

FEATURES AND BENEFITS:

- # Broad Operating Temperature (-40°C to 100°C)
- # Shock & Vibration Resistant
- # Hermetically Sealed
- # Eco-Friendly
- # Weldable Stainless Steel Terminals
- # Designed and Assembled in the USA

APPLICATIONS:

- # Oil and Gas drilling and power buffering
- # Aerospace and Defense actuator power
- # Industrial and sensing equipment, temperature loggers



TECHNICAL SPECIFICATIONS

ELECTRICAL

Rated Voltage	2.0 V
Surge Voltage	2.1 V
Rated Capacitance ¹	370 F
Initial ESR ¹	7.4 mΩ
Rated Capacitance at 25°C	360 F
Initial ESR at 25°C	8.2 mΩ
Leakage Current at 25°C ²	0.6 mA

PERFORMANCE

Rated Lifetime ³	1,500 hours
Cycle life at 25°C ⁴	>1,000,000 cycles
Lifetime at 25°C ⁵	>20,000 hours
Shelf Life at 25°C ⁶	>10 years
Shock & Vibration Survivability	500G _{peak} & 20G _{rms}
Hermeticity (Helium Leak Rate)	<1x10 ⁻⁸ cc/sec of He

TEMPERATURE

Maximum Operating Temperature	100°C
Minimum Operating Temperature	-40°C
Storage Temperature Range ⁶	-40°C to 110°C

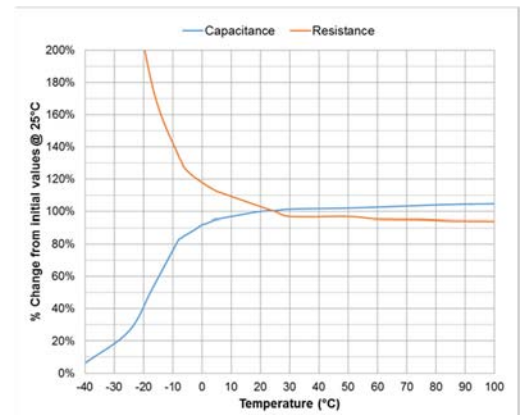
PHYSICAL

ØD1	ØD2	L1	L2	Mass	Volume
31.75 mm (1.25 in)	3.1 mm	70 mm (2.75 in)	0.79 mm	0.110 kg	0.055 L

Disclaimer

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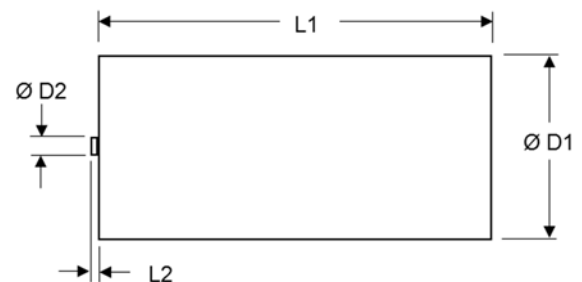
ESR AND CAPACITANCE VS. TEMPERATURE



Notes:

- At maximum operating temperature. Capacitance is measured via a 1A constant current discharge from rated voltage to 0V. Capacitance Tolerance: +/- 10% . ESR is measured at max voltage, averaging the voltage drop during a 1A, 1ms pulse train. ESR Tolerance: +/- 0.5mΩ
- After 72 hours at rated voltage
- Held continuously at rated voltage and rated maximum temperature. End of life defined as +100% ESR or -20% Capacitance from rated values
- Continuous cycles at rated voltage
- Held continuously at rated voltage
- Fully discharged

Product dimensions as shown are for reference and not drawn to scale



FEATURES AND BENEFITS:

- # Broad Operating Temperature (-40°C to 125°C)
- # Shock & Vibration Resistant
- # Hermetically Sealed
- # Eco-Friendly
- # Lightweight All Aluminum Housing
- # Weldable Aluminum Terminals
- # Designed and Assembled in the USA

APPLICATIONS:

- # Oil and Gas drilling and power buffering
- # Aerospace and Defense actuator power
- # Industrial and sensing equipment, temperature loggers



