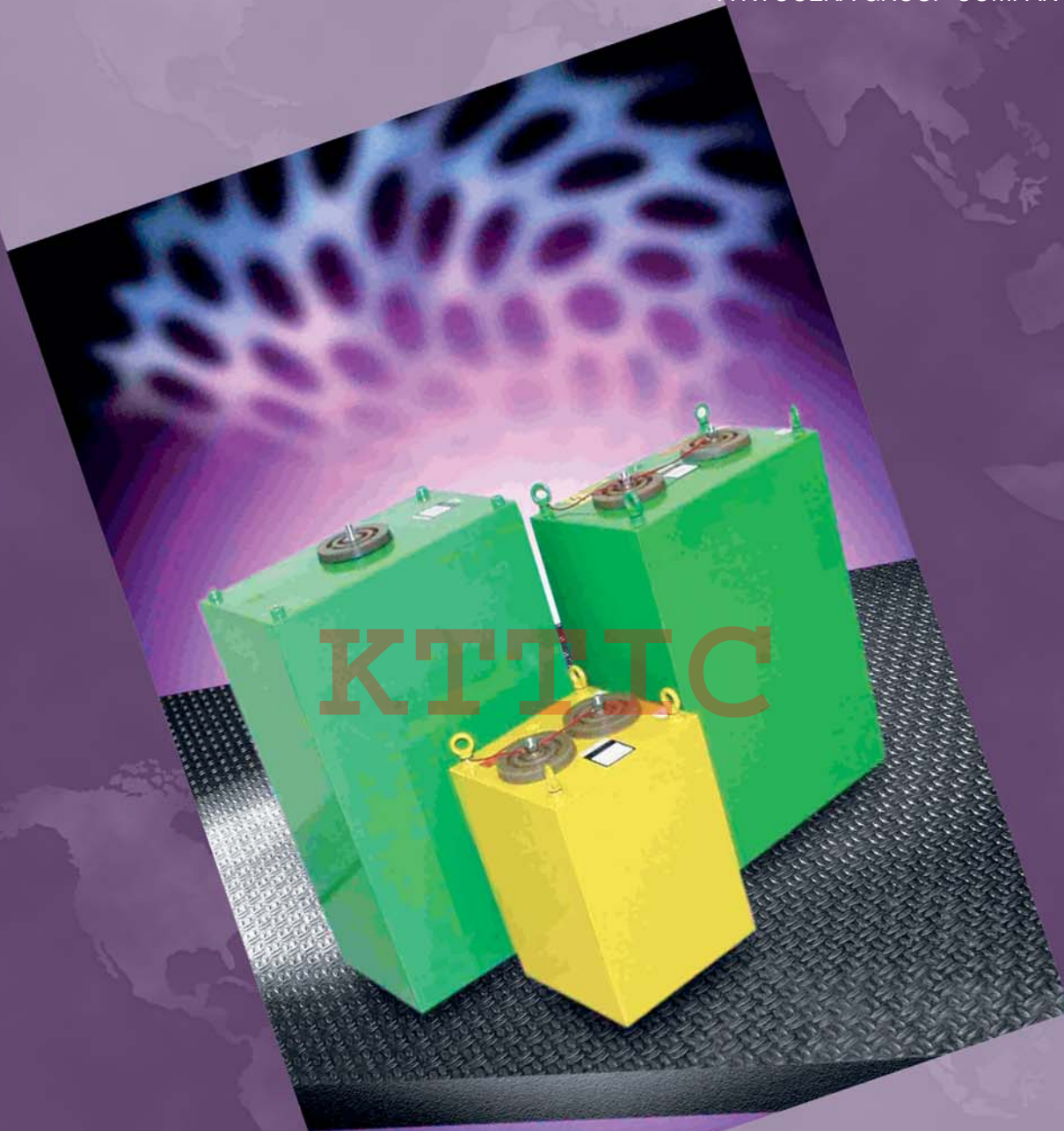


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AVX

A KYOCERA GROUP COMPANY



AVX Discharge Capacitors

<http://www.kttic.com>

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.

