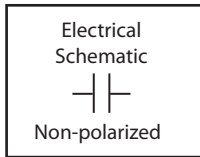


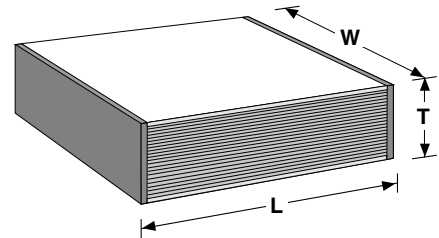
Capacitor Type

ST



- Pb free machined terminations
- Multilayer metallized polymer surface mount chips
- EIA Chip sizes
- Reflow solderable
- Made in U.S.A.

ST2824/ST3827 CHIP STYLE



100 VDC / 80 VAC

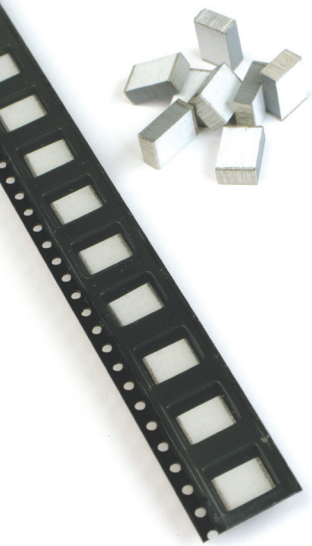
PF Code	Value μF	L	T MAX	W MAX	Case	Part Number
105	1.0	0.280 - 0.305 (7.1 – 7.7)	0.175 (4.4)	0.256 (6.5)	ST2824	105K100ST2824T
225	2.2	0.380 - 0.405 (9.6 – 10.3)	0.200 (5.1)	0.286 (7.3)	ST3827	225K100ST3827T

Dimensions in inches, metric (mm) in parenthesis.

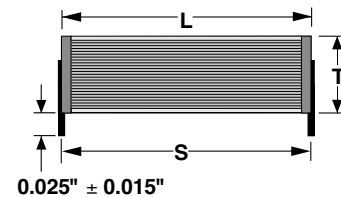
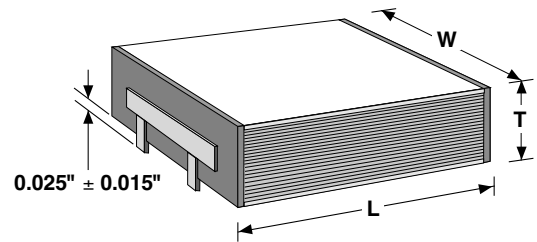
RoHS-6 Compliant

RoHS-6 product does not contain any of the six RoHS banned materials (Hg, CrVI, Cd, PBB, PBDE and Pb) in levels exceeding the industry defined limits

ST3/ST4 Lead Frame Style



Lead Frame Pins		
Thickness	0.010"	± 0.005 "
Width	0.020"	± 0.005 "
Pitch	0.100"	± 0.015 "
Height	0.025"	± 0.015 "
# of Pins	2	



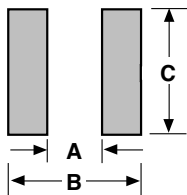
100 VDC / 80 VAC

PF Code	Value μF	L	T MAX	W MAX	Case	Part Number
105	1.0	0.280 - 0.310 (7.1 – 7.9)	0.175 (4.4)	0.256 (6.5)	ST3	105K100ST3T
225	2.2	0.380 - 0.410 (9.6 – 10.4)	0.200 (5.1)	0.286 (7.3)	ST4	225K100ST4T

Dimensions in inches, metric (mm) in parenthesis.

RoHS-5 Compliant

RoHS-5 product does not contain five of the RoHS banned materials (Hg, CrVI, Cd, PBB, and PBDE) in levels exceeding the industry defined limits. Component lead frame pin-outs are plated with Sn/Pb and match conventional SnPb board assembly requirements



Recommended Pad Sizes (inches)			
Case Code	A	B	C
ST2824/ST3	0.210	0.365	0.275
ST3827/ST4	0.310	0.465	0.305

Surfilm® Capacitors Type ST Performance Characteristics

Electrical

Capacitance Range

1.0 & 2.2µF @1KHz

Voltage Range

100 VDC

Tolerance

±10% (K)

Dissipation Factor

≤1.0% @ 1KHz

Insulation Resistance

≥ 1K MegOhms x µF,
measured after 1 minute of
electrification at 10 VDC

Dielectric Strength

1.3 x Rated Voltage

Temperature Coef.

