

### Features:

- 2 W 2512 size chip
- Wide resistance range
- Cooler operation than standard 2512 size thick film chip
- RoHS compliant, REACH compliant, and halogen free

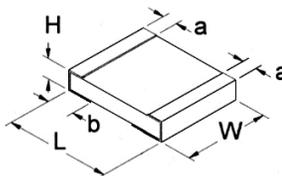


### Electrical Specifications

Type/Code	Package Type	Power Rating (W) @ 70°C	Maximum Working Voltage (V) <sup>(1)</sup>	Maximum Overload Voltage (V)	TCR (ppm/°C)	Ohmic Range (Ω) and Tolerance
						1%, 5%
RHC2512	2512	2	200	400	±100	0.1 - 1M

Note: (1) Lesser of  $\sqrt{P \cdot R}$  or maximum working voltage

### Mechanical Specifications



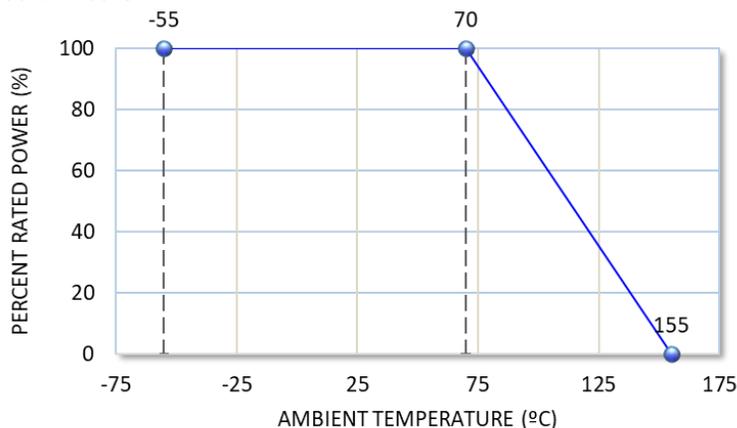
Type/Code	L Body Length	W Body Width	H Body Height	a Top Termination	b Bottom Termination	Unit
RHC2512	0.248 ± 0.008	0.126 ± 0.008	0.024 ± 0.004	0.028 ± 0.008	0.087 ± 0.008	inches
	6.30 ± 0.20	3.20 ± 0.20	0.60 ± 0.10	0.70 ± 0.20	2.20 ± 0.20	mm

### Performance Characteristics

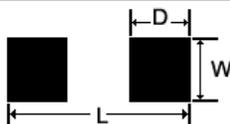
Test	Typical
Moisture Resistance	±1% + 0.05Ω for <10Ω and ±1% for ≥10Ω
Load Life	
Resistance to Soldering	
Temperature Cycling	
Thermal Shock	
Short Time Overload	
Insulation Resistance	

Operating temperature range is -55 to +155°C

### Power Derating Curve:



### Recommended Pad Layout



Type/Code	L Total Length	W Total Width	D Pad Depth	Unit
RHC2512	0.315 8.00	0.138 3.50	0.118 3.00	inches mm

### Recommended Solder Profile

This information is intended as a reference for solder profiles for Stackpole resistive components. These profiles should be compatible with most soldering processes. These are only recommendations. Actual numbers will depend on board density, geometry, packages used, etc., especially those cells labeled with “\*”.

### 100% Matte Tin / RoHS Compliant Terminations

Soldering iron recommended temperatures: 330 to 350°C with minimum duration.  
Maximum number of reflow cycles: 3.

### Wave Soldering

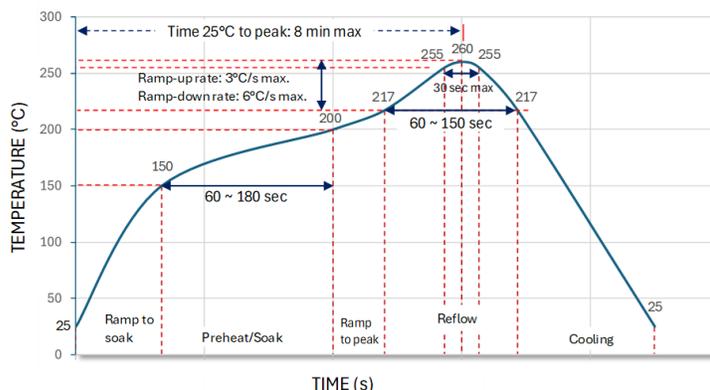
Description	Maximum	Recommended	Minimum
Preheat Time	80 seconds	70 seconds	60 seconds
Temperature Diff.	140°C	120°C	100°C
Solder Temp.	260°C	250°C	240°C
Dwell Time at Max	10 seconds	5 seconds	*
Ramp DN (°C/sec)	N/A	N/A	N/A

Temperature Diff. = Difference between final preheat stage and soldering stage.