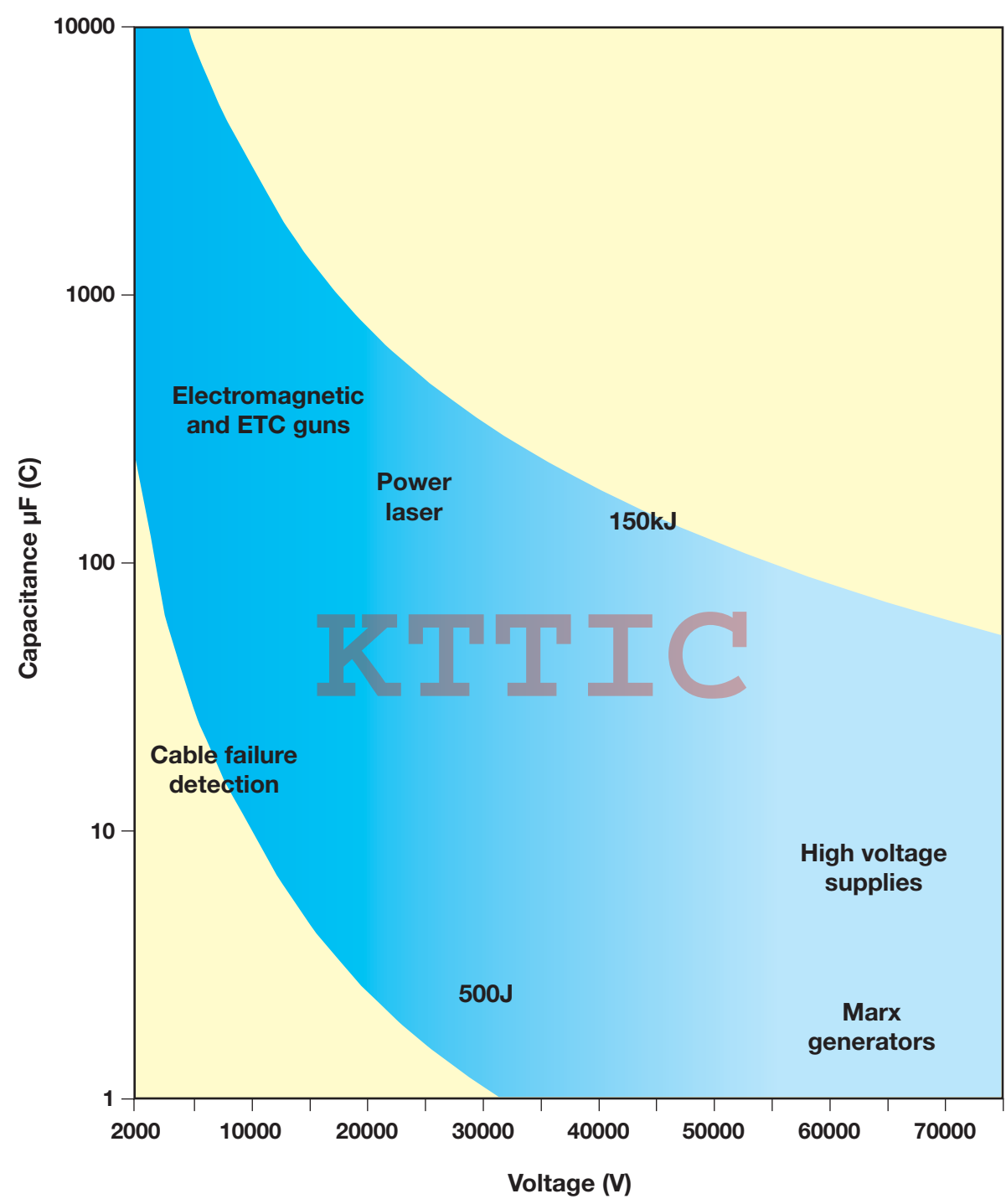
Now, with the controlled self-healing technology, the capacitance of the DISFIM is divided into several million elementary capacitances. The weak points in the dielectric are insulated and the capacitor continues to work without any short-circuit or risk of explosion. DISFIM capacitors may represent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

NOTICE: Specifications are subject to change without notice. Contact your nearest AVX Sales Office for the latest specifications. All statements, information and data given herein are believed to be accurate and reliable, but are presented without guarantee, warranty, or responsibility of any kind, expressed or implied. Statements or suggestions concerning possible use of our products are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent. The user should not assume that all safety measures are indicated or that other measures may not be required. Specifications are typical and may not apply to all applications.

