Overview

Applications

Benefits

- Case with Ø D ≥ 5 mm

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Part Number System

ESW	157	M	6R3		A	C3	AA
	significant figures for digit specifies						

Ordering Options Table

Diameter	Packaging Type	Lead Type	Lead Length (mm)	Lead and Packaging Code

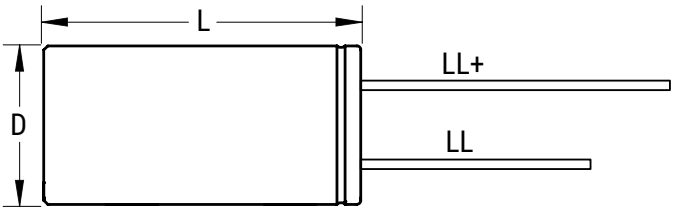
Environmental Compliance

equipment. All products in this catalog are produced to help our customers' obligations to guarantee their products and fulfll

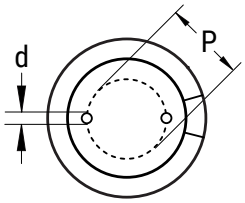
from all designs to fulfll the requirement of containing less than 0.1% of lead in any homogeneous material. KEMET will

Dimensions – Millimeters

SIDE VIEW



TERMINAL END VIEW



Test Method & Performance

Conditions	Load Life Test		Shelf Life Test
	Can Ø ≤ 6.3 mm		
	Can Ø ≥ 13.0 mm		
	Maximum ripple current specified at 100 kHz 105°C		
Performance	The following specifications will be satisfied when the capacitor is restored to 20°C:		
	Does not exceed 200% of the specified value		
	Does not exceed specified value		

Shelf Life

The capacitance, ESR and impedance of a capacitor will not change significantly after extended storage periods, however,

If a capacitor has been stored for more than 18 months under these conditions and it shows increased leakage current, then a treatment by voltage application is recommended.

Re-Age (Reforming) Procedure

to a steady value below the specified limit. During re-aging a maximum charging current of twice the specified leakage

Table 1 – Ratings & Part Number Reference

VDC	VDC Surge Voltage	Rated Capacitance 120 Hz 20°C (µF)	Case Size D x L (mm)	DF 120 Hz 20°C (tan δ %)[1]	Z 100 kHZ 20°C (Ω)	RC 100 kHz 105°C (mA)	LC 20°C 2 Minutes (µA)	Part Number

(1) Insert packaging code. See Ordering Options Table for available options.

[1] When capacitance exceeds 1,000 µF, the DF value (%) is increased by 2% for every additional 1,000 µF.

** Dimension is down size, Endurance will be less 1,000 hours than standard.*

Table 1 – Ratings & Part Number Reference cont'd

VDC	VDC Surge Voltage	Rated Capacitance 120 Hz 20°C (µF)	Case Size D x L (mm)	DF 120 Hz 20°C (tan δ %)[1]	Z 100 kHZ 20°C (Ω)	RC 100 kHz 105°C (mA)	LC 20°C 2 Minutes (µA)	Part Number
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Mounting Positions (Safety Vent)

Installing

Case Diameter	Space Around Safety Vent
≤ 16 mm	
> 16 to ≤ 40 mm	

- If the capacitors are stored for a long time, the leakage current must be verified. If the leakage current is superior to the voltage through a series resistor approximately 1 kΩ for capacitors with V

Application and Operation Guidelines

Electrical Ratings:
Capacitance (ESC)

Simplified equivalent circuit diagram of an electrolytic capacitor

an alternate voltage of ≤ 0.5 V at a frequency of 120 or 100 Hz and 20°C (IEC 384-1, 384-4).

