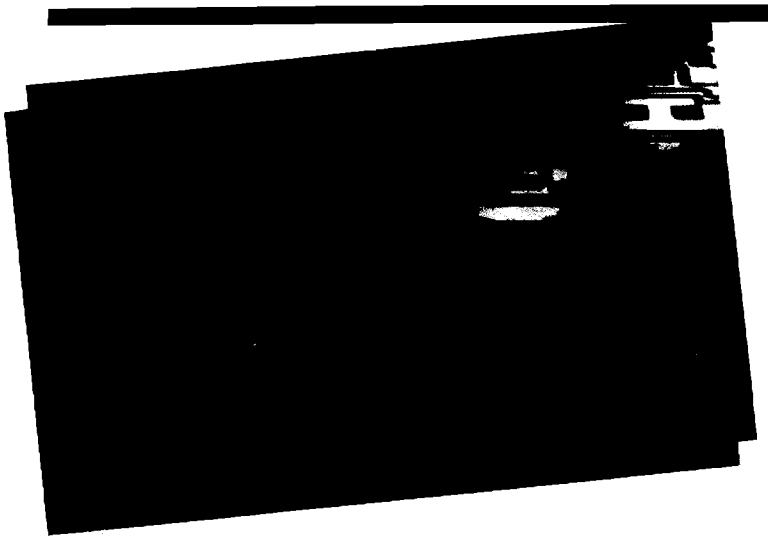
SERIES 1808

Radial Leaded Capacitors
Film/Foil Polyester Dielectric - KT
Preformed Case with Epoxy Endfill



Physical

Dielectric Material	• polyester
Electrode Material	• metal foil
Winding Construction	• non-inductive, extended foil
Lead Material	• tinned wire
Enclosure	• Green, flame retardant (UL94V0) case with epoxy endseal
Component Marking	• Logo, type, capacitance value, tolerance, and rated voltage.
Temperature Range	• – 55° C to 85° C, to 100° C with a voltage derating of 1.2% per degree C
Temperature Coef.	• + 6% from – 55° C to 85° C

Electrical

Capacitance Range	[illegible] @ 1KHz
Tolerance	±2.[illegible] ±[illegible]%, ±20% (H,J,K,M)
Voltage Range	100 [illegible] to 160 VDC
Self Inductance	[illegible] (2mm lead length)
Dissipation Factor	• ≤ .7% @ 1KHz
Dielectric Strength	• 2.0 x Rated VDC
Insulation Resistance	• ≥ 30,000 MegOhms measured after 1 minute of electrification at 100 VDC

Capacitance Drift

±2% over two years at a temperature of between 20° C and 40° C and a RH of between 40% and 60%.

Reliability (at ½ rated voltage @ 40° C)

30 FIT = 30 x 10^{-9} failures/component hour
= 30 ppm / 1000 component hour

Pulse Rise Time (dv/dt)	
Rated Voltage	Volts/microsecond
100	1000
160	1000

At rated voltage @ 25° C.

Performance Testing: Life

Test Conditions

Temperature	• 85° C ± 3° C
Applied Voltage	• 1.50 x rated voltage
Test Duration	• 1000 hours

Performance Requirements

Capacitance	• delta of ≤5%
Dissipation Factor	• delta of ≤.5% @ 10KHz
Insulation Resistance	• ≥50% of initial limit

Humidity

Test Conditions

Temperature	• 40° C ± 2° C
Applied [illegible]tage	• zero volts
Humidit[illegible]	• 93% ± 2% RH
Test Durati[illegible]	• 56 days

P[illegible]ce [illegible]quirements

[illegible]e	• delta of ≤5%
[illegible]n Factor	• delta of ≤.5% @ 1KHz
Insulation Resistance	• ≥50% of initial limit

Solderability

Test Conditions

Solder Temperature	• 260° C ± 5° C
Test Duration	• 10 seconds ± 1 second

Performance Requirements

Capacitance	• delta of ≤2%

Suggested Applications:

Blocking
Bypass
Coupling/Decoupling (High Frequency)
Interference Suppression
Timing
Tuning