+6.0% from -55°C to 85°C (typical)

Dielectric Absorption

0.30% (typical)

Self Inductance

6.0nH (typical) ST2824/ST3

9.0nH (typical) ST3827/ST4

Physical

Construction

Non-inductively constructed with metal-
lized polyester dielectric (polyethylene
terephthalate). Parallel plate-multilayer
polymer (MLP) design. Electrode:
Aluminum metallization

ST2824/ST3827

Chip Style

Tin-based solderable surface

ST3/ST4

Lead Frame Style

Tin Cu Alloy Lead Frame,
"I" lead configuration for SMD
butt joint mounting

Enclosure

Self-encased

Marking

Parts are not marked.

Capacitance code, tolerance and rated
voltage are printed on container.

Temperature Range

-55°C to 125°C, derate
voltage 1.25% / °C above 85°C

Packaging

Tape/Reel

Dry packed with dessicant in moisture bar-
rier bag. JEDEC level on package.

Quantity per reel

ST2824 1200

ST3827 850

ST3 800

ST4 700

Solder Attachment

	Yes	No
Conductive Reflow	✓	
Convection Reflow	✓	
IR Reflow	✓	
Soldering Iron (220°C)	✓	
Wave Solder		✓
See Soldering Guidelines Spec. for details.		

Performance

Accelerated DC Voltage Life Test:

Test Conditions

Temperature	85°C ±5°C
Applied Voltage	1.25 x Rated Voltage
Test Duration	1000 hours

Performance Requirements

Capacitance	delta of ≤ 5.0%
Dissipation Factor	≤ 1.00%
Insulation Resistance	> 50% of specifica- tion

Humidity:

Test conditions

Temperature	85°C ± 5°C
Applied Voltage	Zero voltage
Humidity	85%
Test Duration	21 days

Performance Requirements

Capacitance	delta of ≤ 7.0%
Dissipation Factor	≤ 1.00%
Insulation Resistance	≥ 50% of specifica- tion

Solderability (Convection Reflow):

Test Conditions

Solder Temperature	220°C +0°C, -10°C
Test Duration	30 seconds ±1

Performance Requirements

Capacitance	delta of ≤ 5.0%
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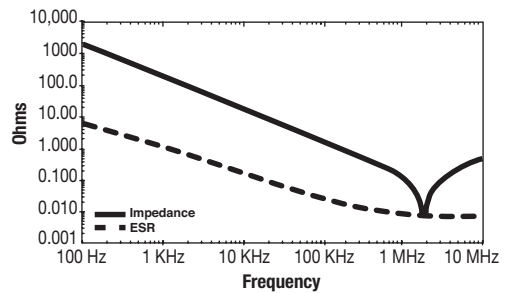
Terminal Adhesion:

0.5 Kg through hole in substrate, centered.
Solder fillets ≥ 1/3 T, 5 seconds with no
damage.

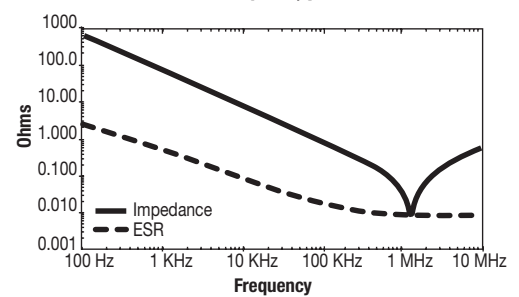
Long Term Stability:

≤ 2.0% over two years at a temperature of
between 0°C and 35°C and a RH of between
35% and 65%.

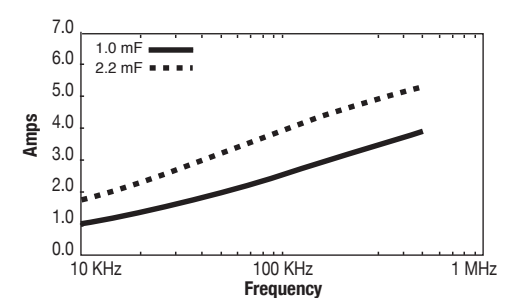
Impedance & ESR vs Frequency ST2824/ST3 100VDC 1.0 µF (Typical)



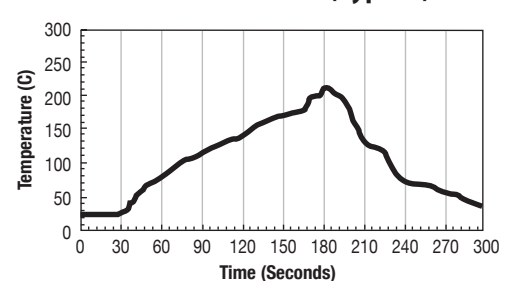
Impedance & ESR vs Frequency ST3827/ST4 100VDC 2.2 µF (Typical)



Maximum RMS Current ST2824/ST3 1.0 µF & ST3827/ST4 2.2 µF (Typical)



Convection Reflow Profile (Typical)



IR Reflow Profile (Typical)

