

RF Power Capacitors Class1 : 10kV Discs

Morgan Advanced Materials is a world leader in the design and manufacture of complex electronic ceramic components and assemblies used in a wide range of applications and cutting edge technologies. Morgan's Ruabon Division specialises in the development and production of dielectric and ferroelectric materials and components. This range of high voltage RF discs capacitors is fabricated from very low loss CLASS 1 ceramic dielectric materials which permit them to carry very high electrical loads over a wide frequency range.



Applications include :

- Radio Broadcast Transmitters
- Induction and Dielectric Heating Equipment
- HF Filter, By-Pass & Coupling Circuits
- High Power Matching Tuned Circuits
- Antenna Circuits
- Industrial Applications
- High Power matching networks –Plasma Generators
- High quality medical imaging systems (MRI)

Features :

- Low loss Class 1 ceramic dielectric materials with noble metal electrodes resulting in low self heating.
- High Voltage / High Reactive Power Ratings
- Very low NPO capacitance-temperature characteristics available that result in correspondingly low tuned frequency drift.
- Low Inductance construction permitting higher frequency use.
- Low magnetic susceptibility

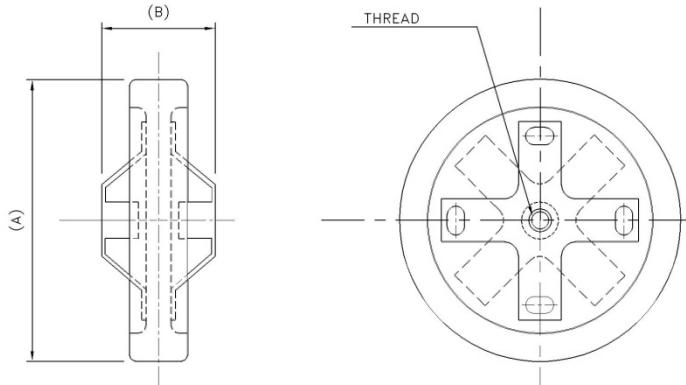
Material Characteristics

Dielectric Constant @ 20°C / 1MHz		15	36	77	90	190
Temperature Coefficient of Capacitance		ppm/°C	+100 ± 60	0± 30	0± 30	-750±80 -1300±120
Tan δ@1MHz (Cap ≤ 1000 pF)		x 10 ⁻⁴	≤5	≤5	≤5	≤5
Tan δ@1kHz (Cap > 1000 pF)		x 10 ⁻⁴	≤10	≤10	≤10	≤10
Dielectric Strength		kVmm ⁻¹ dc	22	20	15	10
Volume Resistivity		Ωm	10 ¹³	10 ¹³	10 ¹³	10 ¹³

Electrical Specification

Capacitance Range		10 – 5000pF (see table)
Capacitance Tolerance		±20% ±10% Consult factory for other tolerances
Rated RF Voltage		10 kVpk (see table)
Test Voltage (50Hz)		√2 x Rated Voltage / 60sec
RF Voltage / Current kVAr Load v Frequency		See RF rating curves (ref 30°C max ambient temperature)
Operating Temperature Range		-25°C +95°C
Maximum Relative Humidity		75%

