Molded Surface Mount Wirewound Resistor

WSM Series

- Flexible Terminations
- All welded construction
- Ideal for automatic pick and place
- Lead free, RoHS compliant construction only
- Contact factory for ohmic values above published ranges

Electrical Data

IRC Type	Power Rating @ 70°C (watts)	Resistance Range (ohms)	Maximum Working Voltage (volts)	TCR (ppm/°C)	Resistance Tolerance (%)	Standard Values	Ambient Temperature (°C)
WSM-1	1W	0.01 to 1K	$\sqrt{P \times R}$	0.1Ω - <10Ω: 100 ≥1Ω: 20	*1, 2, 5, 10	E24 Preferred	-55 to 155
WSM-2	2W	0.01 to 2K					
WSM-3	3W	0.01 to 3K					

*Note: 5% or 10% preferred below 0.1 ohms.

CONSTRUCTION

A high purity ceramic substrate is assembled with interference fit end caps to which are welded the terminations. The resistive element is wound on the substrate and welded to the caps. The unit is then molded.

FLAMMABILITY

The resistor coating is categorized as flame retardant epoxy under UL-94.

SOLVENT RESISTANCE

The body protection and marking are resistant to all normal industrial cleaning solvents suitable for printed circuits.

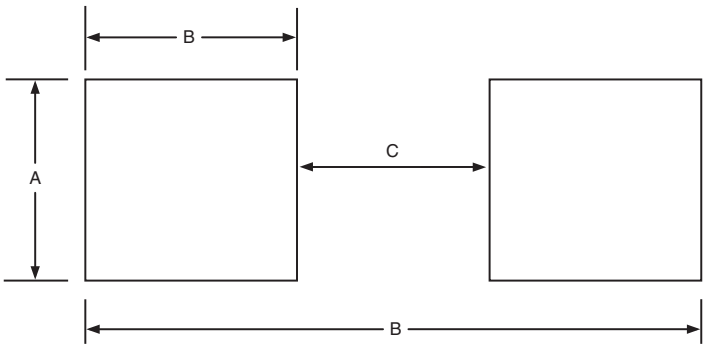
MARKING

WSM resistors are legend marked with type, value and tolerance.

Wire and Film Technologies Division • 4222 South Staples Street • Corpus Christi Texas 78411 USA
Telephone: 361 992 7900 • Facsimile: 361 992 3377 • Website: www.irctt.com

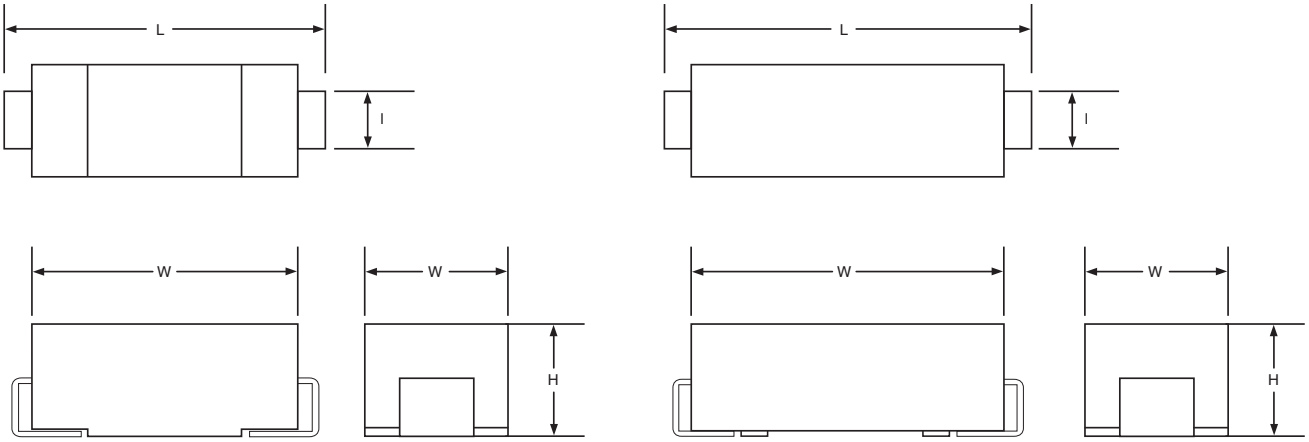
Molded Surface Mount Wirewound Resistor

Recommended Pad Sizes



Dimensions (Inches & mm))				
Type	**A**	**B**	**C**	**D**
WSM-1	0.115 (2.9)	0.100 (2.6)	0.189 (2.9)	0.389 (9.9)
WSM-2	0.134 (3.4)	0.158 (4.0)	0.237 (6.0)	0.552 (14.0)
WSM-3	0.134 (3.4)	0.178 (4.5)	0.434 (11.0)	0.788 (20.0)

