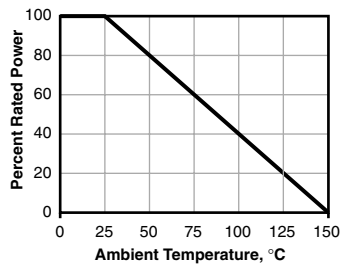


## FEATURES

- Tolerance 1%-5% standard
- Twelve wattage ratings
- Seven package sizes
- Two mounting designs to accommodate your soldering process
- Four power resistor technologies to optimize your operating performance:
  1. Carbon and Ceramic composition for surge and low inductance
  2. Metal film for high ohmic value and low T.C.
  3. Wire element for inrush current combined with low ohmic values. Resistance values as low as 0.005Ω
  4. Power film for high ohmic value and high wattage
- Flexible J-bend terminations
- Working Temperature Range: -55°C to +150°C

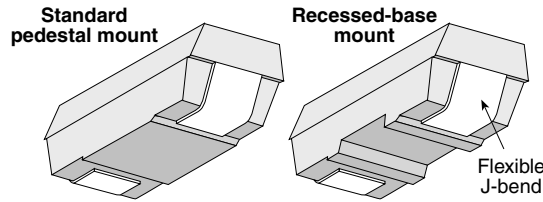
## DERATING



# Surface Mount Power

RC Series: carbon composition (1/4 & 1/2 watt)  
 RC Series: ceramic composition (above 1/2 watt)

RF Series: metal film  
 RW Series: wirewound  
 RP Series: power film



Series*	Wattage	Ohms	Dimensions (in. / mm)			
			Length	Height	Width	Voltage
RC0S2CA	0.25	2.2–5.6M	0.394 / 10.01	0.159 / 4.04	0.159 / 4.04	250
RC0R5DB	0.50	2.2–20M	0.625 / 15.88	0.226 / 5.74	0.273 / 6.93	350
RW0S6BB	0.6	0.005–1K	0.202 / 5.14	0.135 / 3.42	0.1 / 2.54	50
RF0S8BA	0.80	1.0–10M	0.246 / 6.25	0.136 / 3.45	0.136 / 3.45	200
RW1S0BA	1.00	0.005–1K	0.246 / 6.25	0.136 / 3.45	0.136 / 3.45	50
RF1S0CA	1.00	1.0–10M	0.394 / 10.01	0.159 / 4.04	0.159 / 4.04	350
RC1R0EA	1.00	3.3–100K	0.811 / 20.60	0.273 / 6.93	0.273 / 6.93	500
RP1S3CA	1.25	1.0–1M	0.394 / 10.01	0.159 / 4.04	0.159 / 4.04	350
RW1S5CA	1.50	0.005–1.5K	0.394 / 10.01	0.159 / 4.04	0.159 / 4.04	75
RP1S5CB	1.50	1.0–1M	0.407 / 10.34	0.222 / 5.64	0.226 / 5.74	350
RP1R5CB	1.50	1.0–1M	0.407 / 10.34	0.222 / 5.64	0.226 / 5.74	350
RW2S0CB	2.00	0.005–5K	0.407 / 10.34	0.222 / 5.64	0.226 / 5.74	100
RW2R0CB	2.00	0.005–5K	0.407 / 10.34	0.222 / 5.64	0.226 / 5.74	100
RP2S0DA	2.00	1.0–1M	0.455 / 11.56	0.226 / 5.74	0.24 / 6.10	500
RP2R0DA	2.00	1.0–1M	0.455 / 11.56	0.226 / 5.74	0.24 / 6.10	500
RW2S0DA	2.00	0.005–5K	0.455 / 11.56	0.226 / 5.74	0.24 / 6.10	100
RW2R0DA	2.00	0.005–5K	0.455 / 11.56	0.226 / 5.74	0.24 / 6.10	100
RP2R5DB	2.50	1.0–1M	0.655 / 16.64	0.226 / 5.74	0.273 / 6.93	500
RW3R0DB	3.00	0.005–13K	0.625 / 15.88	0.226 / 5.74	0.273 / 6.93	200
RP3R0EA	3.00	1.0–1M	0.811 / 20.60	0.273 / 6.93	0.273 / 6.93	750
RW3R5EA	3.50	0.005–25K	0.811 / 20.60	0.273 / 6.93	0.273 / 6.93	350

