

Interference Suppression Film Capacitors MKP Radial Potted Type

APPLICATIONS

Y2 class

REFERENCE STANDARDS

 "IEC 60384-14 2nd edition and EN 132400"

"IEC 60065, pass. flamm. class B"

250 V: UL1414

300 V: UL1283; ENEC

MARKING

C-value; tolerance; rated voltage; sub-class; manufacturer's type designation; code for dielectric material; manufacturer location; manufacturer's emblem; year and week

DIELECTRIC

Polypropylene film

ELECTRODES

Metallized film

CONSTRUCTION

Mono construction

RATED VOLTAGE

AC 300 V; 50 to 60 Hz

PERMISSIBLE DC VOLTAGE

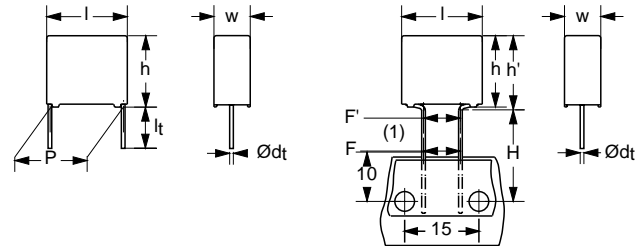
DC 1000 V

ENCAPSULATION

Plastic case, epoxy resin sealed, flame retardant UL-class 94 V-0

CLIMATIC TESTING CLASS ACC. TO EN 60068-1

55/105/56/B



Dimensions in mm.

(1) $|F - F'| < 0.3 \text{ mm}$
 $F = 7.5 + 0.6/-0.1 \text{ mm}$

CAPACITANCE RANGE (E12 SERIES)

 E12 series 0.001 to 0.47 μF

Preferred values acc. to E6

CAPACITANCE TOLERANCE

 20%; $\pm 10\%$; $\pm 5\%$
LEADS

Tinned wire

RATED TEMPERATURE

105 °C

MAXIMUM APPLICATION TEMPERATURE

105 °C

FEATURES

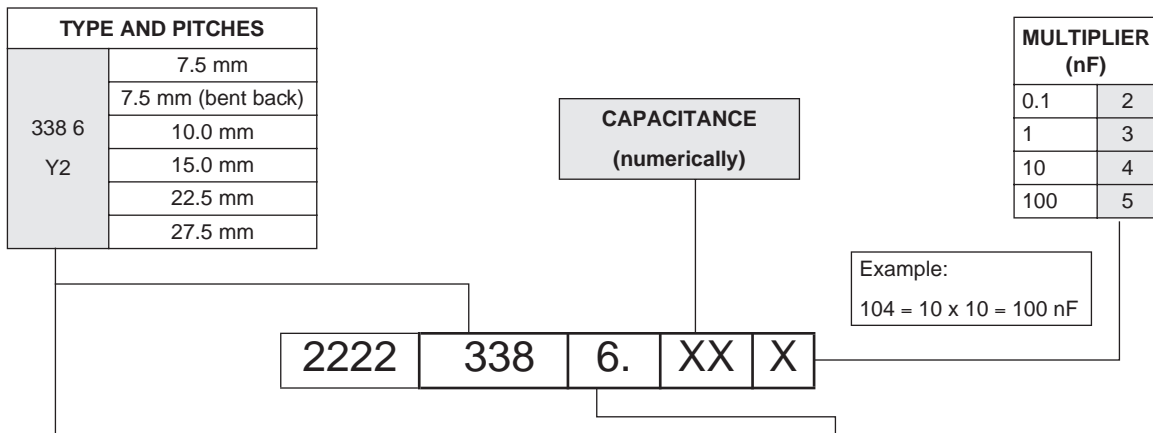
7.5 to 27.5 mm lead pitch. Supplied loose in box, taped on ammpack or reel

DETAIL SPECIFICATION

For more detailed data and test requirements see "Type detail specification HQN-384-14/121"