TECHNICAL SPECIFICATIONS

ELECTRICAL

Rated Voltage	1.5 V
Surge Voltage	1.6 V
Rated Capacitance ¹	360 F
Initial ESR ¹	6.6 mΩ
Rated Capacitance at 25°C	350 F
Initial ESR at 25°C	8.2 mΩ
Leakage Current at 25°C ²	0.3 mA

PERFORMANCE

Rated Lifetime ³	1,500 hours
Cycle life at 25°C ⁴	>1,000,000 cycles
Lifetime at 25°C ⁵	>20,000 hours
Shelf Life at 25°C ⁶	>10 years
Shock & Vibration Survivability	500G _{peak} & 20G _{rms}
Hermeticity (Helium Leak Rate)	<1x10 ⁻⁸ cc/sec of He

TEMPERATURE

Maximum Operating Temperature	125°C
Minimum Operating Temperature	-40°C
Storage Temperature Range ⁶	-40°C to 135°C

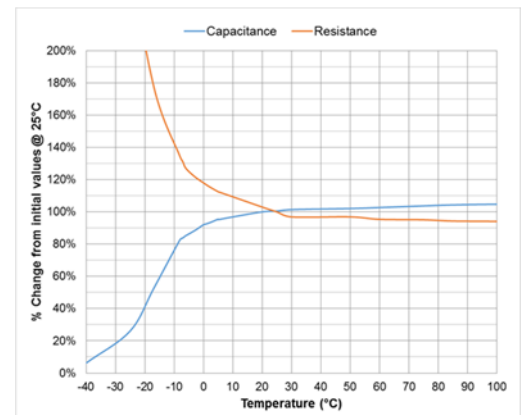
PHYSICAL

ØD1	ØD2	L1	L2	Mass	Volume
31.75 mm (1.25 in)	3.1 mm	70 mm (2.75 in)	0.79 mm	0.110 kg	0.055 L

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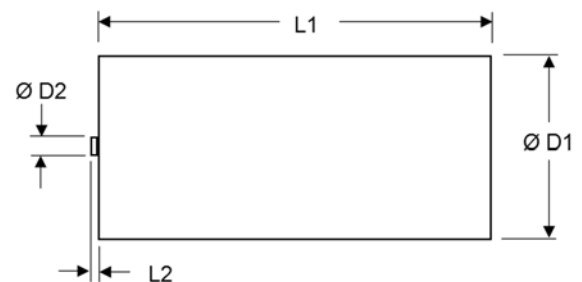
ESR AND CAPACITANCE VS. TEMPERATURE



Notes:

1. At maximum operating temperature. Capacitance is measured via a 1A constant current discharge from rated voltage to 0V. Capacitance Tolerance: +/- 10%. ESR is measured at max voltage, averaging the voltage drop during a 1A, 1ms pulse train. ESR Tolerance: +/- 0.5mΩ
2. After 72 hours at rated voltage
3. Held continuously at rated voltage and rated maximum temperature. End of life defined as +100% ESR or -20% Capacitance from rated values
4. Continuous cycles at rated voltage
5. Held continuously at rated voltage
6. Fully discharged

Product dimensions as shown are for reference and not drawn to scale



FEATURES AND BENEFITS:

- # Broad Operating Temperature (-40°C to 150°C)
- # Shock & Vibration Resistant
- # Hermetically Sealed
- # Eco-Friendly
- # Weldable Stainless Steel Terminals
- # Designed and Assembled in the USA

APPLICATIONS:

- # Oil and Gas drilling and power buffering
- # Aerospace and Defense actuator power
- # Industrial and sensing equipment, temperature loggers



TECHNICAL SPECIFICATIONS

ELECTRICAL

Rated Voltage	1.0 V
Surge Voltage	1.1 V
Rated Capacitance ¹	345 F
Initial ESR ¹	5.8 mΩ
Rated Capacitance at 25°C	340 F
Initial ESR at 25°C	8.2 mΩ
Leakage Current at 25°C ²	0.2 mA