Physical Data



Dimensions (Inches & mm))					
Type	**L**	**I**	**W**	**w**	**H**
WSM-1	0.310 max (7.9 max)	0.100 nom (2.54 nom)	0.275 max (7.0 max)	0.165 max (4.2 max)	0.155 max (3.94 max)
WSM-2	0.473 max (12 max)	0.122 nom (3.1 nom)	0.413 max (10.5 max)	0.260 max (6.6 max)	0.217 max (5.5 max)
WSM-3	0.709 max (18 max)	0.122 nom (3.1 nom)	0.630 max (16 max)	0.276 max (7 max)	0.256 max (6.5 max)

Molded Surface Mount Wirewound Resistor

Environmental Data

Characteristics		WSM-1	WSM-2	WSM-1
Load at Rated Power: 1000 hours @ 70°C	ΔR%	2 ± 0.001Ω	2 ± 0.001Ω	3 ± 0.001Ω
Dry Heat: 1000 hours @ 155°C	ΔR%	2 ± 0.001Ω	2 ± 0.001Ω	3 ± 0.001Ω
Short Term Overload	ΔR%	2 ± 0.001Ω		
Derating from Rated Power @ 70°C		zero at 155°C		
Moisture	ΔR%	1 ± 0.001Ω	1 ± 0.001Ω	1.5 ± 0.001Ω
Temperature Cycling	ΔR%	1 ± 0.001Ω		
Resistance to Solder Heat	ΔR%	1 ± 0.001Ω		
Isolation Voltage	volts	1,000		
Insulation Resistance	ohms	>1000M		
Substrate Bend	ΔR%	0.2 ± 0.001Ω		

*Note: The power ratings to be applied depend upon the board used and the ambient temperature.

Ordering Data

Specify type, reference, etc. as indicated in this example of a WSM3 6801 F resistor with tape and reel packaging.

Sample Part No. WSM3 | 6801 | F | LF | TR

IRC Type
(WSM1, WSM2, WSM3)

Resistance Value
(100Ω and greater - First 3 significant digits plus 4th digit multiplier) Example: 100Ω = 1000, 1000Ω = 1001, 150,000Ω = 1503 (Less than 100Ω - "R" is used to designate decimal) Example: 51Ω = 51R0, 1Ω = 1R00, 0.25Ω = R250

Tolerance
(K = 10%, J = 5%, G = 2%, F = 1%)

Lead Free, RoHS Designator

Packaging Code
(TR = 13" Reel)

Standard Quantities Per Package

Type	Code	WSM1	WSM2	WSM3
13" Reel (330mm)	R	1500	800	750

Packaging:

WSM2 resistors are supplied on .945 (24mm) wide carrier tape.

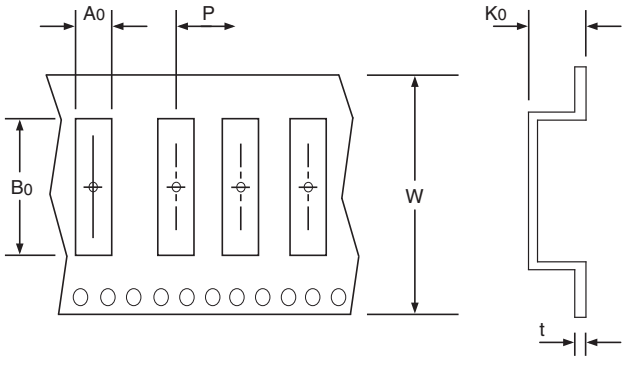
WSM3 resistors are supplied on 1.26 (32mm) wide carrier tape.

Both products are reeled onto 13.00 (330mm) diameter reels.

*For packaging information, see Appendix "A".

Dimensions (Inches and (mm))

	Ao	Bo	Ko	W	P	T
WSM1	.165 (4.2)	.300 (7.62)	.165 (4.20)	.630 (16.0)	.315 (8.00)	.014 (0.36)
WSM2	.266 (6.75)	.470 (11.95)	.206 (5.22)	.945 (24.0)	.473 (12.0)	.014 (0.36)
WSM3	.288 (7.3)	.721 (18.3)	.264 (6.7)	1.26 (32.0)	.473 (12.0)	.016 (0.4)



Wire and Film Technologies Division • 4222 South Staples Street • Corpus Christi Texas 78411 USA
Telephone: 361 992 7900 • Facsimile: 361 992 3377 • Website: www.irctt.com