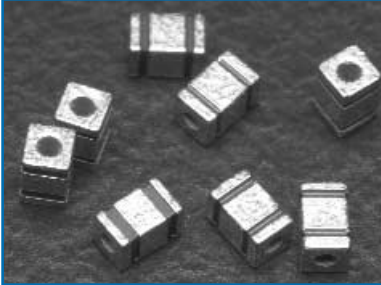


Surface Mount Low Pass Filters

MSM, SSM, RSM & PSM Series

MSM - Miniature Surface Mount Chip Capacitors



The MSM series filters feature high temperature construction and have current ratings up to 10 Amps. The filter chips will hardly allow residual inductance and the self-resonant frequency extends to the microwave band. Applications include telecommunication equipment, computer and peripheral equipment and digital AV equipment, medical equipment, DC power supply lines.

- Miniature footprint help in dense circuit configuration
- Rated at 10 Amps
- Packaged in tape and reel or bulk form
- Operating temperature ranges of -25°C to $+85^{\circ}\text{C}$ and -55°C to $+125^{\circ}\text{C}$
- Available lead free/RoHs Compliant

SSM - Square Surface Mount Filters



The SSM series filters feature high temperature construction and have current ratings up to 10 Amps. The filter chip series are non-polar and surface mountable with excellent performance characteristics and come in a Pi circuit configuration. Applications include telecommunication equipment, computer and peripheral equipment, digital AV equipment, power amplifiers, power supplies and high current bus lines.

- Square mechanical geometry enhances SMT soldering
- Rated to 10 Amps
- Packaged in tape and reel or bulk form
- Operating temperature range of -55°C to $+125^{\circ}\text{C}$
- Available lead free/RoHs Compliant

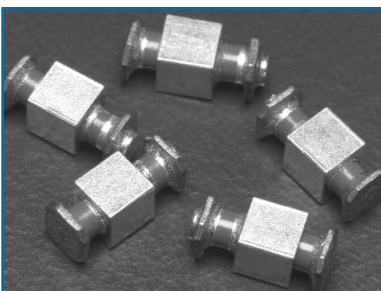
RSM - Round Surface Mount Filters



The RSM series filters feature high temperature construction and have current ratings up to 10 Amps. The filter chip series are non-polar and surface mountable with excellent performance characteristics and come in a Pi circuit configuration. Applications include telecommunication equipment, computer and peripheral equipment, digital AV equipment, power amplifiers, power supplies and high current bus lines.

- Round mechanical geometry enhances SMT soldering
- Rated to 10 Amps
- Packaged in tape and reel or bulk form
- Operating temperature range of -55°C to $+125^{\circ}\text{C}$
- Available lead free/RoHs Compliant

PSM - Power Surface Mount Filters

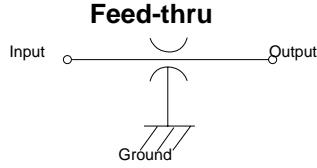


The PSM series filters feature high temperature construction and have current ratings up to 20 Amps. This filter series is non-polar and surface mountable with excellent performance characteristics and come in either a Feed-thru or Pi circuit configuration. Applications include telecommunication equipment, computer and peripheral equipment, digital AV equipment, power amplifiers, power supplies and high current bus lines.

- Provides time and costs saving compared to thru-hole filters
- Rated to 20 Amps
- Packaged in tape and reel or bulk form
- Operating temperature range of -55°C to $+125^{\circ}\text{C}$
- Available lead free/RoHs Compliant

