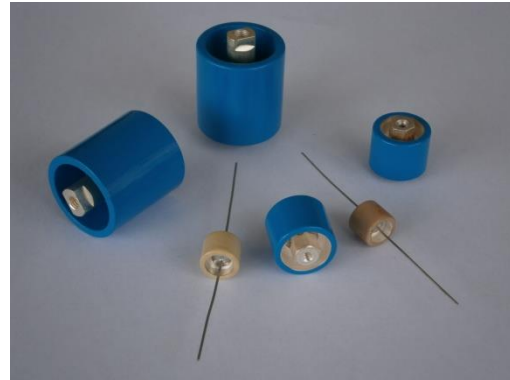


RF Power Capacitors Class1

12.7, 20 & 30mm Doorknob/Barrel Transmitting 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)

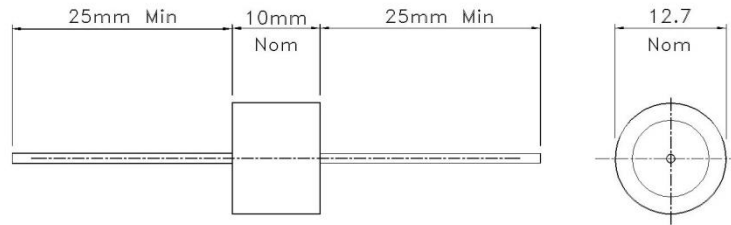
Features :

- 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	160	190
Temperature Coefficient of Capacitance	ppm/°C	+100 ± 60	0 ± 30	0 ± 30	-750 ±80	-750 ±120	-1300 ±120
Tan δ 1 MHz (Cap ≤ 1000 pF)	x 10 ⁻⁴	≤5	≤5	≤5	≤5	≤5	≤5
Tan δ 1 kHz (Cap > 1000 pF)	x 10 ⁻⁴	≤10	≤10	≤10	≤10	≤10	≤10
Dielectric Strength	kVmm ⁻¹ dc	22	20	15	10	10	10
Volume Resistivity	Ωm	10 ¹³	10 ¹³	10 ¹³	10 ¹³	10 ¹³	10 ¹³

Electrical Specification	
Capacitance Range	2 – 2500pF (see table)
Capacitance Tolerance	See Tables. Consult factory for other tolerances
Rated RF Voltage	7.5 – 15kV pk (see table)
Test Voltage	1.5 x Rated Voltage / 30sec
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 : 12.7mm Diameter Wire Leaded

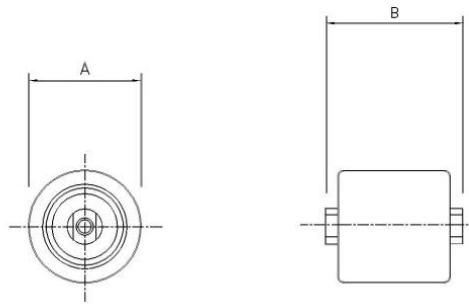


Electrical Characteristics - CLASS 1 Ceramic Discs

Type No	Cap Value pF	TCC ppm/ °C	Rated (ACpk + DC) kVpk	Rated AC kVpk	Test 50 Hz kVrms	Max POWER Rating (kVA _r)	Max Current Rating (A rms)
10	2 - 6.5	+100	4	3	4	4	2
11	6.6 - 15	0	4	3	4	4	2
12	15 - 50	-750	4	3	4	4	2
806	50 - 100	-1300	4	3	4	4	2

