

GTO MKP Capacitors for Pulse Applications with Internal Series Connection

Special Features

- Pulse duty construction
- Self-healing
- Cylindrical capacitor body with axial screw and thread connections size M6 or M8
- Internal series connection from 400 VAC
- Very low dissipation factor
- Negative capacitance change versus temperature
- According to RoHS 2002/95/EC

Typical Applications

For high pulse and high frequency applications requiring extremely reliable contacts e.g.

- Damping of voltage spikes on GTO-Thyristors

Construction

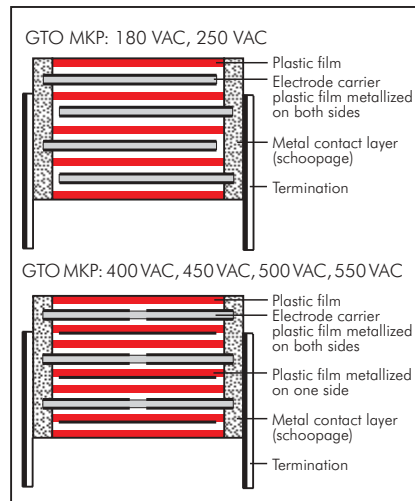
Dielectric:

Polypropylene (PP) film

Capacitor electrodes:

Double-sided metallized plastic film

Internal construction:



Encapsulation:

Solvent-resistant, flame-retardant plastic case with PU seal, UL 94 V-0

Terminations:

Axial screw connection M6 or M8.

Marking:

Colour: Red. Marking: Black on Silver.

Electrical Data

Capacitance range:

1.0 μF to 100 μF

Rated voltages:

400 VDC, 600 VDC, 850 VDC, 1000 VDC, 1200 VDC, 1500 VDC

Capacitance tolerances:

$\pm 20\%$, $\pm 10\%$, $\pm 5\%$

Operating temperature range:

-55°C to $+85^\circ\text{C}$

Climatic test category:

55/085/56 in accordance with IEC

Insulation resistance at $+20^\circ\text{C}$:

$\geq 10\,000 \text{ sec (M}\Omega \times \mu\text{F)}$

(mean value: 50 000 sec)

Measuring voltage: 100 V/1 min.

Test voltage: $1.2 U_r$, 2 sec.

Dielectric absorption:

0.05%

Dissipation factors at $+20^\circ\text{C}$: $\tan \delta$

at f	$C \leq 1.0 \mu\text{F}$	$1.0 \mu\text{F} < C \leq 50 \mu\text{F}$	$C > 50 \mu\text{F}$
1 kHz	$\leq 3 \times 10^{-4}$	$\leq 4 \times 10^{-4}$	$\leq 5 \times 10^{-4}$
10 kHz	$\leq 6 \times 10^{-4}$	—	—

Voltage derating:

Working frequency (page 12, graph 1) and temperature rise with reference to the max. component temperature (page 12, para. 3) have to be taken into account.

Reliability:

Operational life $> 300\,000$ hours

Failure rate $< 1 \text{ fit } (0.5 \times U_r \text{ and } 40^\circ\text{C})$

Specific dissipation:

Case size W x L in mm	Specific dissipation in Watts per K above the ambient temperature
60 x 49	0.149
70 x 49	0.185
80 x 49	0.224
90 x 49	0.266
90 x 58	0.291
90 x 97	0.401

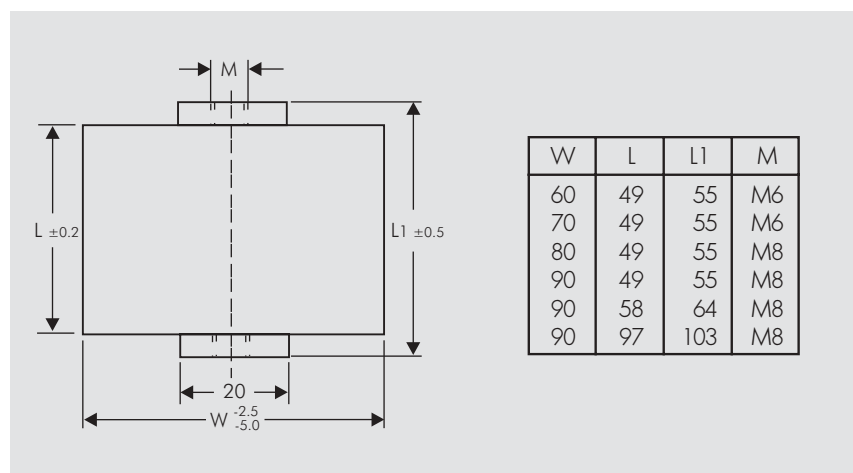
Packing

Transportation-safe packing in cardboard boxes.