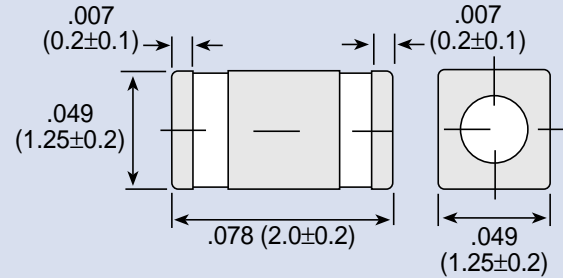
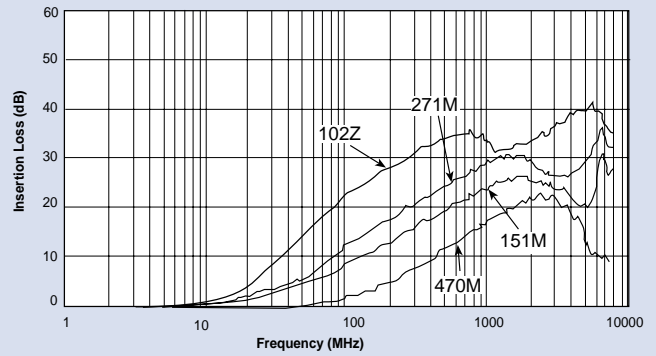
Surface Mount Low Pass Filters MSM Series

MSM



Working Voltage 50 VDC
 Test Voltage 150 VDC
 Current Rating 10 Amps max.
 Insulation Resistance 1.0 MΩ
 Terminations Ni-Barrier
 Soldering Conditions Max. 250°C-5 sec.

Insertion Loss



MSM

Dimensions in inches (mm)

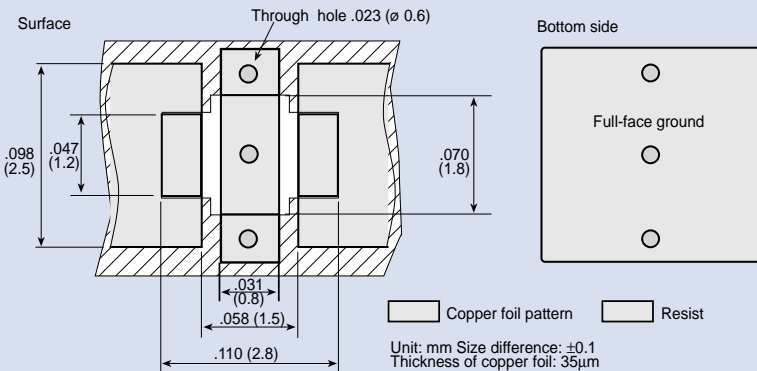
MSM Ordering Information

MSM	4	T	470M	10	T				
Style	Circuit Configuration	Temperature Characteristic	Capacitance	Current Rating	Packaging				
MSM (Miniature)	4 - Feed-thru	R - +/-15% T - +22/-33% V - +22/-82%	<table border="1"> <tr> <th>Value</th> <th>Tolerance</th> </tr> <tr> <td>47 pF</td> <td>+50/- 20%</td> </tr> </table>	Value	Tolerance	47 pF	+50/- 20%	10 Amps	T - Tape and Reel 2,000 pcs/reel B - Bulk pack 1,000pcs/reel
Value	Tolerance								
47 pF	+50/- 20%								

Specifications

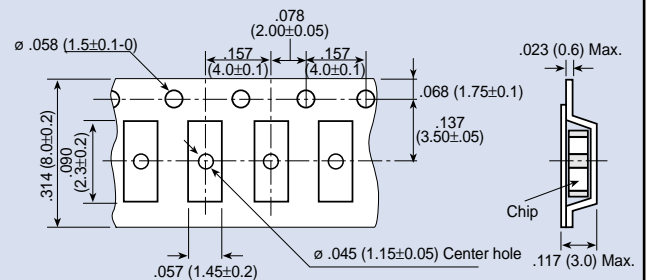
Part Number	Temperature Characteristics	Capacitance	Capacitance Tolerance	Current Rating	Rated Rating	Temperature Range
MSM4T470M10	T	47pF	+50/-20%	10A	50VDC	-55/+125°C
MSM4R151M10	R	150pF				-55/+125°C
MSM4R271M10	R	270pF				-55/+125°C
MSM4V102M10	V	1000pF				-25/+85°C