Outline Drawing : 30mm Doorknob Range

Thread – 10/32 UNF

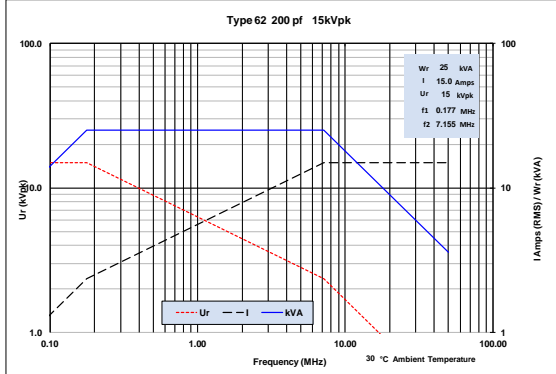
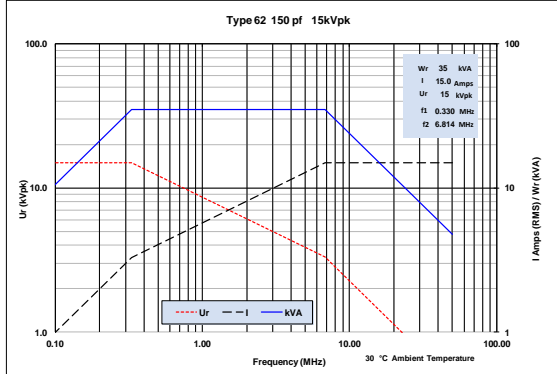
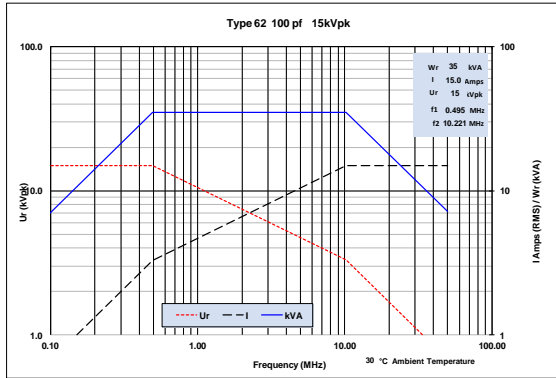
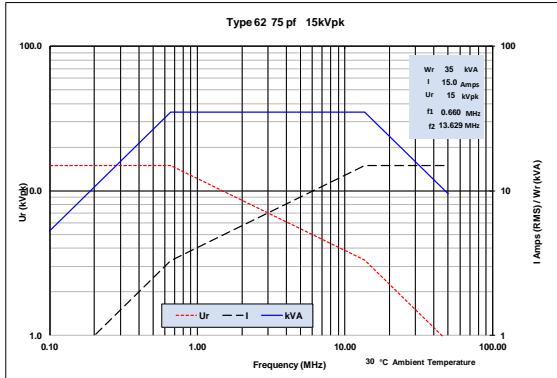
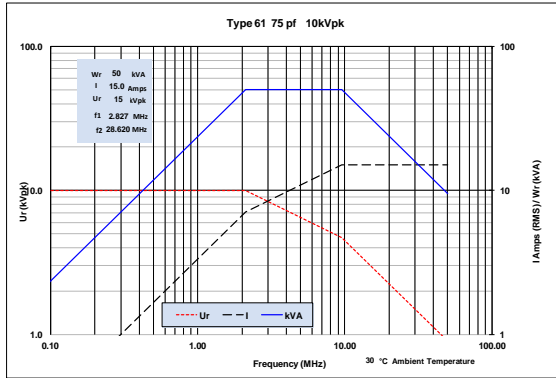
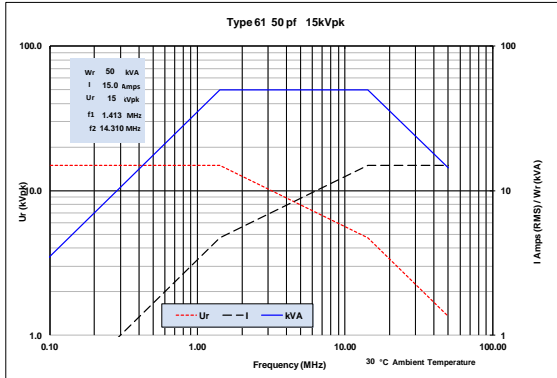
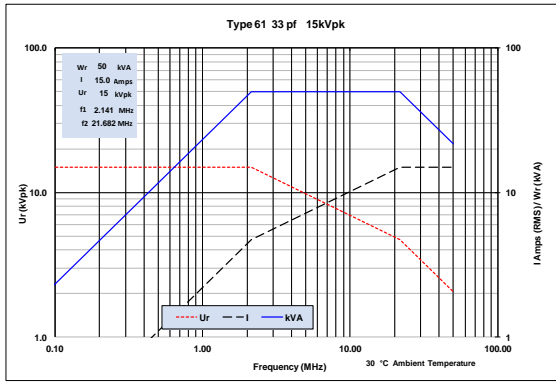
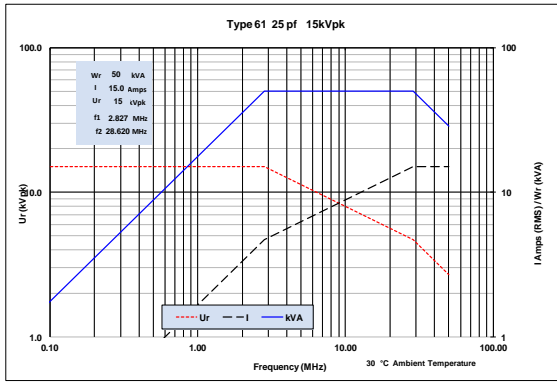


