Resistive Product Solutions

#### Features:

- R Value extension of RMCF product
- Highly stable performance over time
- Power derating from 100% at 70°C to zero at 125°C
- E12 and E24 values
- Nickel barrier terminations
- RoHS compliant and halogen free



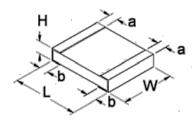
Electrical Specifications											
Type / Code	Power Rating (Watts) @ 70°C	Maximum Working	Maximum Overload Voltage	Resistance Temperature Coefficient	Ohmi	ic Range (Ω) and Toler	rance				
	70°C	Voltage (1)	voitage		11M - 20M	376	1076				
HMC0402	0.063W	50V	100V	±200 ppm/°C ±400 ppm/°C	11101 - 20101	22M - 100M					
				±200 ppm/°C	11M - 20M	-					
HMC0603	0.1W	50V	100V	±400 ppm/°C	22M - 100M	30M - 100M					
	51111			±500 ppm/°C	-	110M - 1G	110M - 4.7G				
		150V	300V	±200 ppm/°C	11M - 20M	-					
				±400 ppm/°C	22M - 100M	30M - 100M	33M - 100M				
HMC0805	0.125W			±500 ppm/°C	-	110M - 500M					
				±1000 ppm/°C		510M - 1G					
				±1500 ppm/°C		1.2G	- 10G				
	0.25W	200V	400V	±200 ppm/°C	11M - 20M	-					
				400V	±400 ppm/°C	22M - 100M	30M -	100M			
HMC1206					±500 ppm/°C		110M -	500M			
					ļ			±1000 ppm/°C	-	510M	- 1G
					±1500 ppm/°C		1.2G	- 10G			
HMC1210	0.33W	200V	400V	±200 ppm/°C	11M - 20M	-	11M - 20M				
1111101210	0.00	2001	4001	±400 ppm/°C	22M - 100M						
HMC2010	0.75W	200V	400V	±200 ppm/°C	11M - 20M						
	55			±400 ppm/°C	22M - 100M						
HMC2512	1W	250V	500V	±200 ppm/°C	11M - 20M						
				±400 ppm/°C		22M - 100M					

<sup>(1)</sup> Lesser of  $\sqrt{PR}$  or maximum working voltage.

Performance Characteristics					
Test	Test Conditions (JIS C 5202)	Test Results			
Long Term Stability	Nominal temperature & humidity for 1,000 hrs.	± 0.5%			
High Temperature Loading	15VDC, 1.5 hr. ON, 0.5 hr. OFF, 1,000 hrs. 70°C	± 3%			
Resistance to Solder Heat	260°C ± 5°C, 10 seconds +1/-0	± 1%			
Short Time Overload	5 seconds at maximum overload voltage	± 2%			
Voltage Coefficient of Resistance	Per JIS C 5202	± 0.5%/V			

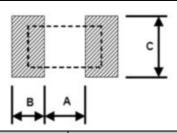
Operating Temperature Range: -55°C to +125°C

## **Mechanical Specifications**



Type / Code	L Body Length	W Body Width	H Body Height	a Top Termination	b Bottom Termination	Unit
HMC0402	0.039 ± 0.002	$0.020 \pm 0.002$	$0.014 \pm 0.002$	0.008 ± 0.004	$0.008 \pm 0.004$	inches
	1.00 ± 0.05	$0.50 \pm 0.05$	$0.35 \pm 0.05$	0.20 ± 0.10	$0.20 \pm 0.10$	mm
HMC0603	0.063 ± 0.004	0.031 ± 0.004	$0.018 \pm 0.004$	0.012 ± 0.008	0.012 ± 0.008	inches
	1.60 ± 0.10	0.80 ± 0.10	$0.45 \pm 0.10$	0.30 ± 0.20	0.30 ± 0.20	mm
HMC0805	0.079 ± 0.008	0.049 ± 0.004	$0.020 \pm 0.004$	0.016 ± 0.008	0.016 ± 0.008	inches
	2.00 ± 0.20	1.25 ± 0.10	$0.50 \pm 0.10$	0.40 ± 0.20	0.40 ± 0.20	mm
HMC1206	0.122 ± 0.006	0.061 ± 0.004	0.022 ± 0.006	0.020 ± 0.010	$0.020 \pm 0.008$	inches
	3.10 ± 0.15	1.55 ± 0.10	0.55 ± 0.15	0.50 ± 0.25	$0.50 \pm 0.20$	mm
HMC1210	0.126 ± 0.008	0.102 ± 0.006	0.022 ± 0.004	0.020 ± 0.008	$0.020 \pm 0.008$	inches
	3.20 ± 0.20	2.60 ± 0.15	0.55 ± 0.10	0.50 ± 0.20	$0.50 \pm 0.20$	mm
HMC2010	0.197 ± 0.008	0.098 ± 0.006	0.022 ± 0.004	0.024 ± 0.010	$0.020 \pm 0.008$	inches
	5.00 ± 0.20	2.50 ± 0.15	0.55 ± 0.10	0.60 ± 0.25	$0.50 \pm 0.20$	mm
HMC2512	0.250 ± 0.008	0.126 ± 0.006	0.022 ± 0.004	0.024 ± 0.010	0.020 ± 0.008	inches
	6.35 ± 0.20	3.20 ± 0.15	0.55 ± 0.10	0.60 ± 0.25	0.50 ± 0.20	mm

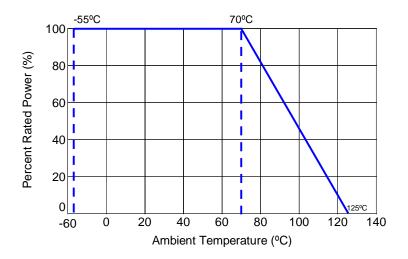
## Recommended Pad Layout



Type/Code	Α	В	С	Unit
HMC0402	0.020	0.018	0.024	inches
111/100402	0.50	0.45	0.60	mm
HMC0603	0.035	0.024	0.035	inches
1111100003	0.90	0.60	0.90	mm
HMC0805	0.047	0.028	0.051	inches
Tilvicosos	1.20	0.70	1.30	mm
HMC1206	0.079	0.035	0.063	inches
1 IIVIC 1200	2.00	0.90	1.60	mm
HMC1210	0.079	0.035	0.110	inches
TIMOTZTO	2.00	0.90	2.80	mm
HMC2010	0.150	0.035	0.110	inches
TIMC2010	3.80	0.90	2.80	mm
HMC2512	0.193	0.063	0.138	inches
TIMOZSTZ	4.90	1.60	3.50	mm

Resistive Product Solutions

### **Power Derating Curve:**



#### **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 2). 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.

	RoHS Compliance Status							
Standard Product Series	Description	Package / Termination Type	Standard Series RoHS Compliant	Lead-Free Termination Composition	Lead-Free Mfg. Effective Date (Std Product Series)	Lead-Free Effective Date Code (YY/WW)		
НМС	High Value Thick Film Surface Mount Chip Resistor	SMD	YES(1)	100% Matte Sn over Ni	Jan-04	04/01		

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

#### "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.

# Stackpole Electronics, Inc.

Resistive Product Solutions

High Value Thick Film Chip Resistor