MSM Recommended Board Pattern



Note: Exclusively for reflow soldering

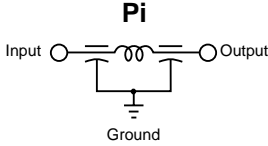
MSM Tape and Reel Packaging



Dimensions in inches (mm)

Surface Mount Low Pass Filters SSM & RSM Series

SSM



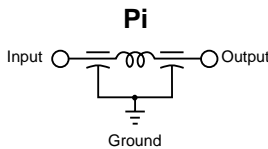
- Working Voltage 100 VDC
- Test Voltage 250 VDC
- Current Max. 10 Amps
- Insulation
- Resistance Min. 10^4 M Ω
- Terminations Silver Plated
- Soldering
- Conditions Max. 250°C -5 sec.
- Marking None
- Packaging Bulk or Tape and Reel

Note: Insertion loss shown for the following SSM values* only:

- 101Z
- 501P
- 202P

*Additional IL charts available by request.

RSM



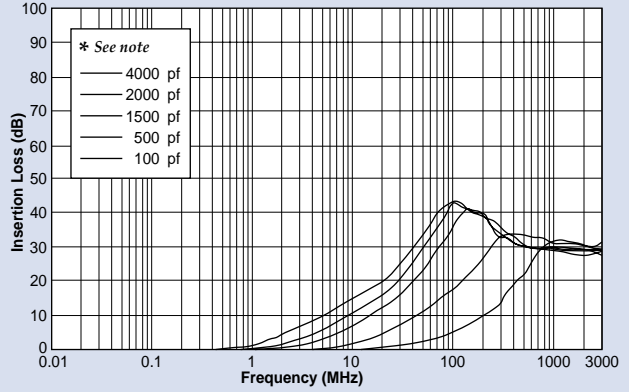
- Working Voltage 100 VDC
- Test Voltage 250 VDC
- Current Max. 10 Amps
- Insulation
- Resistance Min. 10^4 M Ω
- Terminations Silver Ni-Tin plated
- Soldering
- Conditions Max. 250°C -5 sec.
- Marking None
- Packaging Bulk or Tape and Reel

Note: Insertion loss shown for the following RSM values only:

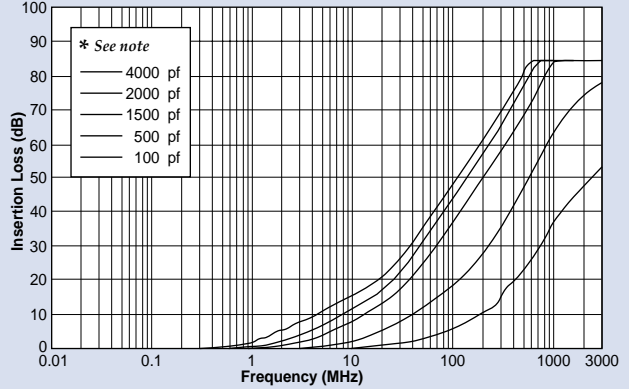
- 152P
- 402Z

Pi Insertion Loss

Typical SMT Applications

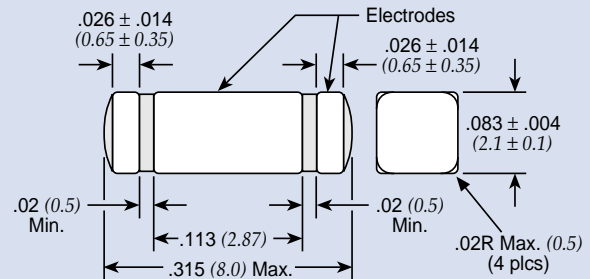


Shielded or Partition Applications

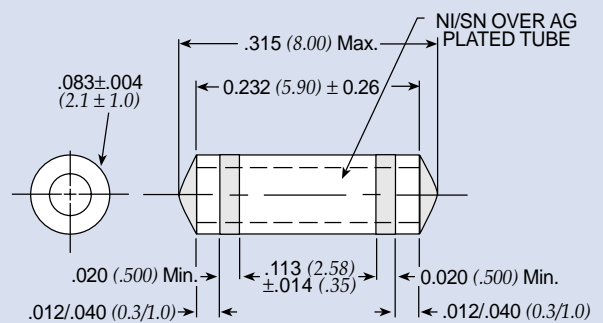


* Capacitance values for insertion loss curves are displayed left to right in the order shown.