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DISFIM Products

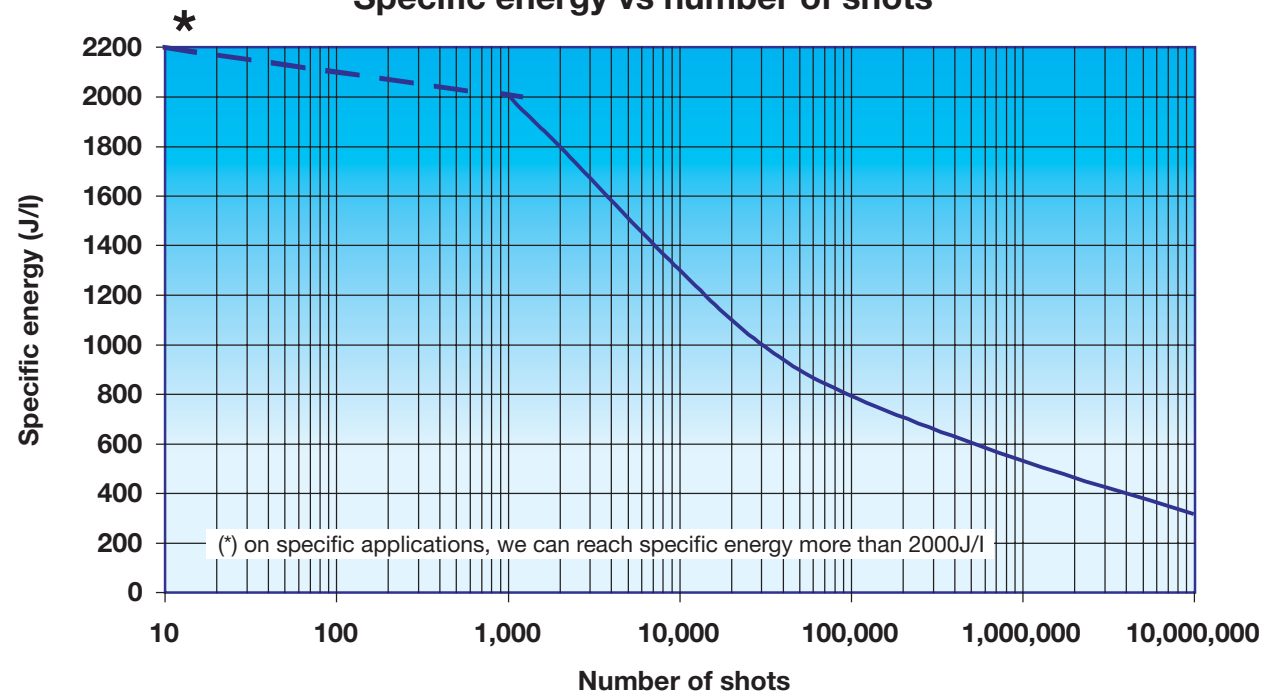
DISFIM RANGE



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

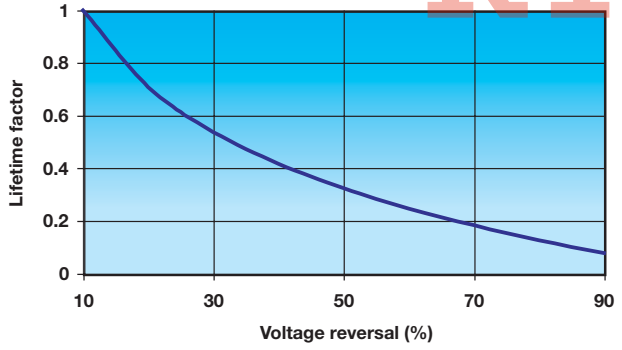
SPECIFIC ENERGY CALCULATION

Specific energy vs number of shots

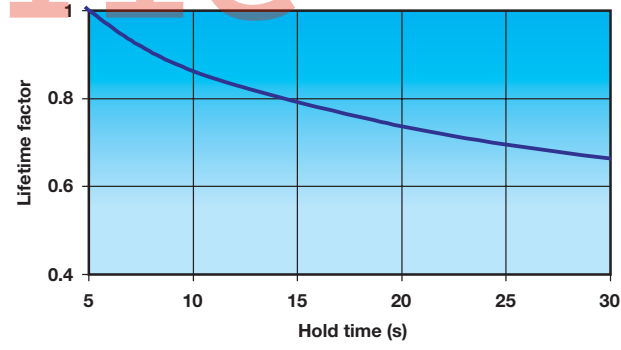


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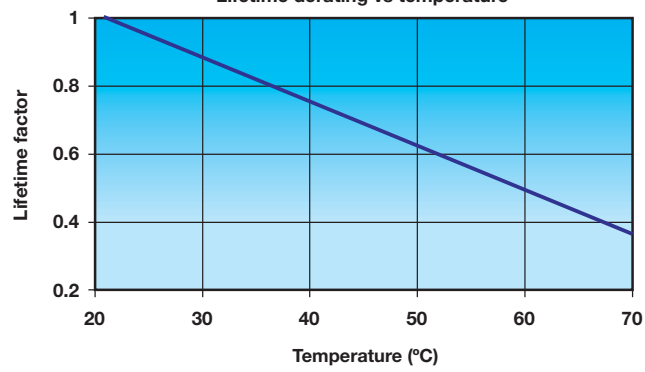
Lifetime derating vs voltage reversal