COMPOSITION OF CATALOG NUMBER



TYPE	PACKAGING	STANDARD DIMENSIONS	PREFERRED TYPES	
338 6 Y2	loose in box	lead length 3.5 +1/-0.5 mm or 3.5 ±0.3 mm	60	
		lead length 5.0 ±1.0 mm	62	
lead length 25.0 ±2.0 mm		64		
	taped	pitch = 7.5 mm or bent back to 7.5 mm; H = 16.0 mm; for P ₀ = 15.0 mm; reel diameter = 500 mm	66	
		ALTERNATIVE PITCH SIZES	ON REQUEST	
338 6 Y2	loose in box	lead length 3.5 +1/-0.5 mm or 3.5 ±0.3 mm	±20%	see tables for details
		lead length 5.0 ±1.0 mm		
		lead length 25.0 ±2.0 mm		
		ALTERNATIVE TAPED VERSION	ON REQUEST	
338 6 Y2	taped	H = 18.5 mm; for P ₀ = 12.7 mm; reel diameter = 500 mm	±20%	see tables for details
		ALTERNATIVE C-TOL	ON REQUEST	
338 6 Y2	loose in box	lead length 3.5 +1/-0.5 mm or 3.5 ±0.3 mm	±10%	see tables for details
		lead length 5.0 ±1.0 mm	±10%	
		lead length 25.0 ±2.0 mm	±10%	
	taped	pitch = 7.5 mm or bent back to 7.5 mm; H = 16.0 mm; for P ₀ = 15.0 mm; reel diameter = 500 mm	±10%	see tables for details
		H = 18.5 mm; for P ₀ = 12.7 mm; reel diameter = 500 mm	±10%	
	loose in box	lead length 3.5 +1/-0.5 mm or 3.5 ±0.3 mm	±5%	see HQN-384-14/119
		lead length 5.0 mm	±5%	
		lead length 25.0 ±2.0 mm	±5%	
pitch = 7.5 mm or bent back to 7.5 mm; H = 16.0 mm; for P ₀ = 15.0 mm; reel diameter = 500 mm		±5%		
taped	H = 18.5 mm; for P ₀ = 12.7 mm; reel diameter = 500 mm	±5%		

SPECIFIC REFERENCE DATA MKP 338 6 275 VAC

DESCRIPTION	VALUE		
	at 1 kHz	at 10 kHz	at 100 kHz
Tangent of loss angle	≤10 × 10 ⁻⁴	≤20 × 10 ⁻⁴	≤100 × 10 ⁻⁴
Rated voltage pulse slope (dU/dt) _R at 420 V for pitch = 7.5 mm and pitch = 10 mm	100 V/μs		
Rated voltage pulse slope (dU/dt) _R at 615 V for: pitch = 15 mm; 22.5 mm; 27.5 mm and pitch = 7.5 mm (bent back)	100 V/μs		
R between leads, for C ≤ 0.33 μF at 100 V; 1 minute	>15000 MΩ		
RC between leads, for C > 0.33 μF at 100 V; 1 minute	>5000 s		
R between leads and case; 100 V; 1 minute	>30000 MΩ		
Withstanding (DC)voltage (cut off current 10 mA); max. rise time 10000 V/s	3400 V; 1 minute		
Withstanding (AC) voltage between leads and case	2100 V; 1 minute		



Interference Suppression Film Capacitors Vishay BCcomponents
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$U_{Rac} = 275 V$; $C-tol = \pm 20\%$