SSM



RSM



Dimensions in inches (mm)

Surface Mount Low Pass Filters SSM & RSM Series

SSM & RSM Ordering Information

Example: **SSM1-101Z-05T 1**

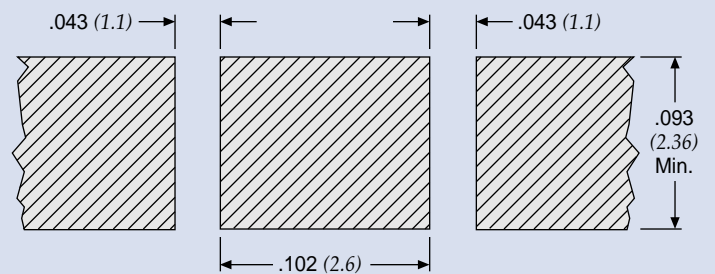
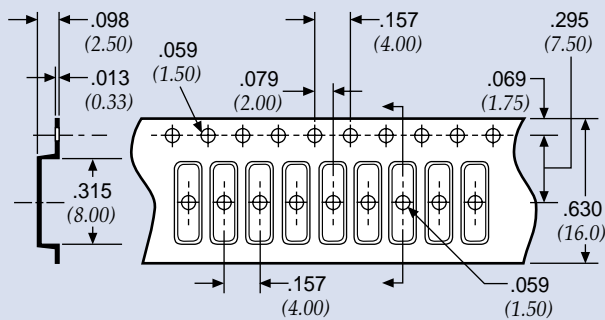
SSM	1	-	101Z	-	05	T	1
Style	Circuit Configuration		Capacitance		Current Rating	Packaging	Tape and Reel
SSM (Square) RSM (Round)	1 - Pi				05 - 5 Amps 10 - 10 Amps	T - Tape and reel packaging B - Bulk packaging	1 - 1,000 pieces 6 - 6,000 pieces <i>Note: Tape and reel packaging - 1,000 pieces (7") and 6,000 pieces (13")</i>

Code	Value	Tolerance
101Z	100 pF	+80/-20%
501P	500 pF	+100/-0%
152P	1500 pF	+100/-0%
202P	2000 pF	+100/-0%
402E	4000 pF	±25
402Z	4000 pF	+80/-20%

† Also available through Spectrum Control's authorized distributors.
 € Also available through Spectrum Control's authorized European distributors/agents.
 † SSM1-152P-05-T1 €

SSM/RSM Tape and Reel Packaging

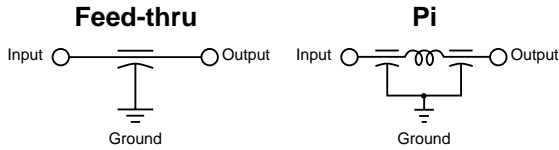
SSM Recommended Board Pattern



Dimensions in inches (mm)

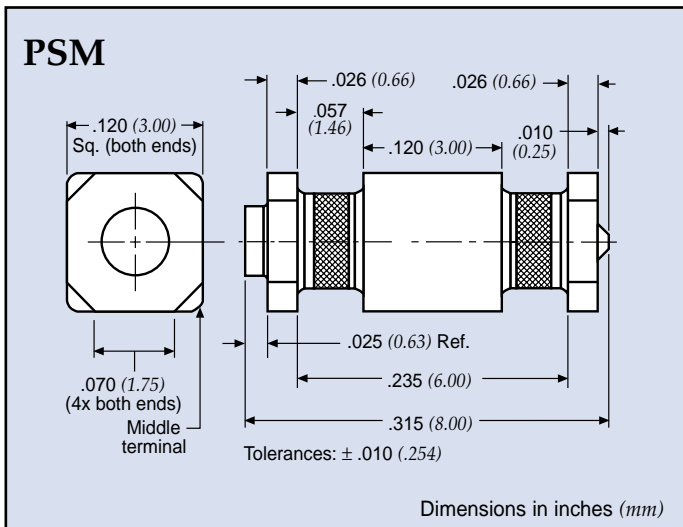
Surface Mount Low Pass Filters PSM Series