Electrical Characteristics

Type No	Cap Value pF	TCC ppm/°C	Cap Tol Min	Rated Voltage kVdc	Max POWER Rating	Max Current Rating (A rms)	A nom (mm)	B nom (mm)
61	5	100+/-30	+/-0.5pF	15	50	15	31.9	41.5
61	7	100+/-30	+/-0.5pF	15	50	15	31.9	41.5
61	9	100+/-30	+/-0.5pF	15	50	15	31.9	40.5
61	10	0+/-30	+/-5%	15	50	15	31.9	41.5
61	15	0+/-30	+/-5%	15	50	15	31.9	41.5
61	20	0+/-30	+/-5%	15	50	15	31.9	40.5
61	25	0+/-30	+/-5%	15	50	15	31.9	43.5
61	33	0+/-30	+/-5%	15	50	15	31.9	41
61	40	0+/-30	+/-5%	15	50	15	31.9	39.5
61	50	0+/-30	+/-5%	15	50	15	31.9	42.5
61	60	0+/-30	+/-5%	15	50	15	31.9	41.5
61	75	0+/-30	+/-5%	10	50	15	31.9	41
62	75	-750+/-80	+/-5%	15	35	15	31.9	40.5
62	83	-750+/-80	+/-5%	15	35	15	31.9	40
62	100	-750+/-80	+/-5%	15	35	15	31.9	39
62	120	-750+/-120	+/-5%	15	35	15	31.9	42
62	150	-750+/-120	+/-5%	15	35	15	31.9	40
62	170	-750+/-120	+/-5%	15	25	15	31.9	39.5
62	200	-750+/-120	+/-5%	15	25	15	31.9	43

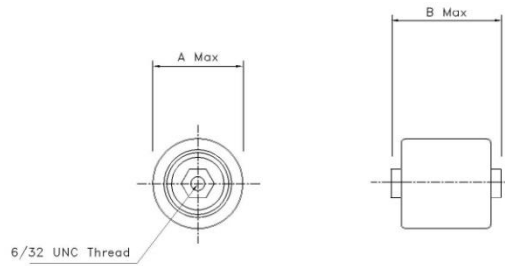
Electrical Characteristics

Type No	Cap Value pF	Temp Charc	Cap Tol Min	Rated Voltage kVdc	Max POWER Rating	Max Current Rating (A rms)	A nom (mm)	B nom (mm)
64	750	Z5T	+/-20%	15	1.5	10	31.9	42
64	1000	Z5T	+/-20%	15	1.5	10	31.9	43
64	1200	Z5T	+/-20%	15	1.5	10	31.9	41.5
64	1500	Z5U	+/-20%	15	0.8	10	31.9	43