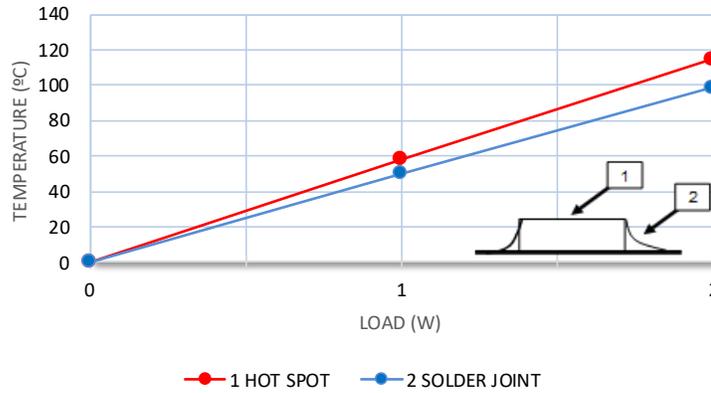
### Convection IR Reflow

Description	Maximum	Recommended	Minimum
Ramp Up (°C/sec)	3°C/sec	2°C/sec	*
Dwell Time > 217°C	150 seconds	90 seconds	60 seconds
Solder Temp.	260°C	245°C	*
Dwell Time at Max.	30 seconds	15 seconds	10 seconds
Ramp DN (°C/sec)	6°C/sec	3°C/sec	*

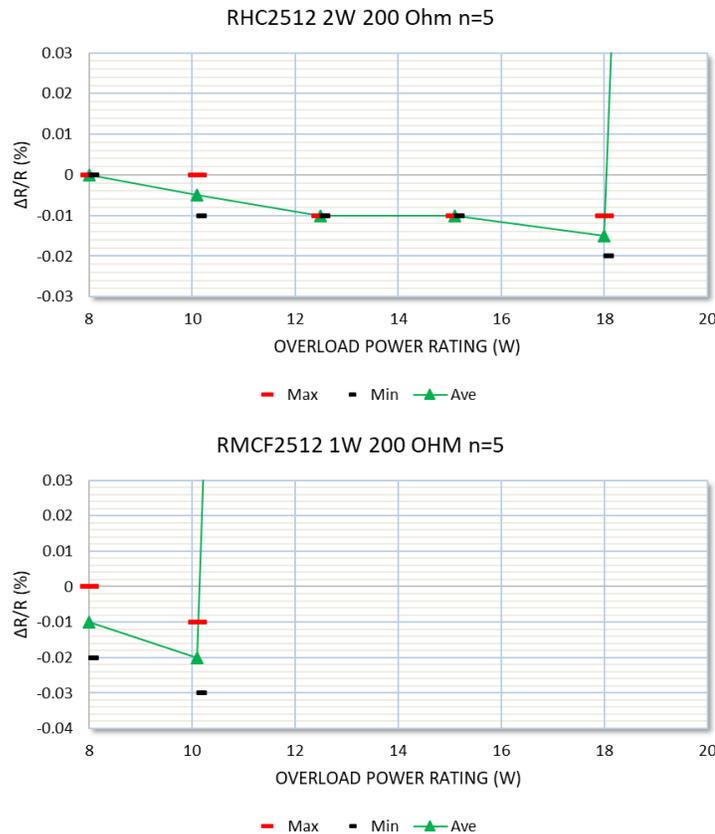
### Recommended Resistor Reflow Profile



**Heat Rise and Terminal Temperature**



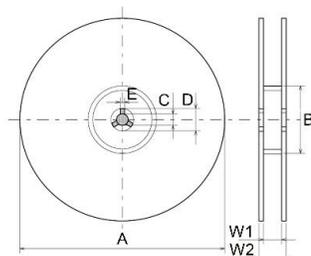
**Repeated Overload**



Test condition:  
Voltage (Power): 2.0, 2.25, 2.5, 2.75, 3.0, 3.25 times of rated voltage. (8 W, 10.1 W, 12.5 W, 15.1 W, 18 W, 21.1 W)

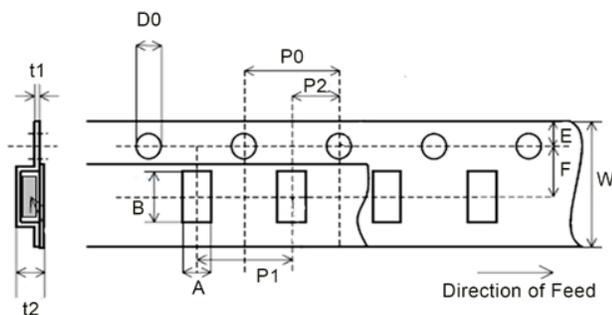
Applied time:  
Each voltage 5 seconds.  
As a reference test, the RMCF was tested with the same rated voltage and testing substrate.