C (μF)	DIMENSIONS w x h x l (mm)	MASS (g)	CATALOG NUMBER 2222 338 AND PACKAGING								
			LOOSE IN BOX					AMMOPACK		REEL	
			short leads ⁽¹⁾			long leads			SPQ		SPQ
			$l_t = 3.5+1/-0.5$ mm	$l_t = 5.0 \pm 1.0$ mm	SPQ	$l_t = 25.0 \pm 2.0$ mm	SPQ				
Pitch = 7.5 \pm 0.4 mm; $d_t = 0.50 \pm 0.05$ mm							H = 18.5 mm; $P_0 = 12.7$ mm		reel: $\varnothing = 500$ mm H = 18.5 mm; $P_0 = 12.7$ mm		
0.001	4.0 x 9.0 x 10.0	0.5	60102	62102	1500	64102	1000	66102	1250	68129	
0.0012			60122	62122		64122		66122		68131	
0.0015			60152	62152		64152		66152		68132	
0.0018			60182	62182		64182		66182		68133	
0.0022			60222	62222		64222		66222		68134	
0.0027			60272	62272		64272		66272		68135	
0.0033	5.0 x 10.5 x 10.0	0.9	60332	62332	1000	64332	1250	66332	1000	68136	
0.0039			60392	62392		64392		66392		68137	
0.0047	6.0 x 11.5 x 10.0	1.0	60472	62472	750	64472	1000	66472	750	68138	
0.0056			60562	62562		64562		66562		68139	
Pitch = 10.0 \pm 0.4 mm; $d_t = 0.60 \pm 0.06$ mm							H = 18.5 mm; $P_0 = 12.7$ mm		reel: $\varnothing = 500$ mm H = 18.5 mm; $P_0 = 12.7$ mm		
0.001	4.0 x 10.0 x 12.5	0.6	68392	68401	1000	68409	1250			68418	
0.0012			68393	68402		68411		68419			
0.0015			68394	68403		68412		68421			
0.0018			68395	68404		68413		68422			
0.0022			68396	68405		68414		68423			
0.0027			68397	68406		68415		68424			
0.0033			68398	68407		68416		68425			
0.0039			68399	68408		68417		68426			
0.0047	5.0 x 11.0 x 12.5	0.9	68101	68106	1000	68112	1000			68141	
0.0056			68102	68107		68113		68142			
0.0068			68103	68108		68114		68143			
0.0082	6.0 x 12.0 x 12.5	1.0	68104	68109	750	68115	750			68144	
0.01			68105	68111		68116		68145			
Pitch = 15.0 \pm 0.4 mm; $d_t = 0.60 \pm 0.06$ mm							H = 18.5 mm; $P_0 = 12.7$ mm		reel: $\varnothing = 500$ mm H = 18.5 mm; $P_0 = 12.7$ mm		
0.0068	5.0 x 11.0 x 17.5	1.2	60682	62682	1000	64682	1000			68146	
0.0082			60822	62822		64822		68147			
0.01			60103	62103		64103		68148			
0.012			60123	62123		64123		68149			
0.015	6.0 x 12.0 x 17.5	1.4	60153	62153	1000	64153	1000			68151	
0.018			60183	62183		64183		68152			
Original pitch = 15.0 mm; bent back pitch = 7.5 \pm 0.4 mm; $d_t = 0.60 \pm 0.06$ mm							H = 18.5 mm; $P_0 = 12.7$ mm		reel: $\varnothing = 500$ mm⁽²⁾ H = 16.0 mm; $P_0 = 15.0$ mm		
0.0068	5.0 x 13.0 x 17.5	1.2								66682	
0.0082								66822			
0.01								66103			
0.012								66123			
0.015	6.0 x 14.0 x 17.5	1.4								66153	
0.018								66183			



C (μ F)	DIMENSIONS w × h × l (mm)	MASS (g)	CATALOG NUMBER 2222 338 AND PACKAGING								
			LOOSE IN BOX					AMMOPACK		REEL	
			short leads ⁽¹⁾			long leads		SPQ	SPQ		SPQ
			$l_t = 3.5+1/-0.5$ mm	$l_t = 5.0 \pm 1.0$ mm	SPQ	$l_t = 25.0 \pm 2.0$ mm	SPQ				
Pitch = 15.0 ±0.4 mm; $d_t = 0.80 \pm 0.08$ mm								H = 18.5 mm; $P_0 = 12.7$ mm		reel: $\varnothing = 500$ mm H = 18.5 mm; $P_0 = 12.7$ mm	
0.022 0.027	7.0 × 13.5 × 17.5	1.9	60223 60273	62223 62273	750	64223 64273	500			68153 68154	800
0.033 0.039	8.5 × 15.0 × 17.5	2.6	60333 60393	62333 62393	750	64333 64393	500			68155 68156	650
0.047 0.056	10.0 × 16.5 × 17.5	3.1	60473 60563	62473 62563	500	64473 64563	450			68157 68158	600
Original pitch = 15.0 mm; bent back pitch = 7.5 ±0.4 mm; $d_t = 0.80 \pm 0.08$ mm								H = 18.5 mm; $P_0 = 12.7$ mm		reel: $\varnothing = 500$ mm⁽²⁾ H = 16.0 mm; $P_0 = 15.0$ mm	
0.022 0.027	7.0 × 15.5 × 17.5	1.9								66223 66273	700
0.033 0.039	8.5 × 17.0 × 17.5	2.6								66333 66393	550
0.047 0.056	10.0 × 18.5 × 17.5	3.1								66473 66563	500
Pitch = 22.5 ±0.4 mm; $d_t = 0.80 \pm 0.08$ mm								H = 18.5 mm; $P_0 = 12.7$ mm		reel: $\varnothing = 500$ mm H = 18.5 mm; $P_0 = 12.7$ mm	
0.047 0.056	7.0 × 16.5 × 26.0	3.2	68123 68124	68125 68126	200	68127 68128	250				
0.068 0.082	8.5 × 18.0 × 26.0	4.4	60683 60823	62683 62823	200	64683 64823	250				
0.1	10.0 × 19.5 × 26.0	5.5	60104	62104	200	64104	200				
0.12 0.15	12.0 × 22.0 × 26.0	7.8	60124 60154	62124 62154	150	64124 64154	200				
Pitch = 27.5 ±0.4 mm; $d_t = 0.80 \pm 0.08$ mm								H = 18.5 mm; $P_0 = 12.7$ mm		reel: $\varnothing = 500$ mm H = 18.5 mm; $P_0 = 12.7$ mm	
0.18 0.22	13.0 × 23.0 × 31.0	10.4	60184 60224	62184 62224	100	64184 64224	125				
0.27	15.0 × 25.0 × 31.0	12.8	60274	62274	100	64274	125				
0.33 0.39	18.0 × 28.0 × 31.0	17.2	60334 60394	62334 62394	100	64334 64394	100				
0.47	21.0 × 31.0 × 31.0	20.4	60474	62474	50	64474	75				