PSM



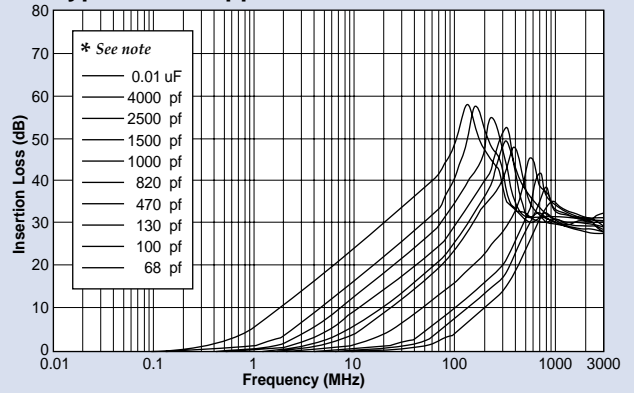
- Voltage Rating * 200 VDC @ -55°C to +125°C
- DWV 700 VDC
- Current Rating 20 Amps (Feed-thru) max.
10 Amps (Pi) max.
- Insulation Resistance 1.0 GΩ @ 25°C
- Dissipation Factor 4.0% maximum
- D.C.R. Max. .0005Ω, typ. .0002Ω

* AC rating available - consult factory.

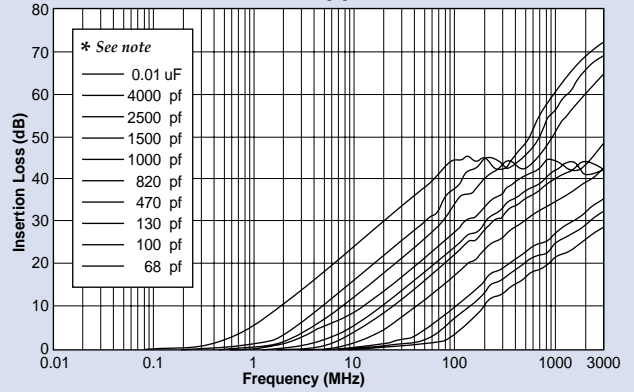


Feed-thru Insertion Loss

Typical SMT Applications



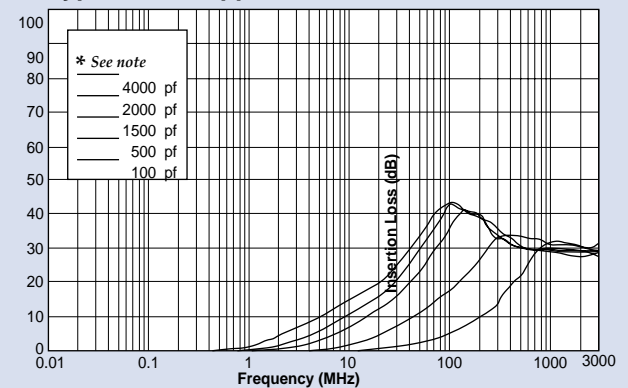
Shielded or Partition Applications



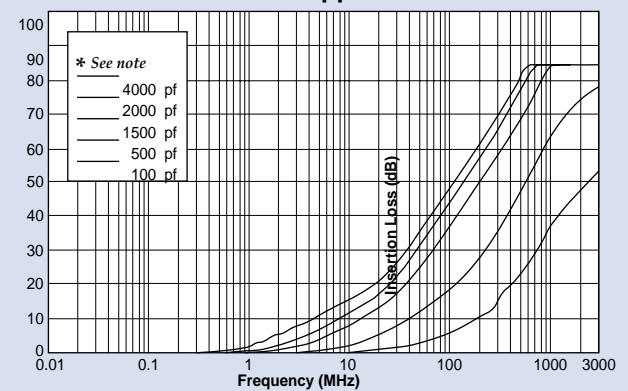
* Capacitance values for insertion loss curves are displayed left to right in the order shown.