Outline Drawing 10kV Discs



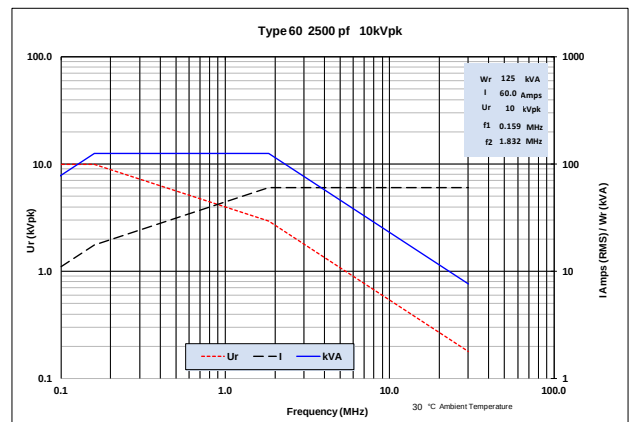
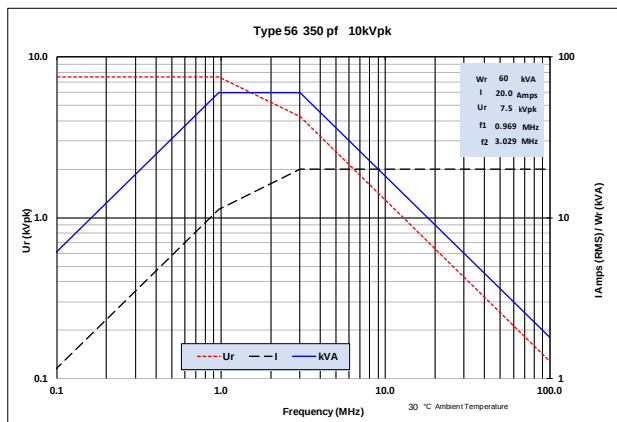
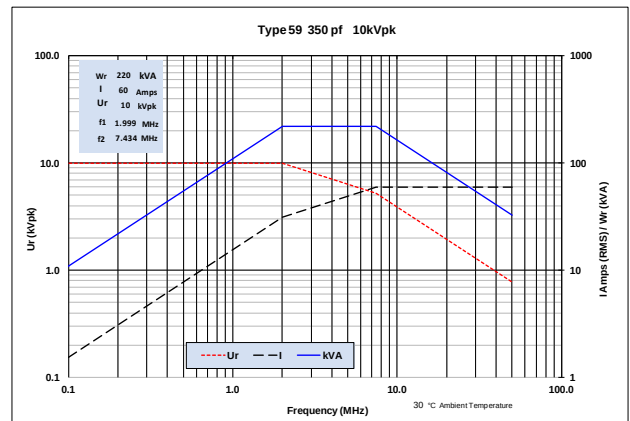
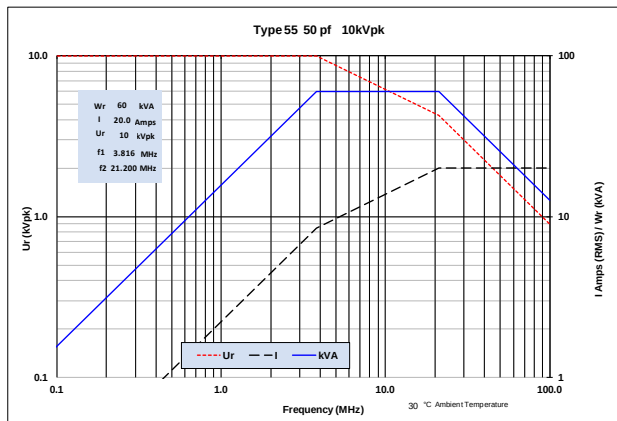
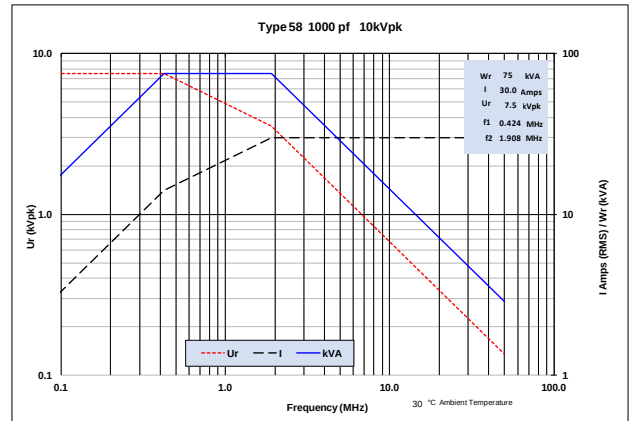
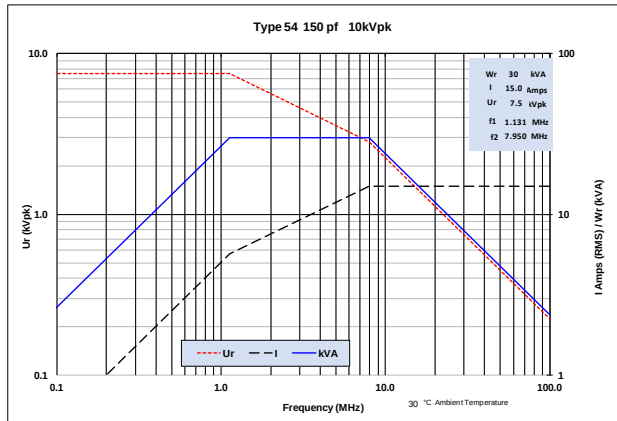
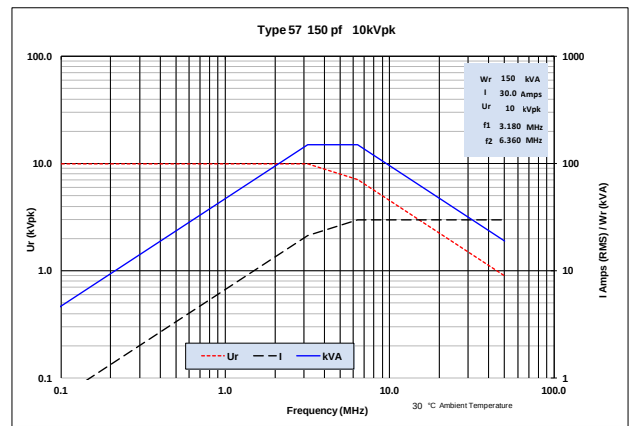
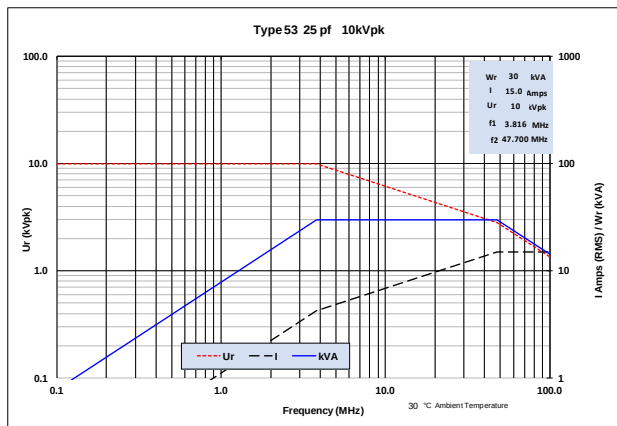
Vertical Mounting
Recommended