Notes

- $l_t = 3.5 +1/-0.5$ mm for pitch = 7.5 mm and 10 mm and 3.5 ± 0.3 mm for pitch = 15 mm; 22.5 mm and 27.5 mm.
- Reel diameter = 356 mm is available on request.



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U_{Rac} = 275 V; C-tol = ±10%

C (μF)	DIMENSIONS w × h × l (mm)	MASS (g)	CATALOG NUMBER 2222 338 AND PACKAGING										
			LOOSE IN BOX					AMMOPACK		REEL			
			short leads ⁽¹⁾			long leads		SPQ	SPQ	SPQ	SPQ		
			l _t = 3.5+1/-0.5 mm	l _t = 5.0 ±1.0 mm	SPQ	l _t = 25.0 ±2.0 mm	SPQ						
Pitch = 7.5 ±0.4 mm; d_t = 0.50 ±0.05 mm								H = 18.5 mm; P₀ = 12.7 mm		reel: Ø = 500 mm H = 18.5 mm; P₀ = 12.7 mm			
0.001	4.0 × 9.0 × 10.0	0.5	61102	63102	1500	65102	1000	67102	1250	68179	2500		
0.0012			61122	63122		65122		67122		68181			
0.0015			61152	63152		65152		67152		68182			
0.0018			61182	63182		65182		67182		68183			
0.0022			61222	63222		65222		67222		68184			
0.0027			61272	63272		65272		67272		68185			
0.0033	5.0 × 10.5 × 10.0	0.9	61332	63332	1000	65332	1250	67332	1000	68186	2000		
0.0039			61392	63392		65392		67392		68187			
0.0047	6.0 × 11.5 × 10.0	1.0	61472	63472	750	65472	1000	67472	750	68188	1900		
0.0056			61562	63562		65562		67562		68189			
Pitch = 10.0 ±0.4 mm; d_t = 0.60 ±0.06 mm								H = 18.5 mm; P₀ = 12.7 mm		reel: Ø = 500 mm H = 18.5 mm; P₀ = 12.7 mm			
0.001	4.0 × 10.0 × 12.5	0.6	68436	68445	1000	68454	1250			68463	1400		
0.0012			68437	68446		68455				68464			
0.0015			68438	68447		68456				68465			
0.0018			68439	68448		68457				68466			
0.0022			68441	68449		68458				68467			
0.0027			68442	68451		68459				68468			
0.0033			68443	68452		68461				68469			
0.0039	68444	68453	68462	68471									
0.0047	5.0 × 11.0 × 12.5	0.9	68159	68164	1000	68168	1000			68191	1100		
0.0056			68161	68165		68169				68192			
0.0068	6.0 × 12.0 × 12.5	1.0	68162	68166	750	68171	750			68193	900		
0.0082			68163	68167		68172				68194			
Pitch = 15.0 ±0.4 mm; d_t = 0.60 ±0.06 mm								H = 18.5 mm; P₀ = 12.7 mm		reel: Ø = 500 mm H = 18.5 mm; P₀ = 12.7 mm			
0.0068	5.0 × 11.0 × 17.5	1.2	61682	63682	1000	65682	1000			68202	1100		
0.0082			61822	63822		65822				68203			
0.01			61103	63103		65103				68204			
0.012			61123	63123		65123				68205			
0.015	6.0 × 12.0 × 17.5	1.4	61153	63153	1000	65153	1000			68206	900		
0.018			61183	63183		65183				68207			
Original pitch = 15.0 mm; bent back pitch = 7.5 ±0.4 mm; d_t = 0.60 ±0.06 mm								H = 18.5 mm; P₀ = 12.7 mm		reel: Ø = 500 mm⁽²⁾ H = 16.0 mm; P₀ = 15.0 mm			
0.0068	5.0 × 13.0 × 17.5	1.2										67682	950
0.0082												67822	
0.01												67103	
0.012												67123	
0.015	6.0 × 14.0 × 17.5	1.4										67153	800
0.018												67183	



