

RF Power Capacitors Class1 10kV Hi-Load : Pot Types

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

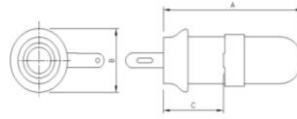
Dielectric Constant @ 20°C / 1MHz		15	36	77	90	190
Temperature Coefficient of Capacitance	ppm/°C	+100 ± 60	0± 30	0± 30	-750±80	-1300±120
Tan δ@1MHz (Cap ≤ 1000 pF)	x 10 ⁻⁴	≤5	≤5	≤5	≤5	≤5
Tan δ@1kHz (Cap > 1000 pF)	x 10 ⁻⁴	≤10	≤10	≤10	≤10	≤10
Dielectric Strength	kVmm ⁻¹ dc	22	20	15	10	10
Volume Resistivity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

Electrical Specification

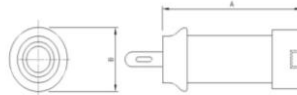
Capacitance Range	20 – 2500pF (see table)
Capacitance Tolerance	±20% ±10% Consult factory for other tolerances
Rated RF Voltage	6-10 kVpk (see table)
Test Voltage (50Hz)	√2 x Rated Voltage / 60sec
RF Voltage / Current kVAr Load v Frequency	See RF rating curves (ref 30°C max ambient temperature)
Operating Temperature Range	-25°C +95°C
Maximum Relative Humidity	75%

Outline Drawing 10kV Hi-Load : Pot Types

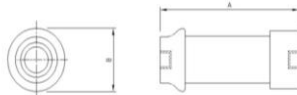
Tag Pattern (TP)



Tag-Screw Pattern (TS)

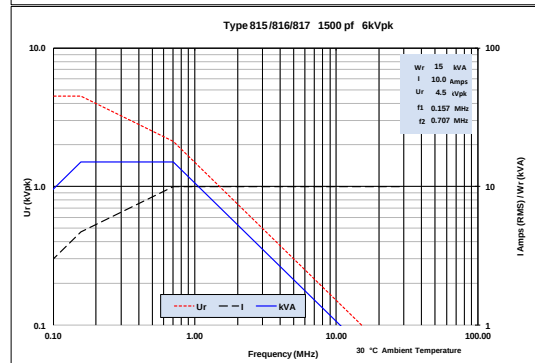
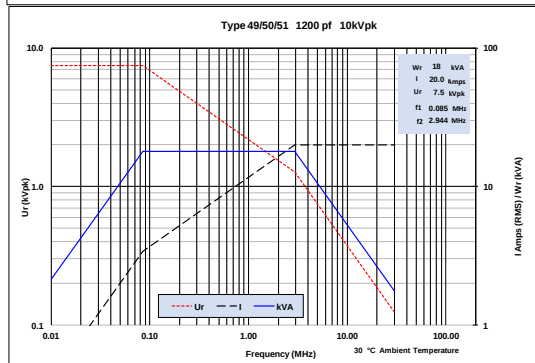
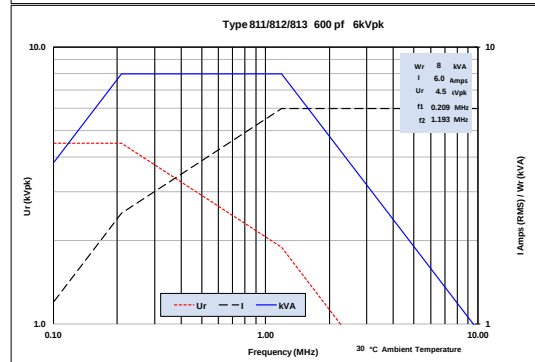
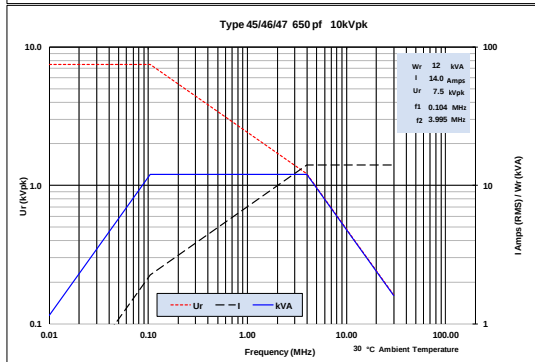
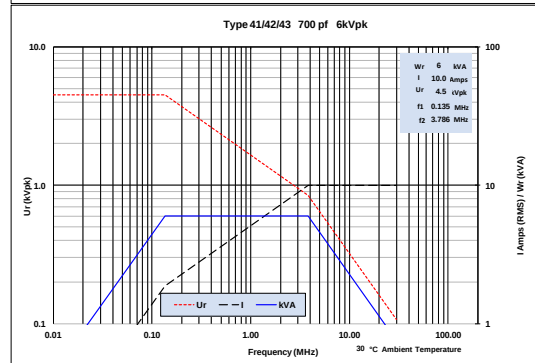
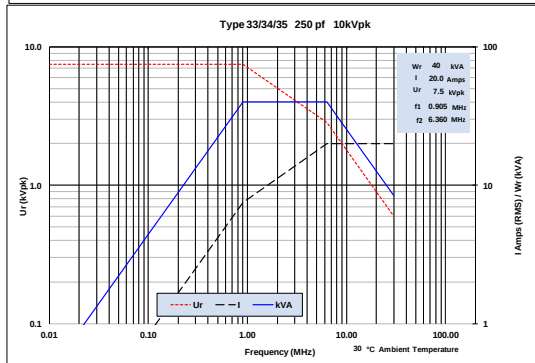
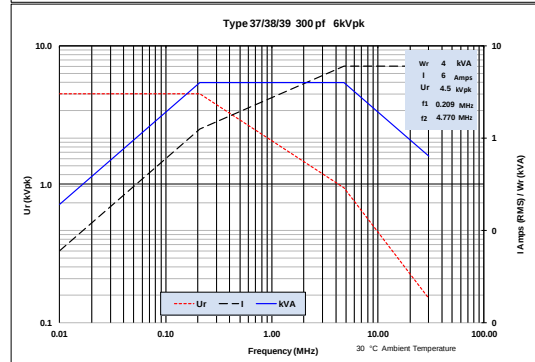
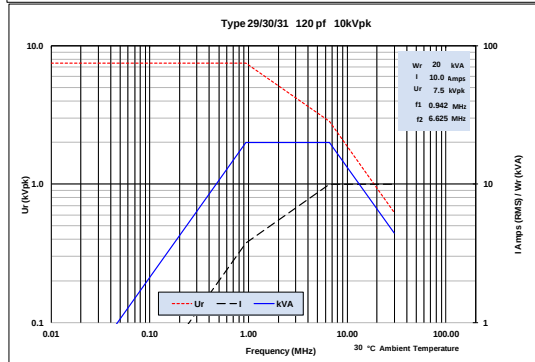
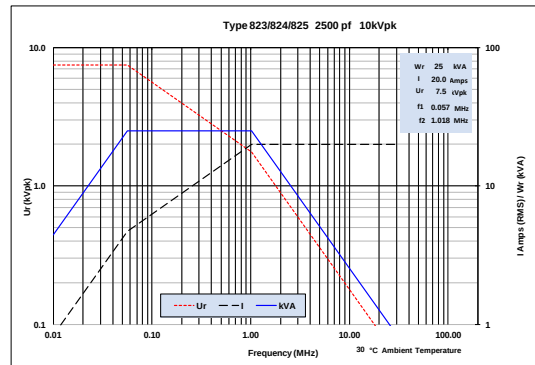
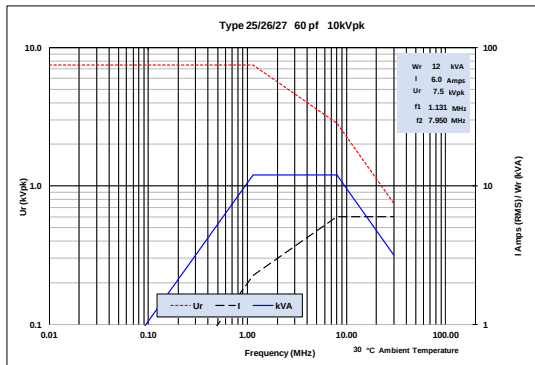