Military grade versions available; contact Ohmite.  
 \*Last two digits designate package size

## PERFORMANCE SPECIFICATIONS

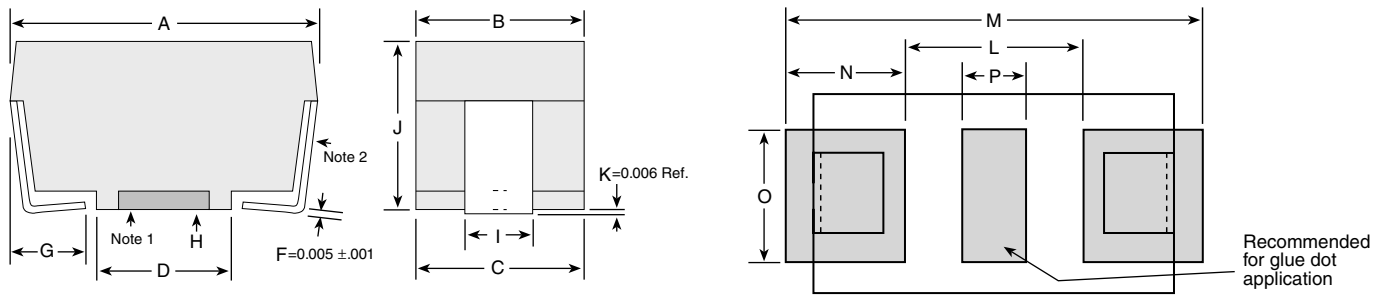
Part Number	Power (watts)*	Maximum voltage	Resistance range			Temp. Coefficient			Dielectric Withstanding	Tape Size 13" reels	Quantity per reel
			1% tol.	5% tol.	10% tol.	0.1Ω–1Ω	1Ω–10Ω	10Ω+			
RC0S2CA	0.25	250	—	2.2Ω–1K	1K–5.6M	—	±400	±400	1000V	16mm	1500
RC0R5DB	0.50	350	—	2.2Ω–1K	1K–20M	—	±400	±400	1000V	24mm	1000
RW0S6BB	0.6	50	0.005Ω–1K	0.005Ω–1K	—	±90	±50	±20	1000V	12mm	2500
RF0S8BA	0.8	200	1Ω–5M	—	—	—	±100	±100	1000V	12mm	2000
RW1S0BA	1.0	50	0.005Ω–1K	0.005Ω–1K	—	±90	±50	±20	1000V	12mm	2000
RF1S0CA	1.0	350	10Ω–1M	1Ω–10M	—	—	±200	±100	1000V	16mm	1500
RC1R0EA	1.0	500	—	3.3–100K(10% tol only)	—	—	—	-1300	1000V	32mm	750
RP1S3CA	1.25	350	—	1Ω–1M	—	—	±250	±250	1000V	16mm	1500
RP1S5CA	1.5	75	0.005Ω–1.5K	0.005Ω–1.5K	—	±90	±250	±250	1000V	16mm	1500
RP1S5CB	1.5	350	—	1Ω–1M	—	—	±250	±250	1000V	16mm	1000
RP1R5CB	1.5	350	—	1Ω–1M	—	—	±250	±250	1000V	16mm	1000
RW2S0CB	2.0	100	0.005Ω–5K	0.005Ω–5K	—	±90	±50	±20	1000V	16mm	1000
RW2R0CB	2.0	100	0.005Ω–5K	0.005Ω–5K	—	±90	±50	±20	1000V	16mm	1000
RP2S0DA	2.0	500	—	1Ω–1M	—	—	±250	±250	1000V	24mm	1000
RP2R0DA	2.0	500	—	1Ω–1M	—	—	±250	±250	1000V	24mm	1000
RW2S0DA	2.0	100	0.005Ω–5K	0.005Ω–5K	—	±90	±50	±20	1000V	24mm	1000
RW2R0DA	2.0	100	0.005Ω–5K	0.005Ω–5K	—	±90	±50	±20	1000V	24mm	1000
RP2R5DB	2.5	500	—	1Ω–1M	—	—	±250	±250	1000V	24mm	1000
RW3R0DB	3.0	200	0.005Ω–13K	0.005Ω–13K	—	±90	±50	±20	1000V	24mm	1000
RP3R0EA	3.0	750	—	1Ω–1M	—	—	±250	±250	1000V	32mm	750
RW3R5EA	3.5	350	0.005Ω–25K	0.005Ω–25K	—	±90	±50	±20	1000V	32mm	750
RM0R7EA	0.75	2500	1KΩ–1000M	1KΩ–1000M	—	—	—	±50	1000V	32mm	750