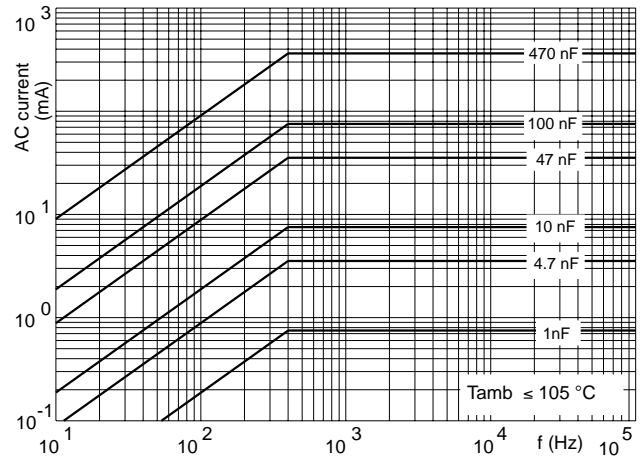
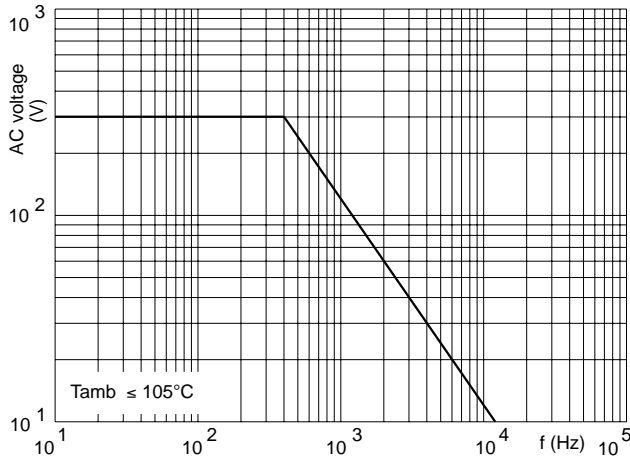
C (μ F)	DIMENSIONS w × h × l (mm)	MASS (g)	CATALOG NUMBER 2222 338 AND PACKAGING									
			LOOSE IN BOX					AMMOPACK		REEL		
			short leads ⁽¹⁾			long leads				SPQ		SPQ
			$l_t =$ 3.5+1/-0.5 mm	$l_t =$ 5.0 ±1.0 mm	SPQ	$l_t =$ 25.0 ±2.0 mm	SPQ					
Pitch = 15.0 ±0.4 mm; $d_t = 0.80 \pm 0.08$ mm								H = 18.5 mm; P₀ = 12.7 mm		reel: $\varnothing = 500$ mm H = 18.5 mm; P₀ = 12.7 mm		
0.022	7.0 × 13.5 × 17.5	1.9	61223	63223	750	65223	500			68208	800	
0.027	8.5 × 15.0 × 17.5	2.6	61273	63273	750	65273	500			68209	650	
0.033			61333	63333		65333						
0.039	10.0 × 16.5 × 17.5	3.1	61393	63393	500	65393	450			68212	600	
0.047			61473	63473		65473						
Original pitch = 15.0 mm; bent back pitch = 7.5 ±0.4 mm; $d_t = 0.80 \pm 0.08$ mm								H = 18.5 mm; P₀ = 12.7 mm		reel: $\varnothing = 500$ mm⁽²⁾ H = 16.0 mm; P₀ = 15.0 mm		
0.022	7.0 × 15.5 × 17.5	1.9								67223	700	
0.027	8.5 × 17.0 × 17.5	2.6								67273	550	
0.033			67333									
0.039	10.0 × 18.5 × 17.5	3.1								67393	500	
0.047			67473									
Pitch = 22.5 ±0.4 mm; $d_t = 0.80 \pm 0.08$ mm								H = 18.5 mm; P₀ = 12.7 mm		reel: $\varnothing = 500$ mm H = 18.5 mm; P₀ = 12.7 mm		
0.047	7.0 × 16.5 × 26.0	3.2	68173	68175	200	68177	250					
0.056	8.5 × 18.0 × 26.0	4.4	68174	68176	200	68178	250					
0.068			61683	63683		65683						
0.082	10.0 × 19.5 × 26.0	5.5	61823	63823	200	65823	200					
0.1			61104	63104		65104						
0.12	12.0 × 22.0 × 26.0	7.8	61124	63124	150	65124	200					
0.15			61154	63154		65154						
Pitch = 27.5 ±0.4 mm; $d_t = 0.80 \pm 0.08$ mm								H = 18.5 mm; P₀ = 12.7 mm		reel: $\varnothing = 500$ mm H = 18.5 mm; P₀ = 12.7 mm		
0.18	13.0 × 23.0 × 31.0	10.4	61184	63184	100	65184	125					
0.22	15.0 × 25.0 × 31.0	12.8	61224	63224	100	65224	125					
0.27	18.0 × 28.0 × 31.0	17.2	61274	63274	100	65274	100					
0.33			61334	63334		65334						
0.39	21.0 × 31.0 × 31.0	20.4	61394	63394	50	65394	75					
0.47			61474	63474		65474						