PERFORMANCE

Rated Lifetime ³	1,500 hours
Cycle life at 25°C ⁴	>1,000,000 cycles
Lifetime at 25°C ⁵	>20,000 hours
Shelf Life at 25°C ⁶	>10 years
Shock & Vibration Survivability	500G _{peak} & 20G _{rms}
Hermeticity (Helium Leak Rate)	<1x10 ⁻⁸ cc/sec of He

TEMPERATURE

Maximum Operating Temperature	150°C
Minimum Operating Temperature	-40°C
Storage Temperature Range ⁶	-40°C to 160°C

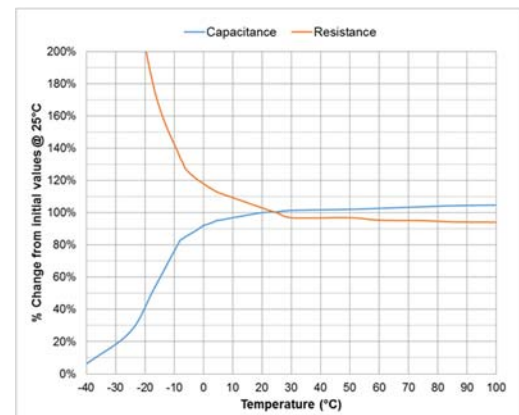
PHYSICAL

ØD1	ØD2	L1	L2	Mass	Volume
31.75 mm (1.25 in)	3.1 mm	70 mm (2.75 in)	0.79 mm	0.110 kg	0.055 L

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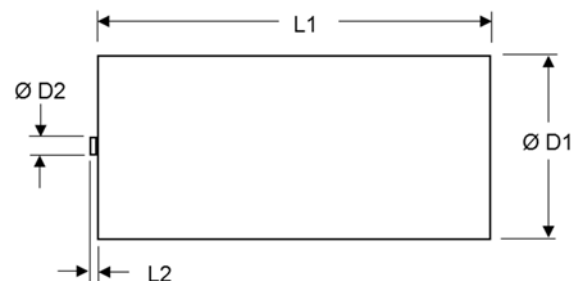
ESR AND CAPACITANCE VS. TEMPERATURE



Notes:

- At maximum operating temperature. Capacitance is measured via a 1A constant current discharge from rated voltage to 0V. Capacitance Tolerance: +/- 10%. ESR is measured at max voltage, averaging the voltage drop during a 1A, 1ms pulse train. ESR Tolerance: +/- 0.5mΩ
- After 72 hours at rated voltage
- Held continuously at rated voltage and rated maximum temperature. End of life defined as +100% ESR or -20% Capacitance from rated values
- Continuous cycles at rated voltage
- Held continuously at rated voltage
- Fully discharged

Product dimensions as shown are for reference and not drawn to scale



FEATURES AND BENEFITS:

- # Broad Operating Temperature (-40°C to 100°C)
- # Shock & Vibration Resistant
- # Hermetically Sealed
- # Eco-Friendly
- # Weldable Stainless Steel Terminals
- # Designed and Assembled in the USA

APPLICATIONS:

- # Oil and Gas drilling and power buffering
- # Aerospace and Defense actuator power
- # Industrial and sensing equipment, temperature loggers



TECHNICAL SPECIFICATIONS

ELECTRICAL

Rated Voltage	2.0 V
Surge Voltage	2.1 V
Rated Capacitance ¹	38.0 F
Initial ESR ¹	17.3 mΩ
Rated Capacitance at 25°C	37.1 F
Initial ESR at 25°C	18.2 mΩ
Leakage Current at 25°C ²	0.1 mA

PERFORMANCE

Rated Lifetime ³	1,500 hours
Cycle life at 25°C ⁴	>1,000,000 cycles
Lifetime at 25°C ⁵	>20,000 hours
Shelf Life at 25°C ⁶	>10 years
Shock & Vibration Survivability	500G _{peak} & 20G _{rms}
Hermeticity (Helium Leak Rate)	<1x10 ⁻⁸ cc/sec of He

TEMPERATURE

Maximum Operating Temperature	100°C
Minimum Operating Temperature	-40°C
Storage Temperature Range ⁶	-40°C to 110°C