Electrical Characteristics

Type No	Cap Value pF	TCC / ppm °C	Rated (ACpk + DC) kVpk	Rated AC kVpk	Test 50 Hz kVrms	Max POWER Rating (kVAr)	Max Current Rating (A rms)	A nom (mm)	B nom (mm)	Thread Size (mm)
53	10	+100	10	10	12	30	15	32	29	M4
53	15	+100	10	10	12	30	15	32	26	M4
53	25	+100	10	10	12	30	15	32	24	M4
55	25	+100	10	10	12	60	20	50	39	M4
55	35	+100	10	10	12	60	20	50	36	M4
55	50	+100	10	10	12	60	20	50	34	M4
57	50	+100	10	10	12	150	30	80	47	M6
57	100	+100	10	10	12	150	30	80	42	M6
57	150	+100	10	10	12	150	30	80	40	M6
59	150	+100	10	10	12	220	60	140	64	M6
59	250	+100	10	10	12	220	60	140	59	M6
59	350	+100	10	10	12	220	60	140	57	M6
54	50	+100	10	7.5	12	30	15	32	32	M4
54	100	-750	10	7.5	12	30	15	32	26	M4
54	150	-750	10	7.5	12	30	15	32	24	M4
56	150	-750	10	7.5	12	60	20	50	41	M4
56	250	-750	10	7.5	12	60	20	50	37	M4
56	350	-750	10	7.5	12	60	20	50	35	M4
58	350	-750	10	7.5	12	75	30	78	49	M6
58	500	-750	10	7.5	12	75	30	78	44	M6
58	1000	-750	10	7.5	12	75	30	78	41	M6
60	1000	-750	10	7.5	12	125	60	140	64.5	M6
60	1500	-750	10	7.5	12	125	60	140	61	M6
60	2500	-750	10	7.5	12	125	60	140	57	M6
830	2500	-1300	10	10	12	150	60	140	64	M6
830	5000	-1300	10	10	12	150	60	140	57	M6

www.morganadvancedmaterials.com

Registered Office Morgan Technical Ceramics, Bewdley Road, Stourport-on-Severn, Worcestershire DY13 8QR England. Registered in England No. 262938



The above RF load conditions are based on the maximum body temperature rise of 45°C from an ambient temperature of 30°C.

www.morganadvancedmaterials.com

Registered Office Morgan Technical Ceramics, Bewdley Road, Stourport-on-Severn, Worcestershire DY13 8QR England. Registered in England No. 262938

Email technical / sales related enquiries to
ruabon.sales@morganplc.com

Please view our website :
www.morganelectroceramics.com

Links:

* Power Rating & Operating Conditions

Disclaimer: Please note that all product, product specifications and data detailed in this brochure are subject to change without notice to improve reliability, function, design or otherwise. Morgan Advanced Materials Ltd and its affiliates does not assume any responsibility for the correctness of this information nor for damages consequent to its use. Statements regarding the suitability of products for certain types of applications are based on knowledge of typical requirements that are often placed on Morgan products in generic applications.

Morgan Advanced Materials
Technical Ceramics
Vauxhall Industrial Estate
Ruabon
United Kingdom LL14 6HY