Lifetime derating vs hold time



Lifetime derating vs temperature



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

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

<p>Expected dimensions: Width (mm): _____ Length (mm): _____ Height (mm): _____</p> <p>Expected stray inductance: nH _____</p> <p>Number of terminals: _____</p> <p>Capacitor operating position: upright horizontal tilted upside down</p> <p>Environment: (moisture, vibrations...)</p> <p>Waveforms (U/I)</p> <div style="border: 1px dashed black; width: 100%; height: 100px; margin-bottom: 10px;"></div> <div style="border: 1px dashed black; width: 100%; height: 100px;"></div>	<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:60%;">Capacitance/Tolerance</td> <td style="width:20%; text-align: center;">μF</td> <td style="width:20%; text-align: center;">%</td> </tr> <tr> <td>Charging Voltage</td> <td style="text-align: center;">V</td> <td></td> </tr> <tr> <td>Capacitance Time</td> <td style="text-align: center;">s</td> <td></td> </tr> <tr> <td>Hold Time</td> <td style="text-align: center;">s</td> <td></td> </tr> </table> <table border="1" style="width:100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width:60%;"></th> <th style="width:20%; text-align: center;">Normal Conditions</th> <th style="width:20%; text-align: center;">Faulty Conditions</th> </tr> </thead> <tbody> <tr> <td>Expected lifetime <i>hours</i></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">or <i>shots</i></td> <td></td> <td></td> </tr> </tbody> </table> <table border="1" style="width:100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width:60%;">Peak current <i>(A)</i></td> <td style="width:20%;"></td> <td style="width:20%;"></td> </tr> </table> <p>Aperiodic discharge</p> <table border="1" style="width:100%; border-collapse: collapse; margin-top: 5px;"> <tr> <td style="width:60%;">Pulse duration (5% I peak) <i>(μs)</i></td> <td style="width:20%;"></td> <td style="width:20%;"></td> </tr> <tr> <td>Time to I peak <i>(μs)</i></td> <td></td> <td></td> </tr> </table> <p>Oscillatory discharge</p> <table border="1" style="width:100%; border-collapse: collapse; margin-top: 5px;"> <tr> <td style="width:60%;">Reversal voltage <i>(%)</i></td> <td style="width:20%;"></td> <td style="width:20%;"></td> </tr> <tr> <td>Ringing frequency <i>(Hz)</i></td> <td></td> <td></td> </tr> </table> <p>Repetition Rate</p> <table border="1" style="width:100%; border-collapse: collapse; margin-top: 5px;"> <tr> <td style="width:60%;">Single shots <i>(shot/min hour day)</i></td> <td style="width:40%;"></td> </tr> </table> <p>Burst</p> <table border="1" style="width:100%; border-collapse: collapse; margin-top: 5px;"> <tr> <td style="width:60%;">Impulses per burst</td> <td style="width:40%;"></td> </tr> <tr> <td>Impulse rep. Rate <i>(Hz)</i></td> <td></td> </tr> <tr> <td>Burst rep. Rate <i>(burst/s min hour)</i></td> <td></td> </tr> </table> <table style="width:100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width:60%;">Operating temperature</td> <td style="width:40%;">from _____ to _____ °C</td> </tr> <tr> <td>Storage temperature</td> <td>from _____ to _____ °C</td> </tr> </table> <table style="width:100%; border-collapse: collapse; margin-top: 5px;"> <tr> <td style="width:60%;">Cooling conditions</td> <td style="width:40%;"></td> </tr> <tr> <td style="padding-left: 20px;">Natural convection</td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Force air</td> <td style="text-align: right;">m/s</td> </tr> <tr> <td style="padding-left: 20px;">Oil</td> <td></td> </tr> </table>	Capacitance/Tolerance	μF	%	Charging Voltage	V		Capacitance Time	s		Hold Time	s			Normal Conditions	Faulty Conditions	Expected lifetime <i>hours</i>			or <i>shots</i>			Peak current <i>(A)</i>			Pulse duration (5% I peak) <i>(μs)</i>			Time to I peak <i>(μs)</i>			Reversal voltage <i>(%)</i>			Ringing frequency <i>(Hz)</i>			Single shots <i>(shot/min hour day)</i>		Impulses per burst		Impulse rep. Rate <i>(Hz)</i>		Burst rep. Rate <i>(burst/s min hour)</i>		Operating temperature	from _____ to _____ °C	Storage temperature	from _____ to _____ °C	Cooling conditions		Natural convection		Force air	m/s	Oil	
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Remarks: _____

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