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

Outline Drawing : 20 mm Doorknob Range



Electrical Characteristics

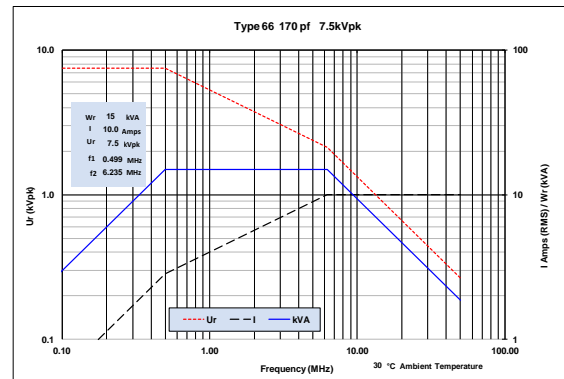
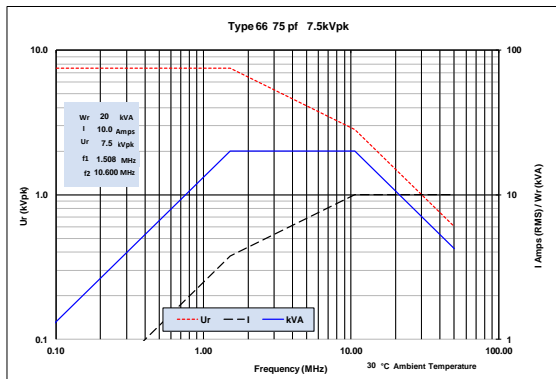
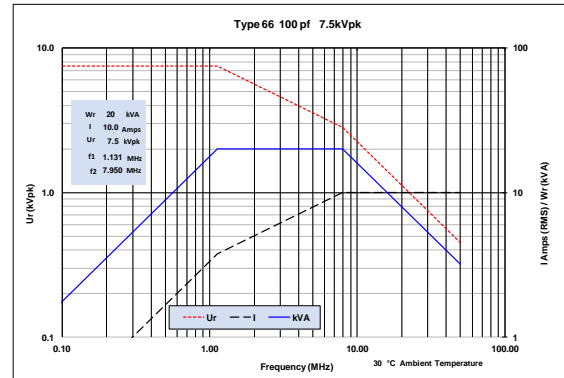
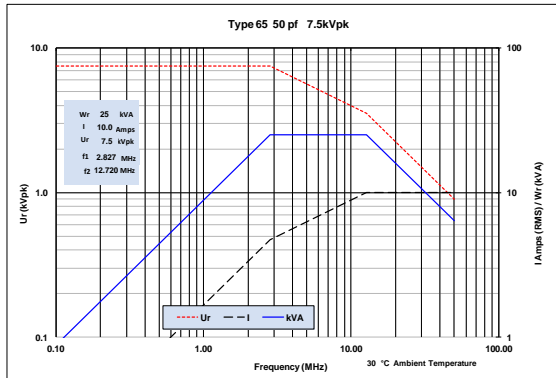
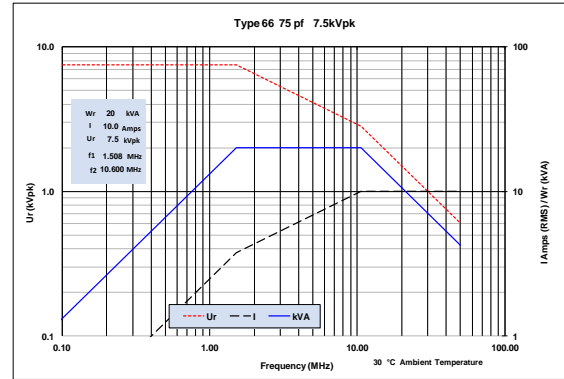
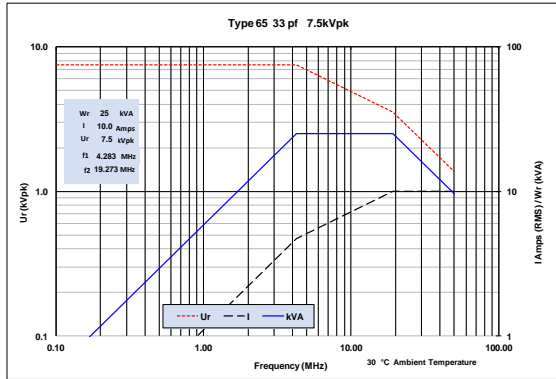
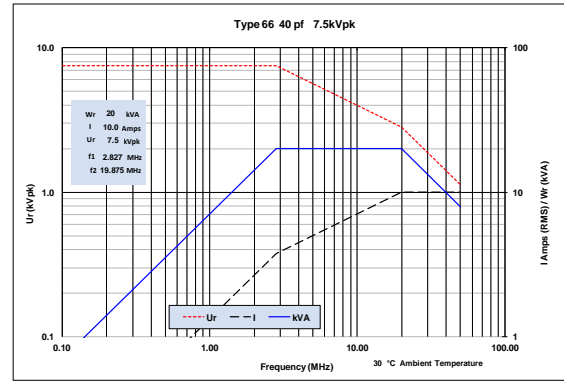
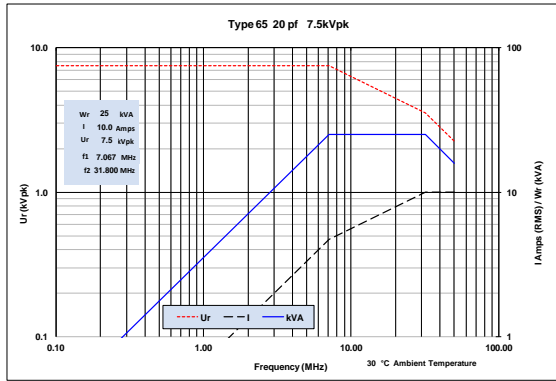
Type No	Cap Value pF	TCC ppm/°C	Cap Tol Min	Rated Voltage kVdc	Max POWER Rating	Max Current Rating (A rms)	A max (mm)	B max (mm)
65	5	0+/-30	+/-0.5pF	7.5	25	10	20.83	22.61
65	10	0+/-30	+/-5%	7.5	25	10	20.83	22.61
65	15	0+/-30	+/-5%	7.5	25	10	20.83	22.61
65	20	0+/-30	+/-5%	7.5	25	10	20.83	22.61
65	25	0+/-30	+/-5%	7.5	25	10	20.83	22.61