Notes

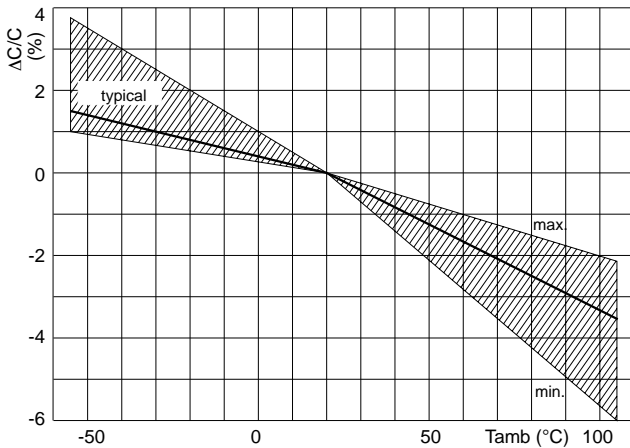
- $l_t = 3.5 +1/-0.5$ mm for pitch = 7.5 mm and 10 mm and 3.5 ± 0.3 mm for pitch = 15 mm; 22.5 mm and 27.5 mm.
- Reel diameter = 356 mm is available on request.



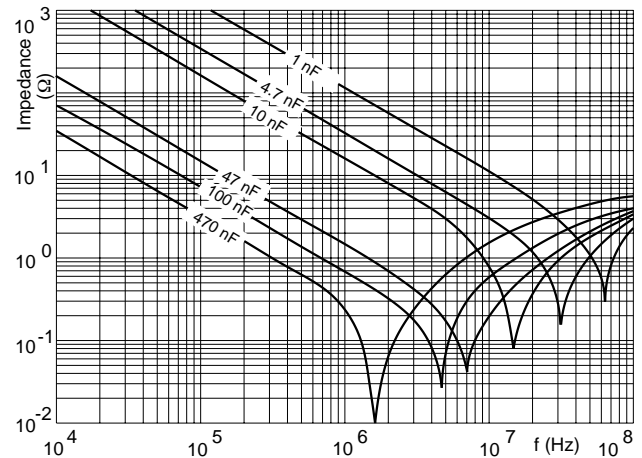
MAXIMUM RMS VOLTAGE AND AC CURRENT (SINEWAVE) AS A FUNCTION OF FREQUENCY



CAPACITANCE



IMPEDANCE



APPROVALS

COUNTRY	SPECIFICATION	ELECTRICAL VALUES	FILE NUMBERS	APPROVAL MARK
U.S.A. and Canada (for AC 250 V)	UL1414 and CSA-C22.2 No.1 antenna coupling	1 nF to 470 nF	E112471	
U.S.A. (for AC 300 V)	UL1283	1 nF to 470 nF	E109565	
CB TEST CERTIFICATE (for AC 300 V)		1 nF to 470 nF: 55/105/56/B	BE-257A1	
Europe (for AC 300 V)	EN132400 IEC 60384-14 2 nd edition	1 nF to 470 nF	ENEC/B19/2001 ENEC12549	