Mini Double-ended Capacitors

Description

The mini double-ended
(MDE) products are
extended foil, plastic case
capacitors with low loss
dielectric rated from 5 to
50 kV, having inductance
of less than 20 nH.

Because of their low
inductance, the MDE
capacitors are a
replacement for ceramic
capacitors in applications

where several "doorknob"
units are used in parallel to
obtain low inductance.
The table on the reverse of this
sheet describes selected models. A
Maxwell applications engineer can
assist to define additional models with other

Temperature Characteristics

capacitance values.

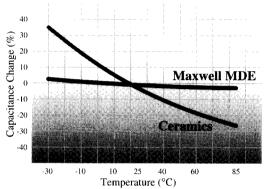
The typical capacitance change over the temperature range of -30°C to +85°C for Maxwell MDE capacitors and two familiar brands of ceramic capacitors are shown below. The smaller temperature coefficient of capacitance exhibited by the MDE products ensures more consistent operation for industrial lasers where length-of-run and time-of-day temperature variations are common.

MAXWELL Laboratories, Inc.

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BRAND -30°C +85°C Maxwell MDE +4% -4% Brand "A" +35% -28% Brand "B" +25% -30%

Temperature Coefficient of Capacitance



Operating Specifications

Capacitance tolerance is $\pm 10\%$.

Capacitance variation from zero to rated peak voltage is less than 1%.

Rated voltage reversal is 20%.

Single discharge peak current is up to 25 kA.

Repetition rates to 1,000 Hz for rated voltage and <20% voltage reversal. Limit rms current to <25 amps (CW).

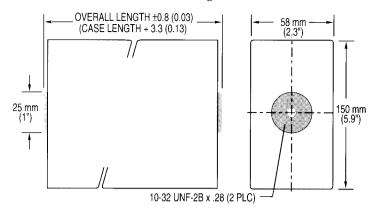
To best match your application to a selected model or for specifications which exceed these ratings, please contact a Maxwell sales engineer.

esign Life

Maxwell mini double-ended capacitors are available in two design life ratings. For research or low rep-rate applications, models with a design life of greater than 108 shots are available. For high rep-rate applications, use models with a design life of greater than 109 shots. Design life is the number of charge/discharge cycles with 90% survivability at rated voltage with <20% voltage reversal.

Mimensions

Mini double-ended capacitors have a cross section of 58 x 150 mm with standard lengths of 76, 102, and 127 mm.



Maxwell mini double-ended capacitors

	M o d e l N u m b e r	Capacitanc e Rating (nF)	Voltage Rating (kV)	Case Length (inch)
	37600	2,000	5	3
	37602	400	10	3
Shot Life	37636	500	10	4
	37604	150	15	3
	37606	100	20	3
	37608	125	20	4
	37610	170	20	5
	37612	5.0	25	3
	37616	40	30	3
5	37618	50	3.0	4
	37620	75	30	5
9	37622	20	35	3
•	37623	3.0	35	4
	37624	40	35	5
	37628	15	4.0	3. 3. 3. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.
	37632	8.3	- 50 - 14	
	37633	10	50	
	37634	12.5	50	

	37601	750	5	3
	3 7 6 0 3	200	10	3
	3 7 6 0 5	100	15	3
	37607	6 0	20	3
d)	3 7 6 0 9	8 0	20	4
£	3 7 6 1 1	100	2 0	5
:	3 7 6 1 3	2 5	2 5	3
9 Shot L	3 7 6 1 4	4 0	2 5	4
0	3 7 6 1 5	5 0	25	5
4	3 7 6 1 7	1.5	30	3
Ø	3 7 6 1 9	25	30	4
2	3 7 6 2 1	35	3.0	
	37625	10	3.5	3
	37626	15	3.5	4
	37627	20	3.5	5
	37629	6.3	40	3
	37630	10	40	4
	37631	12.5	- F 1 4.9 1101648	. (C . 11. 5
	37635	22.5万万山南部	50	

How to determine MDE & select the capacitor for your application

Step 1

To define your applications, determine:

- Capacitance and acceptable tolerance
- · Operating voltage
- · Repetition rate and rms current
- · Voltage reversal, normal and fault
- Required life, in charge/discharge cycles
- · Maximum inductance
- · Peak current and discharge time
- · Environment and operating temperature

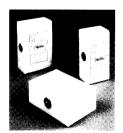
Step 2

Review your application requirements while comparing them with the listed capacitors. For correct capacitor selection, be sure your requirement does not exceed the stated design parameters or simply consult Maxwell.

Step 3

Contact Maxwell with your selection. If you wish, tradeoffs, deratings, and alternatives can be discussed.

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For more information on these and other MDE models, contact Maxwell.

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