65	33	0+/-30	+/-5%	7.5	25	10	20.83	22.61
65	40	0+/-30	+/-5%	7.5	25	10	20.83	22.61
65	50	0+/-30	+/-5%	7.5	25	10	20.83	22.61
65	60	0+/-30	+/-5%	7.5	25	10	20.83	22.61
65	62	0+/-30	+/-5%	7.5	25	10	20.83	22.61
65	68	0+/-30	+/-5%	7.5	25	10	20.83	22.61
65	75	0+/-30	+/-5%	7.5	25	10	20.83	22.61
66	40	-750+/-80	+/-5%	7.5	35	10	20.83	22.61
66	50	-750+/-80	+/-5%	7.5	35	10	20.83	22.61
66	55	-750+/-80	+/-5%	7.5	25	10	20.83	22.61
66	60	-750+/-80	+/-5%	7.5	25	10	20.83	22.61
66	65	-750+/-80	+/-5%	7.5	35	10	20.83	22.61
66	75	-750+/-80	+/-5%	7.5	35	10	20.83	22.61
66	82	-750+/-80	+/-5%	7.5	25	10	20.83	22.61
66	100	-750+/-80	+/-5%	7.5	25	10	20.83	22.61
66	120	-750+/-120	+/-5%	7.5	15	10	20.83	22.61
66	150	-750+/-120	+/-5%	7.5	15	10	20.83	22.61
66	170	-750+/-120	+/-5%	7.5	15	10	20.83	22.61