Pi Insertion Loss

Typical SMT Applications



Shielded or Partition Applications



Surface Mount Low Pass Filters PSM Series

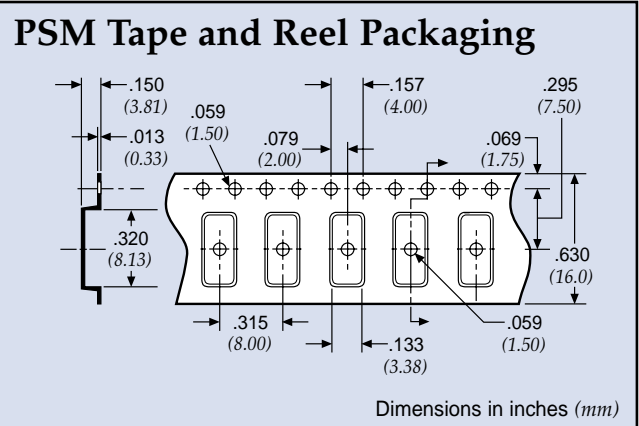
PSM Ordering Information

Example: **PSM4-402Z-20T0**

PSM	4	-	402Z	-	20	T	0																																	
Style	Circuit Configuration		Capacitance		Current Rating	Packaging	Tape and Reel																																	
PSM (Power)	1 - Pi 4 - Feed-thru		<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Code</th> <th>Value*</th> <th>Tolerance</th> </tr> </thead> <tbody> <tr><td>680M</td><td>68 pF</td><td>±20%</td></tr> <tr><td>101M</td><td>100 pF</td><td>±20%</td></tr> <tr><td>131P</td><td>130 pF</td><td>+100/-0%</td></tr> <tr><td>471P</td><td>470 pF</td><td>+100/-0%</td></tr> <tr><td>821M</td><td>820 pF</td><td>±20%</td></tr> <tr><td>102M</td><td>1000 pF</td><td>±20%</td></tr> <tr><td>152M</td><td>1500 pF</td><td>±20%</td></tr> <tr><td>252P</td><td>2500 pF</td><td>+100/-0%</td></tr> <tr><td>402Z</td><td>4000 pF</td><td>+80/20%</td></tr> <tr><td>103Z**</td><td>.01 μF</td><td>+80/-20%</td></tr> </tbody> </table>	Code	Value*	Tolerance	680M	68 pF	±20%	101M	100 pF	±20%	131P	130 pF	+100/-0%	471P	470 pF	+100/-0%	821M	820 pF	±20%	102M	1000 pF	±20%	152M	1500 pF	±20%	252P	2500 pF	+100/-0%	402Z	4000 pF	+80/20%	103Z**	.01 μF	+80/-20%		10 - 10 Amps (Pi) 20 - 20 Amps (Feed Thru)	T - Tape and reel packaging B - Bulk packaging	0 - 500 pieces 2 - 2,000 pieces <i>Note: Tape and reel packaging - 500 pieces (7") and 2,000 pieces (13")</i>
Code	Value*	Tolerance																																						
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101M	100 pF	±20%																																						
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103Z**	.01 μF	+80/-20%																																						
<p>† Also available through Spectrum Control's authorized distributors. € Also available through Spectrum Control's authorized European distributors/agents. † PSM1-402Z-10T0 € † PSM4-103Z-20T0 € † PSM4-152M-20T0 € † PSM4-402Z-20T0 €</p> <p>* Other capacitance values available as special order. ** Available in Feed-thru circuit only.</p>																																								

Technical Notes

- Soldering recommendations supplied upon request
- Reflow temperature limit is 250°C
- Unit weight is approximately 0.4 grams
- Tape and reel packaging available for automated assembly



PSM Recommended Board Pattern

