Heavy-Current Capacitors	Application Note

How to Select an DCMKP Rectangular Capacitor

By Murat Oezer

INTRODUCTION

This application note shows the approach for a customer specific DCMKP capacitor request.

STEP 1

First, a Request for Power Electronic Capacitors (www.vishay.com/doc?13018) needs to be filled out by the customer; orange blocks are mandatory, yellow ones are optional.

Request for Power Electronic Capacitors (Example and Extract)

RFQ FOR PECS	EXAMPLE / UNIT	CUSTOMER INPUT	
PROJECT	Name	xyz	
APPLICATION	AC/DC, filter etc.	DC link	(1)
ENVIRONMENTAL	Humidity, sea water, altitude		
OUTLINE	Rectangular / tubular	Rectangular	(2)
QUANTITY	pcs, pcs/a		
APPLICABLE STANDARDS	IEC 61071, IEC 61881-1	IEC 61071	(5)
TECHNOLOGY	All film, metalized PP, etc.	Metalized PP	(4)
IMPREGNATION AGENT	Dry resin, castor oil, synthetic oil	Dry	(3)
RATED CAPACITANCE	µF	3000 µF	(8)
CAPACITOR TOLERANCE	± %	± 5 %	
RATED AC VOLTAGE	V_{AC}		
RATED DC VOLTAGE	V_{DC}	2200 V_{DC}	(6)
RIPPLE VOLTAGE	V_{pp}	200 V_{pp}	(7)
RATED FREQUENCY (AC)	Hz		
RIPPLE FREQUENCY (DC)	Hz		
MAX. PEAK CURRENT (I)	kA		
MAX. RMS CURRENT ($I_{MAX.}$)	A_{RMS}	400 A_{RMS}	(9)

STEP 2

With the customer input in the example above, we can see that it is a DC-link application **(1)** with a rectangular outline **(2)**, making the DCMKP rectangular series applicable.

The DCMKP rectangular series features dry **(3)** and metalized PP **(4)** technology. The devices' design is based on the IEC 61071 or IEC 61881-1 standard **(5)**.

STEP 3

Taking all the specified electrical features into consideration, in particular the DC voltage U_{NDC} **(6)** including the ripple peak **(7)**, the requested capacitance C_n **(8)**, and the continuous maximum RMS current $I_{max.}$ **(9)**, we can create a suitable DCMKP rectangular capacitor. All additional provided information will be used to create a customer specific design in accordance to your demand.

STEP 4

Contact us at esta@vishay.com. Your request will be provided to responsible ESTA sales contact for your company or region. We will contact you immediately and provide you with the relevant documentation.

APPLICATION NOTE