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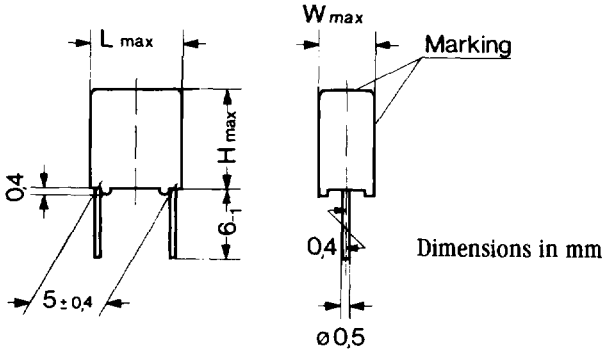


Dimensions in mm

Ordering Code Sequence:

Example: 6800pfd 100VDC ± 10 %

KT 1808 268 01 5

Type
Series Number
Capacitance Code
Voltage Code
Tolerance Code

20 % = 6
10 % = 5
5 % = 4

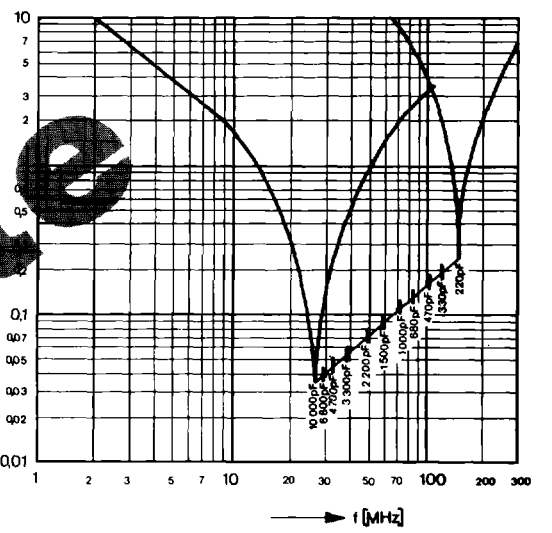
Dimensions (millimeters)

Capacitance		Code 01 100VDC/63VAC			Code 16 160VDC/100VAC		
mfd	Code	W	H	L	W	H	L
220pfd	– 122				2.5	6.5	7.2
330pfd	– 133				2.5	6.5	7.2
470pfd	– 147				2.5	6.5	7.2
680pfd	– 168				2.5	6.5	7.2
0.0010	– 210				2.5	6.5	7.2
0.0015	– 215	2.5	6.5	7.2			
0.0022	– 222	2.5	6.5	7.2			
0.0033	– 233	2.5	6.5	7.2			
0.0047	– 247	2.5	6.5	7.2			
0.0068	– 268	2.5	6.5	7.2			
0.0100	– 310	3.0	7.5	7.2			

Intermediate values are available upon request.

Parts are available on tape for automatic insertion.

Impedance versus frequency Z = f (f) (lead length 2 mm)

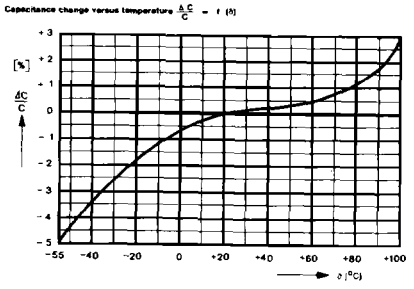


Metric to Inch Conversion

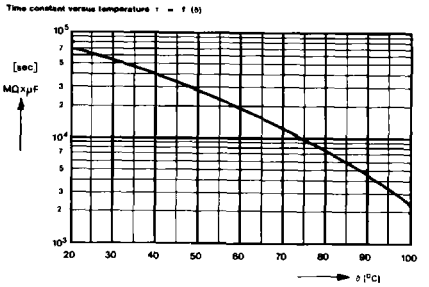
Millimeters					AWG	Inches				
W max	H max	L max	pcm nom	d nom	d	W max	H max	L max	pcm nom	d nom
2.5	6.5	7.2	5.0	.50		.098	.256	.283	.200	.020
3.0	7.5	7.2	5.0	.50	#24	.236	.295	.283	.200	.020

Soft conversion on lead spacings (pcm).

Capacitance change versus temperature $\frac{\Delta C}{C}$ = f (ϑ)



Time constant versus temperature τ = f (ϑ)



Dissipation factor versus frequency tan δ = f (f)