\*25°C ambient

(continued)

# Surface Mount Power

(continued)



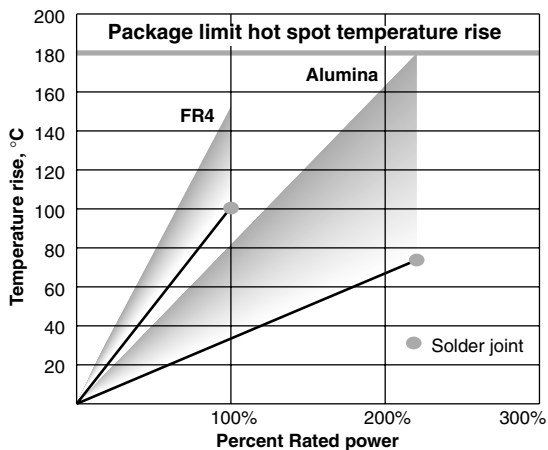
Packages	Package Outline Dimensions						PC Board Land Pattern					
	A	B	C	D	G	I	J	L	M	N	O	P
<b>BA</b>	(in.) .246±.020 (mm) 6.248±.508	.136±.005 3.454±.127	.133 REF 3.378 REF	.110±.010 2.794±.254	.047 Nom. 1.194 Nom.	.054±.012 1.372±.305	.136±.005 3.454±.127	.150 3.81	.346 8.79	.098 2.49	.126 3.20	.050 1.27
<b>CA</b>	(in.) .394±.020 (mm) 10.008±.508	.159±.005 4.039±.127	.156 REF 3.962 REF	.220±.010 5.588±.254	.062 Nom. 1.575 Nom.	.078±.012 1.981±.305	.159±.005 4.038±.127	.256 6.50	.524 13.31	.134 3.40	.126 3.20	.060 1.52
<b>CB</b>	(in.) .407±.020 (mm) 10.338±.508	.226±.005 5.74±.127	.222 REF 5.639 REF	.260±.010 6.604±.254	.062 Nom. 1.575 Nom.	.084±.012 2.134±.305	.222±.005 5.639±.127	.276 7.01	.537 13.64	.131 3.33	.126 3.20	.093 2.36
<b>DA</b>	(in.) .455±.020 (mm) 11.557±.508	.240±.005 6.096±.127	.236 REF 5.994 REF	.260±.010 6.604±.254	.062 Nom. 1.575 Nom.	.143±.012 3.632±.305	.226±.005 5.740±.127	.317 8.05	.585 14.86	.134 3.40	.155 3.94	.093 2.36
<b>DB</b>	(in.) .625±.020 (mm) 15.875±.508	.273±.005 6.934±.127	.268 REF 6.807 REF	.417±.010 10.592±.254	.062 Nom. 1.575 Nom.	.143±.012 3.632±.305	.226±.005 5.740±.127	.474 12.040	.742 18.85	.134 3.40	.155 3.94	.093 2.36
<b>EA</b>	(in.) .811±.020 (mm) 20.599±.508	.273±.005 6.934±.127	.268 REF 6.807 REF	.572±.010 14.529±.254	.093 Nom. 2.362 Nom.	.143±.012 3.632±.305	.273±.005 6.934±.127	.611 15.52	1.000 25.4	.195 4.95	.155 3.94	.093 2.36
<b>BB</b>	(in.) .202±.010 (mm) 5.140±.508	.10±.010 2.54±.127	.095 REF 2.41 REF	.079±.010 2.00±.254	.050 Nom. 1.280 Nom.	.065±.012 1.640±.305	.135±.005 3.420±.127	0.078 1.98	0.328 8.33	0.125 3.18	0.126 3.20	0.026 0.66

