in AVX's TRAFIM series. In fact, it is now considered one of the most compact capacitors on the market.

Today AVX offers impregnated capacitors based on the same controlled self-healing technology, which are ideal for discharge applications. The voltages of these DISFIM capacitors range from 2kV to 75kV. The maximum available energy per can is 150kJ.

In the past, discharge capacitors have used foil electrodes. Any defect of weak point in the film led to a catastrophic failure of the capacitor involving a short-circuit with even a risk of explosion.

Now, with the controlled self-healing technology, the capacitance of the DISFIM is divided into several million elementary capacitances. The weak points in the dielectric are insulated and the capacitor continues to work without any short-circuit or risk of explosion. DISFIM capacitors may represent more than 10,000 square meters. Only some square millimeters of active surface are lost for every self-healing action. Over the life of the capacitor, the capacitance gradually decreases. The capacitor is usually designed to lose less than 5% of its initial capacitance during its whole lifetime.

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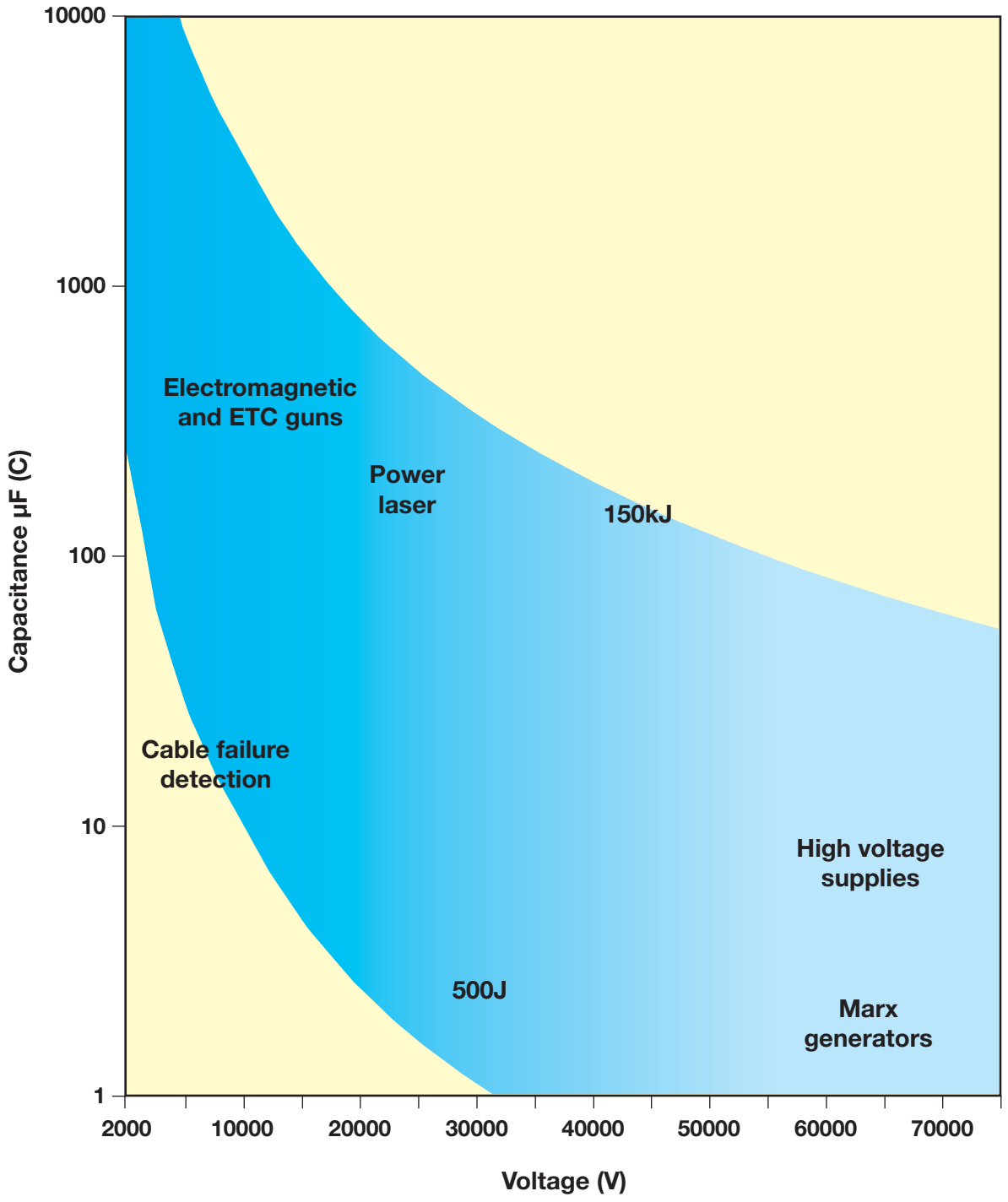
DISFIM RANGE