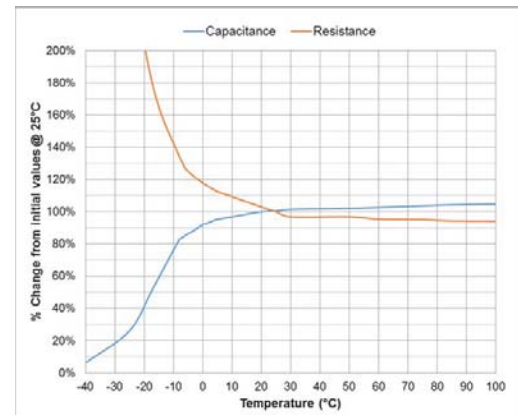
PHYSICAL

ØD1	ØD2	L1	L2	Mass	Volume
13.5 mm (0.53 in)	3.1 mm	55 mm (2.17 in)	0.79 mm	.021 kg	7.9 mL

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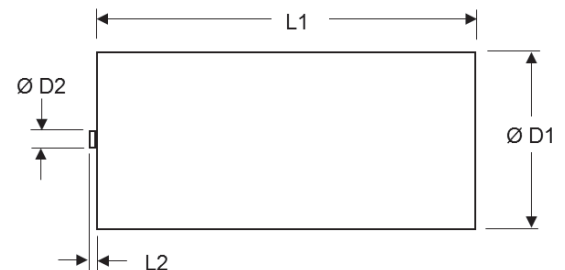
ESR AND CAPACITANCE VS. TEMPERATURE



Notes:

- At maximum operating temperature. Capacitance is measured via a 1A constant current discharge from rated voltage to 0V. Capacitance Tolerance: +/- 10%. ESR is measured at max voltage, averaging the voltage drop during a 1A, 1ms pulse train. ESR Tolerance: +/- 0.5mΩ
- After 72 hours at rated voltage
- Held continuously at rated voltage and rated maximum temperature. End of life defined as +100% ESR or -20% Capacitance from rated values
- Continuous cycles at rated voltage
- Held continuously at rated voltage
- Fully discharged

Product dimensions as shown are for reference and not drawn to scale



FEATURES AND BENEFITS:

- # Broad Operating Temperature (-40°C to 125°C)
- # Shock & Vibration Resistant
- # Hermetically Sealed
- # Eco-Friendly
- # Weldable Stainless Steel Terminals
- # Designed and Assembled in the USA

APPLICATIONS:

- # Oil and Gas drilling and power buffering
- # Aerospace and Defense actuator power
- # Industrial and sensing equipment, temperature loggers



TECHNICAL SPECIFICATIONS

ELECTRICAL

Rated Voltage	1.5 V
Surge Voltage	1.6 V
Rated Capacitance ¹	35.7 F
Initial ESR ¹	16.7 mΩ
Rated Capacitance at 25°C	34.6 F
Initial ESR at 25°C	19.5 mΩ
Leakage Current at 25°C ²	0.01 mA

PERFORMANCE

Rated Lifetime ³	1,500 hours
Cycle life at 25°C ⁴	>1,000,000 cycles
Lifetime at 25°C ⁵	>20,000 hours
Shelf Life at 25°C ⁶	>10 years
Shock & Vibration Survivability	500G _{peak} & 20G _{rms}
Hermeticity (Helium Leak Rate)	<1x10 ⁻⁸ cc/sec of He

TEMPERATURE

Maximum Operating Temperature	125°C
Minimum Operating Temperature	-40°C
Storage Temperature Range ⁶	-40°C to 135°C

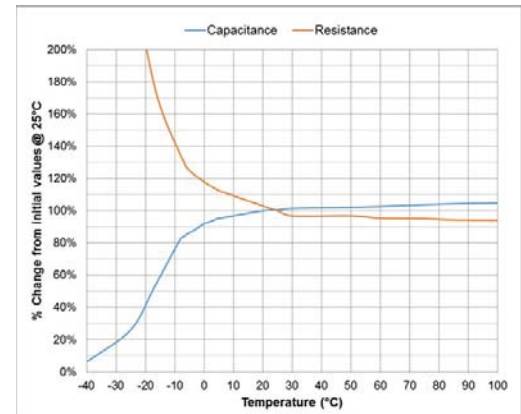
PHYSICAL

ØD1	ØD2	L1	L2	Mass	Volume
13.5 mm (0.53 in)	3.1 mm	55 mm (2.17 in)	0.79 mm	.021 kg	7.9 mL