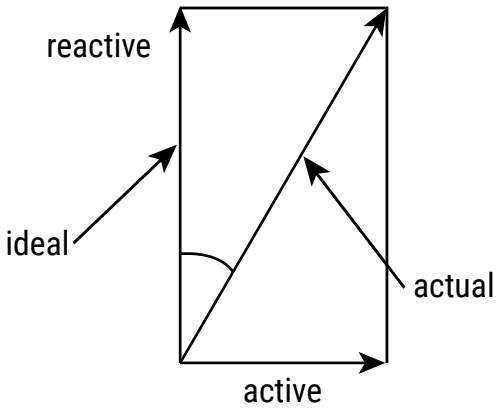
Temperature Dependence of the Capacitance

Frequency Dependence of the Capacitance

$$\frac{}{2\pi fZ}$$

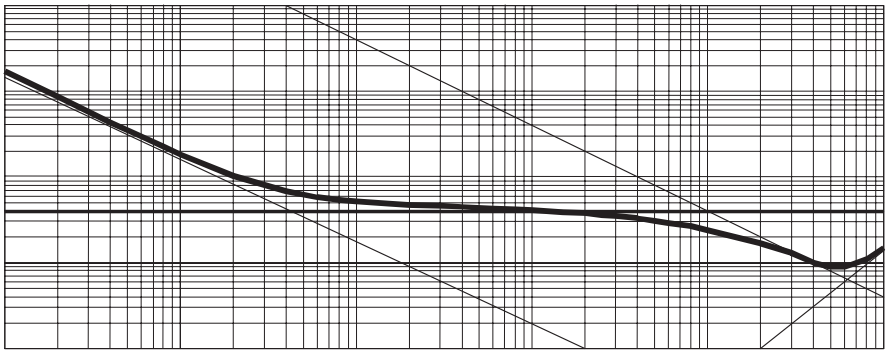
Z = impedance (Ω)

Dissipation Factor tan δ (DF)
Dissipation Factor tan δ is the ratio between the active and reactive power for a sinusoidal waveform voltage. It can be



Tan δ is measured with the same set-up used for the series capacitance ESC.
Tan δ = ω x ESC x ESR where:

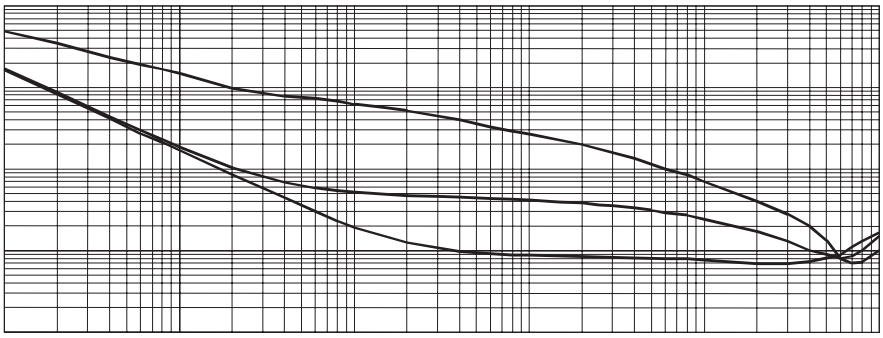
Impedance (Z) cont'd



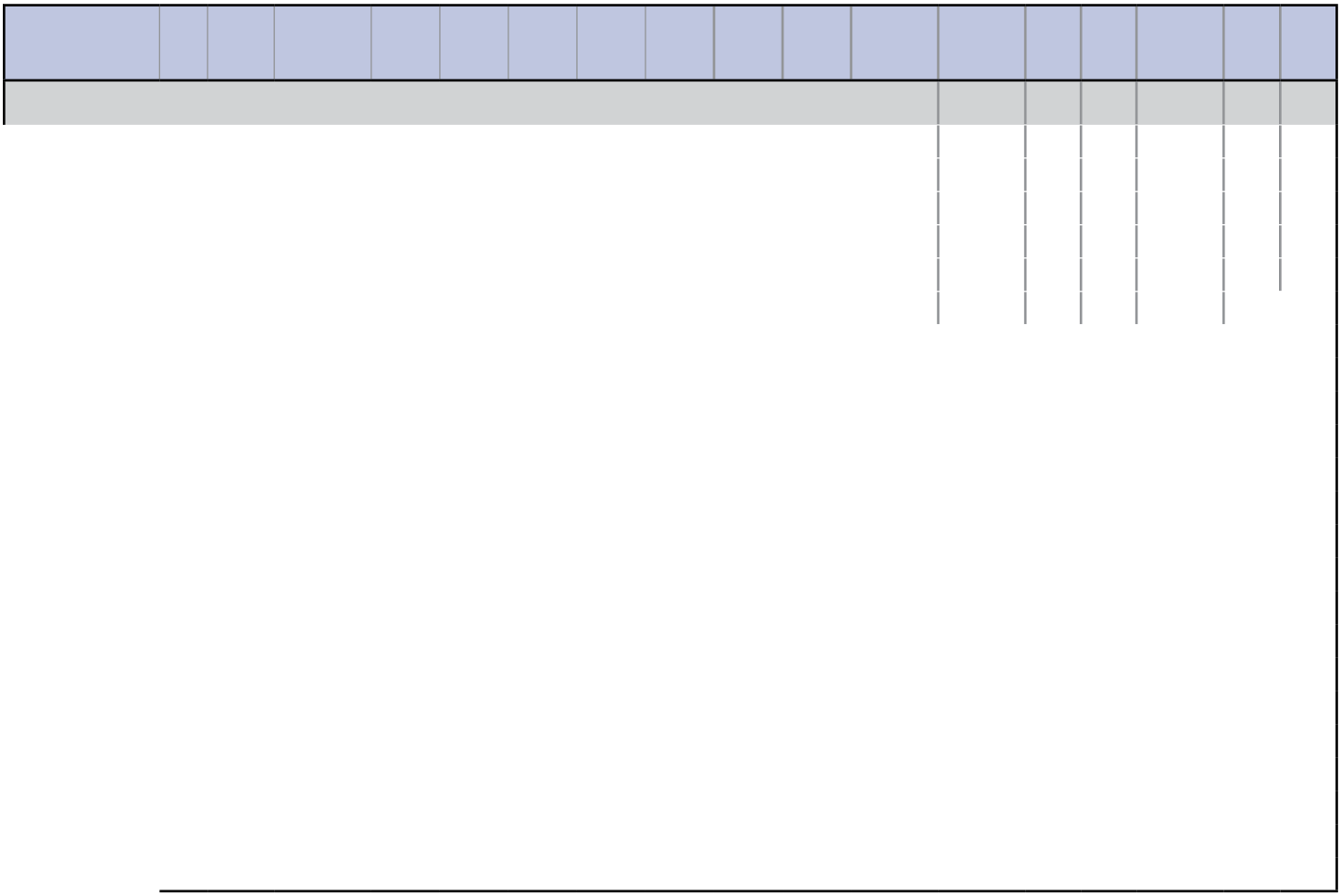
- With increasing frequency, capacitive reactance Xc = 1/ωC

- When the capacitor's resonance frequency is reached (ω
  1/ωC = ωL, ω
- Above this frequency, inductive reactance of the winding and its terminals (XL = Z = ωL) becomes effective and leads to

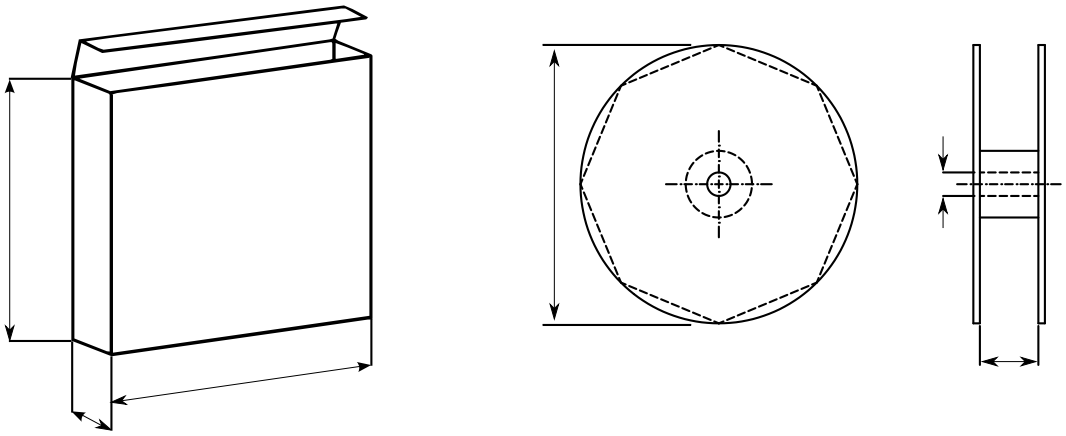
≈ 0.01 C



Taping for Automatic Insertion Machines



Lead Taping & Packaging



Case Size (mm)	Ammo			Reel		
	H	**W**	T	**D**	H	**W**
						+1/−0.1