### Reel Specifications



Type	A	B	C	D	E	W1	W2	Unit
RHC2512	7.087 ± 0.118	2.362 ± 0.039	0.512 ± 0.008	0.827 ± 0.031	0.079 ± 0.020	0.512 ± 0.012	0.606 ± 0.039	Inches
	180.00 ± 3.00	60.00 ± 1.00	13.00 ± 0.20	21.00 ± 0.80	2.00 ± 0.50	13.00 ± 0.30	15.40 ± 1.00	mm

### Packaging Specifications - Plastic Tape



Type	A	B	W	F	E	P1	Unit
RHC2512	0.134 ± 0.004	0.260 ± 0.004	0.472 ± 0.008	0.217 ± 0.002	0.069 ± 0.004	0.157 ± 0.004	Inches
	3.40 ± 0.10	6.60 ± 0.10	12.00 ± 0.20	5.50 ± 0.05	1.75 ± 0.10	4.00 ± 0.10	mm
	P2	P0	D0	t1	t2	Unit	
	0.079 ± 0.002	0.157 ± 0.004	0.061 ± 0.002	0.010 ± 0.002	0.039 ± 0.004	Inches	
	2.00 ± 0.05	4.00 ± 0.10	1.55 ± 0.05	0.25 ± 0.05	1.00 ± 0.10	mm	

**Part Marking Instructions**

3-digit marking in E24 values (1% and 5% tolerances)  
First and second digits are E24 code; third digit is the multiplier

3-digit marking for 2512 in E24			
Resistance	18Ω	100Ω	10KΩ
Marking	180	101	103



E24 Code	10	11	12	13	15	16	18	20	22	24	27	30	33	36	39	43	47	51	56	62	68	75	82	91
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1% E24 values may also be marked with 4-digit marking

3 or 4-digit marking		
Resistance	6.2 KΩ	
Marking	3-digit	4-digit
	622	6201



4-digit marking in E96 values (1% tolerances)  
Values < 100Ω will use "R" as the decimal holder

4-digit marking for 2512 in E96			
Resistance	0.976	10Ω	1MΩ
Marking	R976	10R0	1004



**RoHS Compliance**

Stackpole Electronics has joined the worldwide effort to reduce the amount of lead in electronic components and to meet the various regulatory requirements now prevalent, such as the European Union’s directive regarding “Restrictions on Hazardous Substances” (RoHS 3). As part of this ongoing program, we periodically update this document with the status regarding the availability of our compliant components. All our standard part numbers are compliant to EU Directive 2011/65/EU of the European Parliament as amended by Directive (EU) 2015/863/EU as regards the list of restricted substances.

RoHS Compliance Status				
Standard Product Series	Description	Package / Termination Type	Standard Series RoHS Compliant	Lead-Free Termination Composition
RHC	High Power Thick Film Chip Resistor	SMD	YES(1)	100% Matte Sn over Ni

Note (1): RoHS Compliant by means of exemption 7c-l.

**“Conflict Metals” Commitment**

We at Stackpole Electronics, Inc. are joined with our industry in opposing the use of metals mined in the “conflict region” of the eastern Democratic Republic of the Congo (DRC) in our products. Recognizing that the supply chain for metals used in the electronics industry is very complex, we work closely with our own suppliers to verify to the extent possible that the materials and products we supply do not contain metals sourced from this conflict region. As such, we are in compliance with the requirements of Dodd-Frank Act regarding Conflict Minerals.

### Compliance to “REACH”

We certify that all passive components supplied by Stackpole Electronics, Inc. are SVHC (Substances of Very High Concern) free and compliant with the requirements of EU Directive 1907/2006/EC, “The Registration, Evaluation, Authorization and Restriction of Chemicals”, otherwise referred to as REACH. Contact us for complete list of REACH Substance Candidate List.

### Environmental Policy

It is the policy of Stackpole Electronics, Inc. (SEI) to protect the environment in all localities in which we operate. We continually strive to improve our effect on the environment. We observe all applicable laws and regulations regarding the protection of our environment and all requests related to the environment to which we have agreed. We are committed to the prevention of all forms of pollution.

## How to Order