Tolerance on capacitance: ±10%, ±5%, ±2%
Stray inductance: 50nH to 500nH

DISFIM Products

For Energy Storage and Discharge Applications

Based on the CONTROLLED SELF HEALING technology, AVX offers impregnated capacitors, named DISFIM, which are ideal for discharge applications.

With the controlled self-healing technology, the capacitance of the DISFIM is divided into several million elementary capacitances. The weak points in the dielectric are insulated and the capacitor continues to work without any short-circuit or risk of explosion.

DISFIM capacitors may represent more than 10,000 square meters.

Only some square millimeters of active surface are lost for every self-healing action.

Over the life of the capacitor, the capacitance gradually decreases.

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Example of design with 2 epoxide flat terminals

APPLICATIONS

Power laser
High voltage supplies
Cable failure detection
Electromagnetic and ETC guns
Marx generators
Welding machine

Custom design is the rule as applications and operating conditions are various.

Feel free to send your request to your local AVX representative.

Use guide for customer's specific requirement.

CHARACTERISTICS

Voltage range from 2kV to 75kV
Maximum energy per can 150kJ
Specific energy up to 2000J/l
Lifetime up to several tens millions shots
Stray inductance from 50nH to 500nH

CONSTRUCTION

Metal case unit
Epoxide flat terminals or ceramic terminals