**Note 1:** Packages BA and CA are only available with a pedestal base. Packages CB and DA are available in either pedestal or recessed base. Packages DB and EA are only available in a recessed base.

**Note 2:** Test point is .020 above PCB.

**Note 3:** Tape and reel dimensions per EIA 481 A except "EA" size which is 12 mm component pitch versus 16mm pitch.

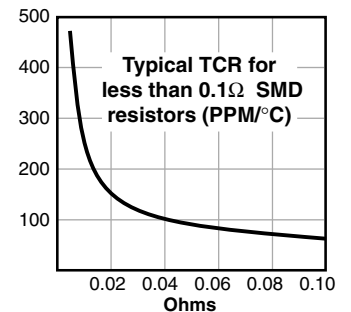
Land pattern dimensions are for reference only



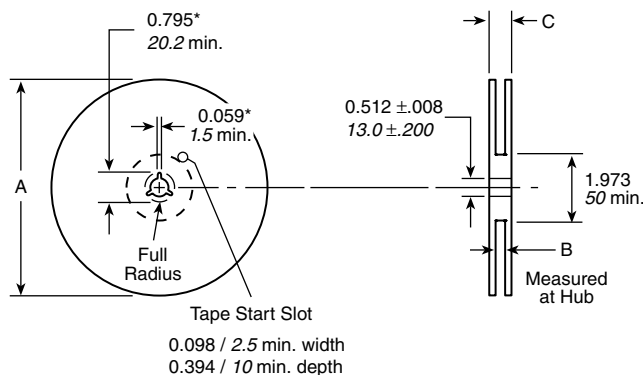
The temperature rise graph data was obtained by a selection of test substrate size and trace width for each resistor size to limit operating temperatures to safe values.

The operating temperature safe rises are either 100°C substrate temperature rise or 180°C package hot spot temperature rise at 25°C ambient.

FR4: 0.062 in. thick; 0.062 in. traces  
Alumina: 0.040 in. thick; 0.010 in. traces  
Molding material rated at 205°C continuous.



## REEL DIMENSIONS



Size	A nom.	B	C max.	Quantity
12mm	13"	0.488" +0.078, -0.00	0.724"	2000 pcs. BA or
		12.4mm +2.0, -0.0	18.4mm	2500 pcs. BB
16mm	13"	0.646" +0.078, -0.00	0.882"	1500 pcs. CA or
		16.4mm +2.0, -0.0	22.4mm	1000 pcs. CB
24mm	13"	0.961" +0.078, -0.00	1.196"	1000 pcs. DA or DB
		24.4mm +2.0, -0.0	30.4mm	
32mm	13"	1.276" +0.078, -0.00	1.52"	750 pcs. EA
		32.4mm +2.0, -0.0	38.4mm	

All reels are compatible with major pick-and-place machines and made in accordance with EIA 481 A (except EA size, which is 12mm component pitch versus 16mm pitch).

(continued)

# Surface Mount Power

(continued)

## PERFORMANCE DATA

Construction	Temp. cycle (-55°C to 125°C, 1000 cycles)	Load Life (1000 hours at 25°C)	Immersion (260°C for 10 sec.)	Momentary Overload
<b>RC</b> Carbon/Ceramic Composition	±4.0%+.05Ω	±10.0%+.05Ω	±3.0%+.05Ω	6.3x rated power for 5 sec.
<b>RF</b> Metal Film	±0.5%+.05Ω	±0.5%+.05Ω	±0.1%+.05Ω	2x rated power for 0.1 sec.
<b>RW</b> Wirewound	±0.5%+.05Ω	±3.0%+.05Ω	±0.1%+.05Ω	5x rated power for 5 sec.
<b>RP</b> Power Film	±3.0%+.05Ω	±5.0%+.05Ω	±0.5%+.05Ω	2x rated power for 0.1 sec.
<b>RN</b> Wirewound, Non-inductive	±0.5%+.05Ω	±3.0%+.05Ω	±0.1%+.05Ω	5x rated power for 5 sec.