Electrical Characteristics

Type No	Cap Value pF	Temp Charc	Cap Tol Min	Rated Voltage kVdc	Max POWER Rating	Max Current Rating (A rms)	A nom (mm)	B nom (mm)
68	800	Z5T	+/-20%	7.5	0.75	8	20.83	22.61
68	900	Z5T	+/-20%	7.5	0.75	8	20.83	22.61
68	1000	Z5U	+/-20%	7.5	0.4	8	20.83	22.61
68	1500	Z5U	+/-20%	7.5	0.4	8	20.83	22.61
68	2000	Z5U	+/-20%	7.5	0.4	8	20.83	22.61
68	2500	Z5U	+/-20%	7.5	0.4	8	20.83	22.61

Electrical Characteristics								
Type No	Cap Value pF	TCC ppm/°C	Cap Tol Min	Rated Voltage kVdc	Max POWER Rating	Max Current Rating (A rms)	A max (mm)	B max (mm)
65	5	0+/-30	+/-0.5pF	7.5	25	10	20.83	22.61
65	10	0+/-30	+/-5%	7.5	25	10	20.83	22.61
65	15	0+/-30	+/-5%	7.5	25	10	20.83	22.61
65	20	0+/-30	+/-5%	7.5	25	10	20.83	22.61
65	25	0+/-30	+/-5%	7.5	25	10	20.83	22.61
65	33	0+/-30	+/-5%	7.5	25	10	20.83	22.61
65	40	0+/-30	+/-5%	7.5	25	10	20.83	22.61
65	50	0+/-30	+/-5%	7.5	25	10	20.83	22.61
65	60	0+/-30	+/-5%	7.5	25	10	20.83	22.61
65	62	0+/-30	+/-5%	7.5	25	10	20.83	22.61
65	68	0+/-30	+/-5%	7.5	25	10	20.83	22.61
65	75	0+/-30	+/-5%	7.5	25	10	20.83	22.61
66	40	-750+/-80	+/-5%	7.5	35	10	20.83	22.61
66	50	-750+/-80	+/-5%	7.5	35	10	20.83	22.61
66	55	-750+/-80	+/-5%	7.5	25	10	20.83	22.61
66	60	-750+/-80	+/-5%	7.5	25	10	20.83	22.61
66	65	-750+/-80	+/-5%	7.5	35	10	20.83	22.61
66	75	-750+/-80	+/-5%	7.5	35	10	20.83	22.61
66	82	-750+/-80	+/-5%	7.5	25	10	20.83	22.61
66	100	-750+/-80	+/-5%	7.5	25	10	20.83	22.61
66	120	-750+/-120	+/-5%	7.5	15	10	20.83	22.61
66	150	-750+/-120	+/-5%	7.5	15	10	20.83	22.61
66	170	-750+/-120	+/-5%	7.5	15	10	20.83	22.61

Electrical Characteristics								
Type No	Cap Value pF	Temp Charc	Cap Tol Min	Rated Voltage kVdc	Max POWER Rating	Max Current Rating (A rms)	A nom (mm)	B nom (mm)
68	800	Z5T	+/-20%	7.5	0.75	8	20.83	22.61
68	900	Z5T	+/-20%	7.5	0.75	8	20.83	22.61
68	1000	Z5U	+/-20%	7.5	0.4	8	20.83	22.61
68	1500	Z5U	+/-20%	7.5	0.4	8	20.83	22.61
68	2000	Z5U	+/-20%	7.5	0.4	8	20.83	22.61
68	2500	Z5U	+/-20%	7.5	0.4	8	20.83	22.61



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

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