Screw Pattern (SP)



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)	C nom (mm)	Thread Size (mm)
25TP	20-60	+100	10	7.5	10	12	6	30	30	15	
26TS	20-60	+100	10	7.5	10	12	6	42	30		M4
27SP	20-60	+100	10	7.5	10	12	6	44	30		M4
29TP	50-120	+100	10	7.5	10	20	10	50	30	20	
30TS	50-120	+100	10	7.5	10	20	10	62	30		M4
31SP	50-120	+100	10	7.5	10	20	10	64	30		M4
33TP	120-250	+100	10	7.5	10	40	20	90	45	37	
34TS	120-250	+100	10	7.5	10	40	20	103	45		M6
35SP	120-250	+100	10	7.5	10	40	20	105	45		M6
45TP	250-650	-750	10	7.5	10	12	14	55	45	25	
46TS	250-650	-750	10	7.5	10	12	14	67	45		M6
47SP	250-650	-750	10	7.5	10	12	14	69	45		M6
49TP	650-1200	-750	10	7.5	10	18	20	90	45	37	
50TS	650-1200	-750	10	7.5	10	18	20	103	45		M6
51SP	650-1200	-750	10	7.5	10	18	20	105	45		M6
823TP	1300-2500	-1300	10	7.5	10	25	20	90	45	37	
824TS	1300-2500	-1300	10	7.5	10	25	20	103	45		M6
825SP	1300-2500	-1300	10	7.5	10	25	20	105	45		M6
866SP	4000	-1300	10	7.5	10	35	20	150	45		M6
37TP	130-300	-750	6	4.5	6	4	6	30	30	15	
38TS	130-300	-750	6	4.5	6	4	6	42	30		M4
39SP	130-300	-750	6	4.5	6	4	6	44	30		M4
41TP	300-700	-750	6	4.5	6	6	10	50	30	20	
42TS	300-700	-750	6	4.5	6	6	10	62	30		M4
43SP	300-700	-750	6	4.5	6	6	10	64	30		M4
811TP	250-600	-1300	6	4.5	6	8	6	30	30	15	
812TS	250-600	-1300	6	4.5	6	8	6	42	30		M4
813SP	250-600	-1300	6	4.5	6	8	6	44	30		M4
815TP	600-1500	-1300	6	4.5	6	15	10	50	30	20	
816TS	600-1500	-1300	6	4.5	6	15	10	62	30		M4
817SP	600-1500	-1300	6	4.5	6	15	10	64	30		M4



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

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