**ALL models:** **Leaching** (260°C Solder immersion, 60 sec.)..... No visible leaching  
**Thermal Shock** (Units at -55°C, then rated power applied).. No mechanical damage  
**Flammability** ..... UL Material rating, UL94V0

## STANDARD PART NUMBERS FOR SURFACE MOUNT POWER RESISTORS

Package style Base: standard or recessed	Wirewound																										
	BA	CA	CB	CB	DA	DA	DB	EA	BB	EA																	
Wattage	1.0	1.5	2.0	2.0	2.0	2.0	3.0	3.5	0.6	1.0																	
Part No.	RW1S0BA	RW1S5CA	RW2S0CB	RW2R0CB	RW2S0DA	RW2R0DA	RW3R0DB	RW3R5EA	RW0S6BB	RC1R0EA																	
Prefix	RW1S0BA	RW1S5CA	RW2S0CB	RW2R0CB	RW2S0DA	RW2R0DA	RW3R0DB	RW3R5EA	RW0S6BB	RC1R0EA																	
Suffix	Tolerance suffix: F = 1% J = 5% K = 10%																										
Ohmic value	0.005	0.010	0.015	0.020	0.025	0.027	0.030	0.033	0.036	0.050	0.056	0.075	0.080	0.100	0.150	0.200	0.220	0.240	0.300	0.330	0.400	0.400	0.470	0.500	0.750	1.00	2.00

Package style Base: standard or recessed	Wirewound																									
	BA	CA	CB	CB	DA	DA	DB	EA	BB	EA																
Wattage	1.0	1.5	2.0	2.0	2.0	2.0	3.0	3.5	0.6	1.0																
Part No.	RW1S0BA	RW1S5CA	RW2S0CB	RW2R0CB	RW2S0DA	RW2R0DA	RW3R0DB	RW3R5EA	RW0S6BB	RC1R0EA																
Prefix	RW1S0BA	RW1S5CA	RW2S0CB	RW2R0CB	RW2S0DA	RW2R0DA	RW3R0DB	RW3R5EA	RW0S6BB	RC1R0EA																
Suffix	Tolerance suffix: F = 1% J = 5% K = 10%																									
Ohmic value	3.30	4.70	5.00	5.60	6.80	7.50	10.00	15.00	20.00	22.00	24.90	33.00	36.00	47.00	50.00	51.00	68.00	82.00	100.00	120.00	180.00	300.00	470.00	1K	4.7K	5K

## ORDERING INFORMATION

**Component type**  
R = resistor

**Type of Base**  
S = standard  
R = recessed

**Package**  
B = 12mm  
C = 16mm  
D = 24mm  
E = 32mm

**Package Modifier**  
A, B sequential

**Tolerance**  
F = 1%  
G = 2%  
H = 3%  
J = 5%  
K = 10%

**T = Tape and Reel (optional)**

**Example Part Number: RW3R5EA1K00FET**

**Component Modifier**  
C = carbon/ceramic composition  
F = film  
P = power film  
W = wire  
N = wirewound, non-inductive

**Wattage**  
Examples:  
1S3 = 1.25W  
2S0 or 2R0 = 2.0W  
3R5 = 3.5W

**Resistance Value**  
R = Decimal  
K = 1,000  
M = 1,000,000

**E = RoHS compliant**  
Available Jan. 2006

Examples:  
R249 = 0.249 ohms  
24R9 = 24.9 ohms  
2K49 = 2,490 ohms

(For example, the part number shown is a wirewound resistor, 3.5 watt, recessed base, 32mm tape size, first case size [A], 1000 ohms 1% tolerance.)