Packing units

W	pcs. per packing unit
60	12
70	8
80	6
90	6

For further details and graphs please refer to Technical Information.



W	L	L1	M
60	49	55	M6
70	49	55	M6
80	49	55	M8
90	49	55	M8
90	58	64	M8
90	97	103	M8

Continuation

General Data

Capacitance	400 VDC/180 VAC*				600 VDC/250 VAC*				850 VDC/400 VAC*			
	W x L mm	du/dt V/μsec	I _{max.} A	I _{rms} A	W x L mm	du/dt V/μsec	I _{max.} A	I _{rms} A	W x L mm	du/dt V/μsec	I _{max.} A	I _{rms} A
3 μF									60 x 49	200	770	14
3.5 "					60 x 49	200	770	15	60 x 49	200	770	15
4 "					60 x 49	200	890	16	60 x 49	200	890	16
4.5 "					60 x 49	200	990	18	60 x 49	200	990	17
5 "					60 x 49	180	1090	19	60 x 49	200	1090	18
6 "					60 x 49	180	1310	21	60 x 49	200	1310	19
8 "					60 x 49	80	610	22	60 x 49	200	1740	22
10 μF					60 x 49	80	780	25	70 x 49	200	2190	25
15 "	60 x 49	50	790	31	60 x 49	80	1150	31	70 x 49	200	3230	31
20 "	60 x 49	50	1050	35	70 x 49	80	1540	35	80 x 49	200	4310	43
25 "	60 x 49	50	1330	40	70 x 49	80	1940	40	90 x 49	200	5390	53
30 "	60 x 49	50	1610	43	80 x 49	80	2340	53	90 x 58	160	4800	61
40 "	70 x 49	50	2090	50	90 x 49	80	3080	67	90 x 97	100	3780	82
50 "	80 x 49	50	2680	69	90 x 58	60	3050	78	90 x 97	100	4790	92
60 "	80 x 49	50	3240	58	90 x 97	35	2140	78	90 x 97	100	5800	78
70 "	90 x 49	50	3630	68	90 x 97	35	2520	84				
80 "	90 x 49	50	4100	73	90 x 97	35	2810	90				
90 "	90 x 58	40	3800	81	90 x 97	35	3200	95				
100 "	90 x 58	40	4300	85	90 x 97	35	3550	100				

* AC voltage: $f \leq 1000 \text{ Hz}$; $1.4 \times U_{\text{rms}} + \text{UDC} \leq U_r$

Capacitance	1000 VDC/450 VAC*				1200 VDC/500 VAC*				1500 VDC/550 VAC*			
	W x L mm	du/dt V/μsec	I _{max.} A	I _{rms} A	W x L mm	du/dt V/μsec	I _{max.} A	I _{rms} A	W x L mm	du/dt V/μsec	I _{max.} A	I _{rms} A
1 μF									60 x 49	400	420	8
1.5 "									60 x 49	400	590	10
2 "									60 x 49	400	820	11
2.5 "					60 x 49	300	770	13	60 x 49	400	1010	13
3 "	60 x 49	260	790	14	60 x 49	300	950	14	60 x 49	400	1220	14
3.5 "	60 x 49	260	910	15	60 x 49	300	1070	15	60 x 49	400	1400	15
4 "	60 x 49	260	1050	16	60 x 49	300	1230	16	70 x 49	400	1630	16
4.5 "	60 x 49	260	1170	17	60 x 49	300	1380	17	70 x 49	400	1800	17
5 "	60 x 49	260	1310	18	60 x 49	300	1570	18	70 x 49	400	2010	18
6 "	60 x 49	260	1550	19	70 x 49	300	1840	19	80 x 49	400	2390	24
8 "	70 x 49	260	2080	22	70 x 49	300	2470	22	90 x 49	400	3210	30
10 μF	70 x 49	260	2600	25	80 x 49	300	3080	31	90 x 58	320	3210	35
15 "	90 x 49	260	3920	41	90 x 58	230	3550	43	90 x 97	180	2690	50
20 "	90 x 58	200	4300	49	90 x 97	130	2690	58	90 x 97	180	3600	58
25 "	90 x 97	120	3050	65	90 x 97	130	3370	65				
30 "	90 x 97	120	3580	71	90 x 97	130	4110	71				
40 "	90 x 97	120	4770	82								

* AC voltage: $f \leq 1000 \text{ Hz}$; $1.4 \times U_{\text{rms}} + \text{UDC} \leq U_r$

Ionisation inception level in isolated cases may be lower than admissible rated AC voltage.

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