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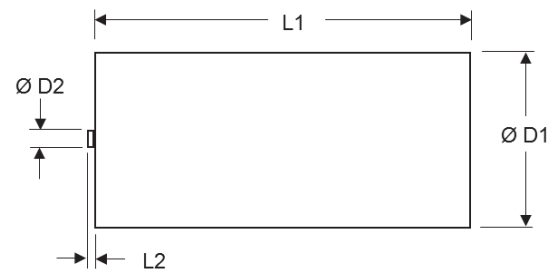
ESR AND CAPACITANCE VS. TEMPERATURE



Notes:

- At maximum operating temperature. Capacitance is measured via a 1A constant current discharge from rated voltage to 0V. Capacitance Tolerance: +/- 10%. ESR is measured at max voltage, averaging the voltage drop during a 1A, 1ms pulse train. ESR Tolerance: +/- 0.5mΩ
- After 72 hours at rated voltage
- Held continuously at rated voltage and rated maximum temperature. End of life defined as +100% ESR or -20% Capacitance from rated values
- Continuous cycles at rated voltage
- Held continuously at rated voltage
- Fully discharged

Product dimensions as shown are for reference and not drawn to scale



FEATURES AND BENEFITS:

- # Broad Operating Temperature (-40°C to 150°C)
- # Shock & Vibration Resistant
- # Hermetically Sealed
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- # Designed and Assembled in the USA

APPLICATIONS:

- # Oil and Gas drilling and power buffering
- # Aerospace and Defense actuator power
- # Industrial and sensing equipment, temperature loggers



TECHNICAL SPECIFICATIONS

ELECTRICAL

Rated Voltage	1.0 V
Surge Voltage	1.1 V
Rated Capacitance ¹	33.2 F
Initial ESR ¹	16.4 mΩ
Rated Capacitance at 25°C	32.1 F
Initial ESR at 25°C	21.6 mΩ
Leakage Current at 25°C ²	0.01 mA

PERFORMANCE

Rated Lifetime ³	1,500 hours
Cycle life at 25°C ⁴	>1,000,000 cycles
Lifetime at 25°C ⁵	>20,000 hours
Shelf Life at 25°C ⁶	>10 years
Shock & Vibration Survivability	500G _{peak} & 20G _{rms}
Hermeticity (Helium Leak Rate)	<1x10 ⁻⁸ cc/sec of He

TEMPERATURE

Maximum Operating Temperature	150°C
Minimum Operating Temperature	-40°C
Storage Temperature Range ⁶	-40°C to 160°C

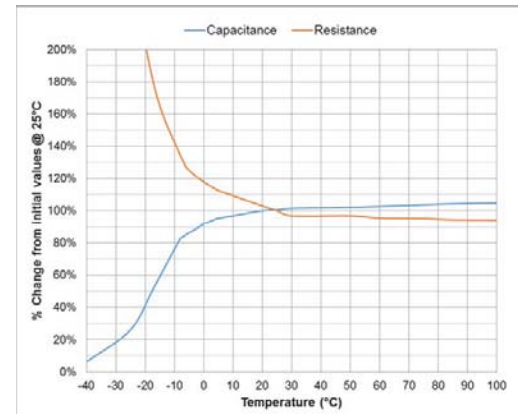
PHYSICAL

ØD1	ØD2	L1	L2	Mass	Volume
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ESR AND CAPACITANCE VS. TEMPERATURE



Notes:

1. At maximum operating temperature. Capacitance is measured via a 1A constant current discharge from rated voltage to 0V. Capacitance Tolerance: +/- 10% . ESR is measured at max voltage, averaging the voltage drop during a 1A, 1ms pulse train. ESR Tolerance: +/- 0.5mΩ
2. After 72 hours at rated voltage
3. Held continuously at rated voltage and rated maximum temperature. End of life defined as +100% ESR or -20% Capacitance from rated values
4. Continuous cycles at rated voltage
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