

## High Voltage Capacitors Ceramic 10 – 40kVdc K3500 Dielectric

Morgan Electro Ceramics has long experience of the manufacture of ceramic capacitors for high-voltage dc and power frequency applications.

Test Facilities available in addition to the standard and power factor equipment include:

- Power frequency testing, 50Hz, up to 250kV
- Impulse testing up to 600kVpk
- Partial discharge testing up to 120kV
- DC testing up to 60kV

The materials used are mainly high-K Type 2 ceramics with dielectric constants from 1000 to 10,000. These materials show significant and non-linear changes in dielectric constant with temperature and voltage and also exhibit changes with time, compared to Type 1 materials.

In addition to the standard products, custom-made components can be supplied with different dimensions and electrical characteristics.

UK Office  
Morgan Electro Ceramics  
Vauxhall Industrial Estate  
Ruabon, Wrexham  
LL14 6HY  
Tel : +44 (0) 1978 810456  
Fax : +44 (0) 1978 824303

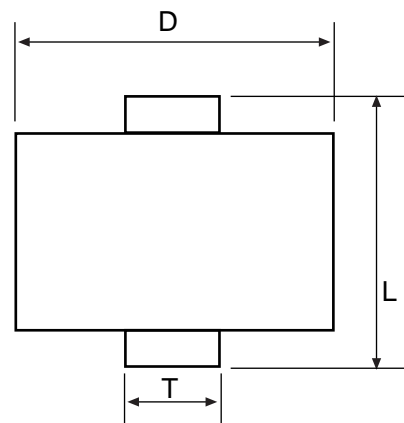
### Applications Include

High power 50/60Hz operation  
DC power supplies  
Bypass, coupling and smoothing circuitry  
Medical scanners and X-ray power sources where low power ratings are required and larger capacitance changes with temperature can be tolerated.

### Material Characteristics

	Units	
EIA Category		Y5U
Dielectric Constant $r$ @ 1kHz, 20°C LV		approx 4300
Dielectric Constant $r$ @ 50Hz, 0.35kV/mm 20°C		approx 5200
Typical Dissipation Factor @ 1kHz 20°C LV	%	$\leq 1.0$
Insulation Resistance @ 500V, 20°C	$\Omega$	$\geq 10^{10}$
Aging Rate per decade hour	%	-3.5
Maximum operating Temperature at full dc rated voltage	°C	+60

All dimensions in mm,  $-1.0\text{mm}$



**Vist the HV Capacitor  
Web-Site!  
[www.hvcaps.com](http://www.hvcaps.com)**

**Rated Voltage 10kV dc (3kV 50Hz)**

Type	Cap Value	Test Voltage 1 min dc	Test Voltage 1 min 50Hz	Discharge Free Test <5pC	øD	L	T	Thread Size
	pF±20%	kV	kV	kV 50Hz	mm	mm	mm	mm
07536	1000	15	10	3	22	28	8	M4
07537	2000	15	10	3	27	28	8	M4
07538	3000	15	10	3	31	28	8	M4
07755	4000	15	10	3	36	28	8	M4
07756	5000	15	10	3	40	28	8	M4
07539	6300	15	10	3	45	28	9	M5
07757	8000	15	10	3	49	28	9	M5
07758	10000	15	10	3	56	28	9	M5

**Rated Voltage 20kV dc (4kV 50Hz)**

Type	Cap Value	Test Voltage 1 min dc	Test Voltage 1 min 50Hz	Discharge Free Test <5pC	øD	L	T	Thread Size
	pF±20%	kV	kV	kV 50Hz	mm	mm	mm	mm
07540	500	30	20	6	22	36	8	M4
07541	1000	30	20	6	27	36	8	M4
07542	1500	30	20	6	31	36	8	M4
07543	2000	30	20	6	36	36	8	M4
07544	3000	30	20	6	45	36	9	M5
07559	4000	30	20	6	49	36	9	M5
07545	5000	30	20	6	56	36	9	M5
07836	10000	30	20	6	78	37.6	10	M6
07872	20000	30	20	6	110	37.6	10	M6

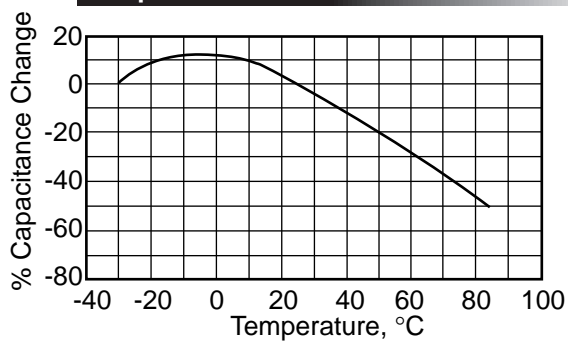
**Rated Voltage 30kV dc (7kV 50Hz)**

Type	Cap Value	Test Voltage 1 min dc	Test Voltage 1 min 50Hz	Discharge Free Test <5pC	øD	L	T	Thread Size
	pF±20%	kV	kV	kV 50Hz	mm	mm	mm	mm
07760	400	45	28	8	22	41	8	M4
07061	700	45	28	8	27	41	8	M4
07761	1000	45	28	8	31	41	8	M4
07121	1500	45	28	8	36	41	8	M4
07534	2200	45	28	8	45	41	9	M5
07762	3000	45	28	8	49	41	9	M5
07763	3700	45	28	8	56	41	9	M5
07514	5000	45	28	8	66	41	9	M5

**Rated Voltage 40kV dc (8kV 50Hz)**

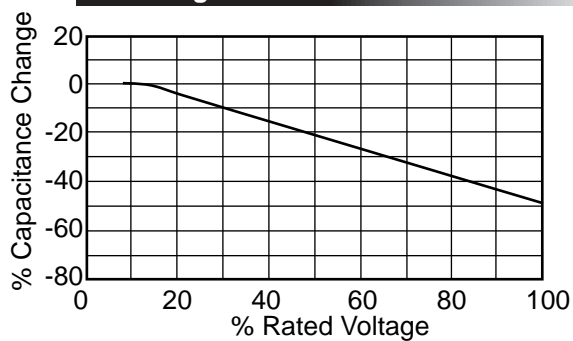
Type	Cap Value pF±20%	Test Voltage 1 min dc kV	Test Voltage 1 min 50Hz kV	Discharge Free Test <5pC kV 50Hz	∅D mm	L mm	T mm	Thread Size mm
07764	350	60	35	10	22	46	8	M4
07765	570	60	35	10	27	46	8	M4
07766	750	60	35	10	31	46	8	M4
07122	1000	60	35	10	36	46	8	M4
07767	1800	60	35	10	45	46	9	M5
07768	2300	60	35	10	49	46	9	M5
07769	3000	60	35	10	56	46	9	M5
07770	4000	60	35	10	66	46	9	M5
07771	5000	60	35	10	70	46	9	M5
07772	7500	60	35	10	95	46	13	3 x M8
07773	10000	60	35	10	102	46	13	3 x M8
07892	10000	60	35	10	102	43	15	M5

**Temperature Coefficient**



Capacitance measured at 1kHz, LV

**DC Voltage Coefficient**



**High Voltage  
Ceramic Capacitors**

**Morgan  
Electro Ceramics**

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