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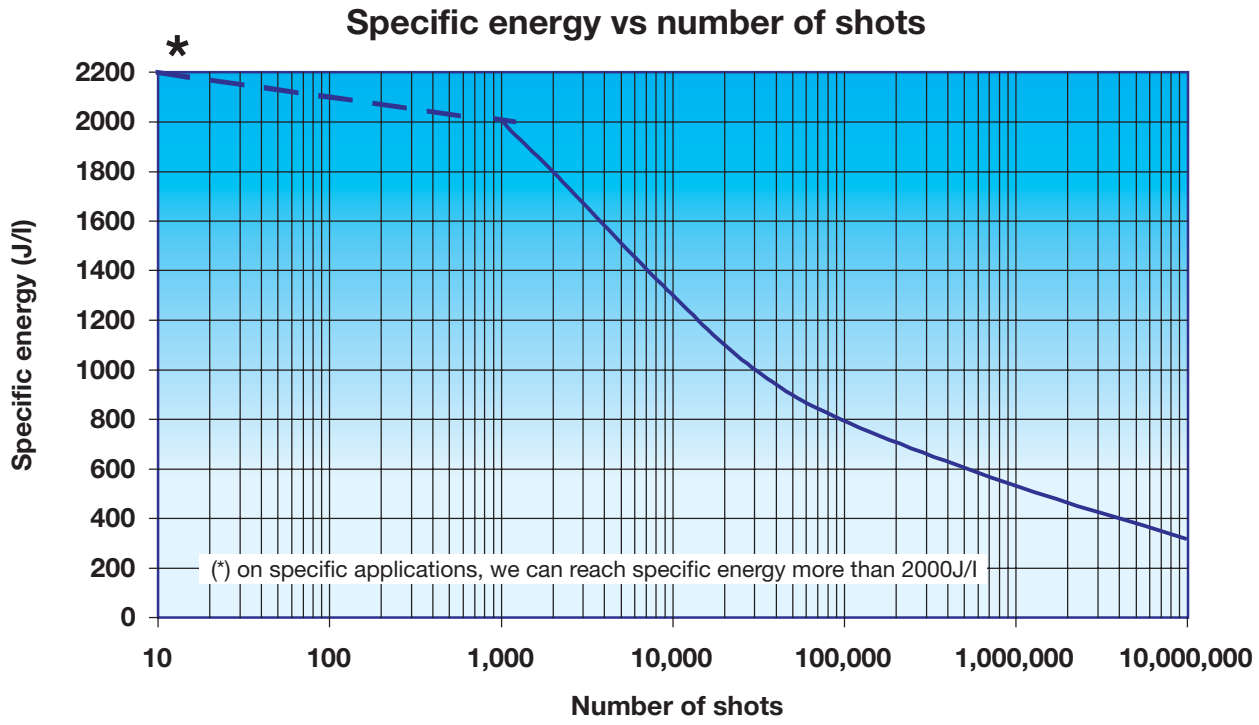
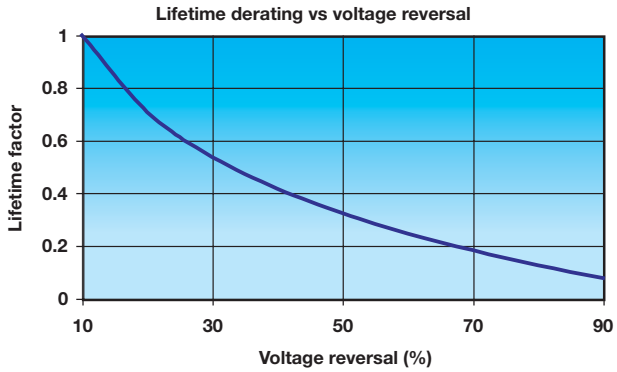
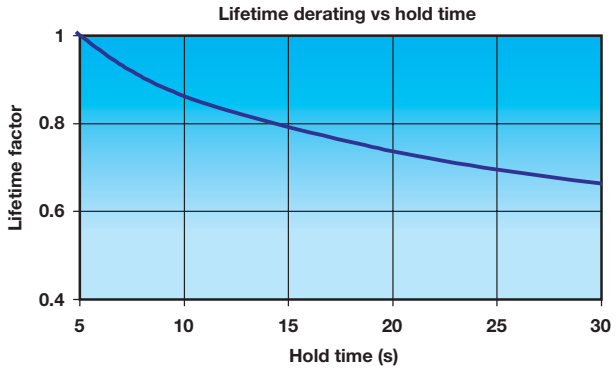
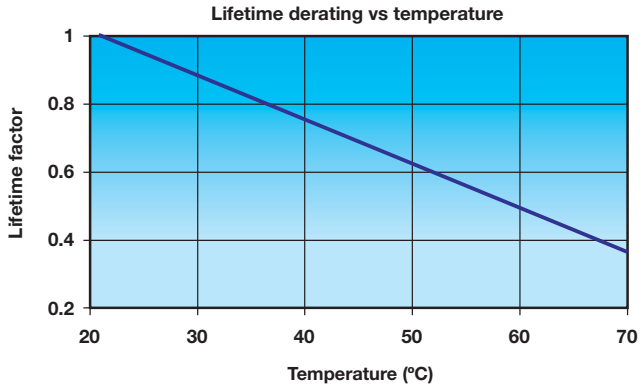
SPECIFIC ENERGY CALCULATION









DISFIM Products

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This questionnaire lists the information we require to prepare an offer according to your exact requirements.

Name: _____ Function: _____
Company: _____ Telephone: _____
Address: _____ Fax: _____
_____ Email: _____

Expected dimensions:
Width (mm):
Length (mm):
Height (mm):

Expected stray inductance:
nH

Number of terminals:

Capacitor operating position:

upright horizontal tilted upside down

Environment:
(moisture, vibrations...)

Waveforms (U/I)

Capacitance/Tolerance	µF	%
Charging Voltage	V	
Capacitance Time	s	
Hold Time	s	

		Normal Conditions	Faulty Conditions
Expected lifetime	*hours*		
or	*shots*		
Peak current	*(A)*		

Aperiodic discharge

Pulse duration (5% I peak)	*(µs)*		
Time to I peak	(µs)		

Oscillatory discharge

Reversal voltage	*(%)*		
Ringing frequency	*(Hz)*		

Repetition Rate

Single shots *(shot/min hour day)*	

Burst

Impulses per burst		
Impulse rep. Rate	*(Hz)*	
Burst rep. Rate *(burst/s min hour)*		

Operating temperature from _____ to _____ °C

Storage temperature from _____ to _____ °C

Cooling conditions
Natural convection
Force air m/s
Oil

Remarks: