SM4124FT412R Datasheet

DiGi Electronics Part Number	SM4124FT412R-DG
Manufacturer	Stackpole Electronics Inc
Manufacturer Product Number	SM4124FT412R
Description	RES 412 OHM 1% 2W 4124
Detailed Description	412 Ohms ±1% 2W Chip Resistor 4124 J-Lead Moisture Resistant, Pulse Withstanding Wirewound

https://www.DiGi-Electronics.com

This model SM4124FT412R is available at DiGi Electronics.

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Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
SM4124FT412R	Stackpole Electronics Inc
Series:	Product Status:
SM	Active
Resistance:	Tolerance:
412 Ohms	±1%
Power (Watts):	Composition:
2W	Wirewound
Features:	Temperature Coefficient:
Moisture Resistant, Pulse Withstanding	±20ppm/°C
Operating Temperature:	Package / Case:
-55°C ~ 275°C	4124 J-Lead
Supplier Device Package:	Size / Dimension:
4124	0.410" L x 0.240" W (10.41mm x 6.10mm)
Height - Seated (Max):	Number of Terminations:
0.195" (4.95mm)	2
Failure Rate:	
-	

Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	1 (Unlimited)
REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8533.21.0080	

SM / SMH Series

Surface Mount Wirewound Resistor

Stackpole Electronics, Inc.
Resistive Product Solutions

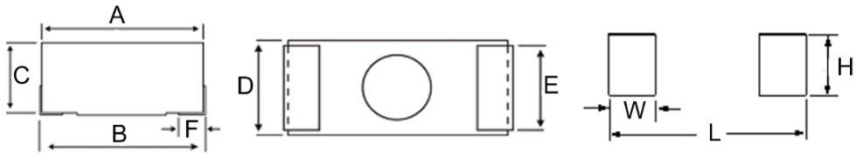
Features:

- High temperature molded encapsulation
- Flex termination for absorbing thermal expansion
- All welded construction
- Non-inductive winding available (contact Stackpole with requirements)
- 100% RoHS compliant and lead free without exemption
- Halogen free
- REACH compliant
- Size 2615 discontinued on August 31, 2022 - for more information, please see our PDN here

Electrical Specifications

Type/Code	Power Rating (W) @ 70ºC	Maximum Working Voltage	Dielectric Withstanding Voltage (V)	TCR (ppm/ºC)	Ohmic Range (Ω) and Tolerance			
					0.1%	0.5%	1%	5%
SM4124	2	$\sqrt{P*R}$	> 500	± 75	-		0.051 - 0.098	0.01 - 0.091
				± 100	5 - 10	3 - 10	0.1 - 10	
				± 20	10.1 - 1 K		10.2 - 1 K	11 - 1 K
SM4527	2			± 75	-		0.051- 0091	0.01 - 0.091
				± 100	5 - 10	3 -10	0.1 - 10	
				± 20	10.1 - 1 K		10.2 - 1 K	11 - 1 K
SM4527…-LP	2			± 75	-		0.01 - 0.05	
SMH4527	3			± 75	-		0.01 - 0.05	
SM6227	3			± 75	-		0.051 - 0.091	
				± 100	0.1 - 10			
				± 20	10.1 - 3 K		10.2 - 3 K	11 - 3 K
SM8035	4			± 75	-		0.051 - 0.091	
				± 100	0.1 - 10			
				± 20	10.1 - 5 K		10.2 - 5 K	11 - 5 K

Mechanical Specifications

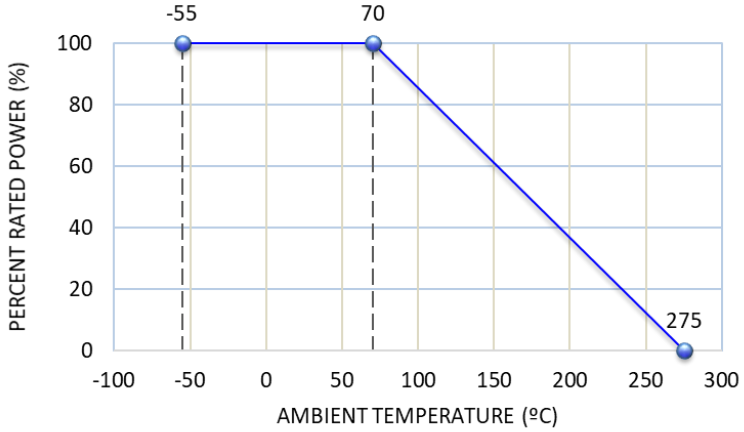


Type/Code	A Body Length	B Total Length	C Body Height	D Body Width	E Termination Width	F Termination Length	W	H	L	Unit
SM4124	0.410 ± 0.015	0.430 ± 0.032	0.180 ± 0.015	0.240 ± 0.015	0.122 ± 0.015	0.090 ± 0.015	0.181	0.157	0.583	inches
	10.41 ± 0.38	10.92 ± 0.81	4.57 ± 0.38	6.10 ± 0.38	3.10 ± 0.38	2.29 ± 0.38	4.60	3.99	14.81	mm
SM4527	0.455 ± 0.015	0.475 ± 0.032	0.215 ± 0.015	0.270 ± 0.015	0.122 ± 0.015	0.105 ± 0.015	0.169	0.157	0.587	inches
	11.56 ± 0.38	12.07 ± 0.81	5.46 ± 0.38	6.86 ± 0.38	3.10 ± 0.38	2.67 ± 0.38	4.29	3.99	14.91	mm
SM4527…-LP	0.455 ± 0.015	0.475 ± 0.032	0.150 ± 0.015	0.270 ± 0.015	0.122 ± 0.015	0.105 ± 0.015	0.169	0.157	0.587	inches
	11.56 ± 0.38	12.07 ± 0.81	3.81 ± 0.38	6.86 ± 0.38	3.10 ± 0.38	2.67 ± 0.38	4.29	3.99	14.91	mm
SMH4527	0.455 ± 0.015	0.475 ± 0.032	0.150 ± 0.015	0.270 ± 0.015	0.122 ± 0.015	0.105 ± 0.015	0.169	0.157	0.587	inches
	11.56 ± 0.38	12.07 ± 0.81	3.81 ± 0.38	6.86 ± 0.38	3.10 ± 0.38	2.67 ± 0.38	4.29	3.99	14.91	mm
SM6227	0.625 ± 0.015	0.645 ± 0.032	0.250 ± 0.015	0.275 ± 0.015	0.122 ± 0.015	0.130 ± 0.015	0.236	0.157	0.850	inches
	15.88 ± 0.38	16.38 ± 0.81	6.35 ± 0.38	6.99 ± 0.38	3.10 ± 0.38	3.30 ± 0.38	5.99	3.99	21.59	mm
SM8035	0.800 ± 0.015	0.830 ± 0.032	0.370 ± 0.015	0.350 ± 0.015	0.115 ± 0.015	0.165 ± 0.015	0.340	0.157	0.950	inches
	20.32 ± 0.38	21.08 ± 0.81	9.40 ± 0.38	8.89 ± 0.38	2.92 ± 0.38	4.19 ± 0.38	8.64	3.99	24.13	mm

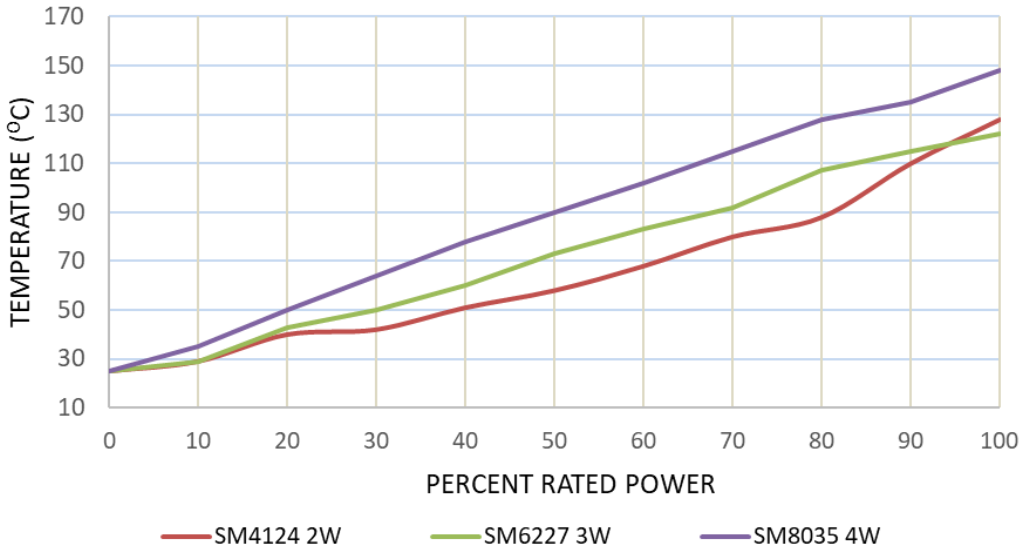
Performance Characteristics	
Test	Test Specification
Moisture Resistance	± 1%
Thermal Shock	± 0.5%
Load Life @ 70ºC - 1000 hours	± 1%
Resistance to Soldering Heat	± 1%
Terminal Strength	± 0.5%
Dielectric Withstanding Voltage	± 0.001% / V
Short Time Overload	± 0.2%

Operating temperature range is -55ºC to +275ºC

Power Derating Curve:



SM Series Hot Spot Temperature



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

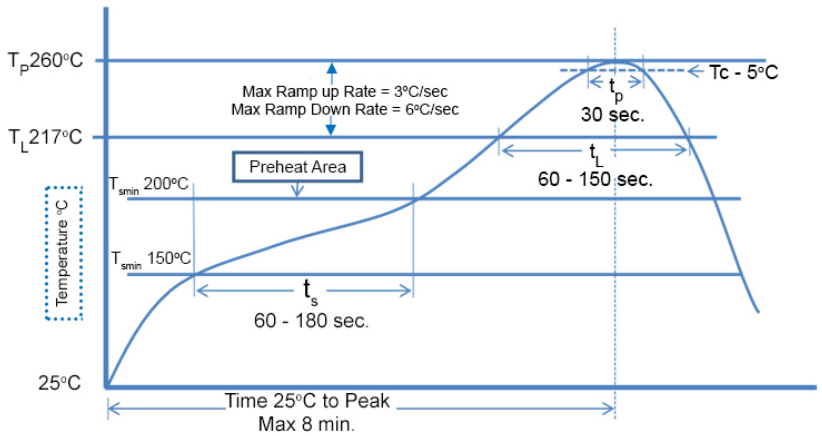
Soldering iron recommended temperatures: 330°C to 350°C with minimum duration.
Maximum number of reflow cycles: 3.

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 Lead Free Resistor Reflow Profile



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	Lead-Free Mfg. Effective Date (Std Product Series)	Lead-Free Effective Date Code (YY/WW)
SM	Surface Mount - General Purpose and Precision Wirewound Resistor	SMD	YES	100% Matte Sn	Jan-06	06/01

"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

S	M	4	1	2	4	F	T	1	K	0	0	-	L	P

Product Series

Code	Description
SM	Standard
SMH	High Power
NSM	Non-inductive

Power Rating

Size	W
4124	2
4527	2
(H)4527	3
6227	3
8035	4

Tolerance

Code	Tol
B	0.1%
D	0.5%
F	1%
J	5%

Packaging

Code	Description	Size	Quantity
T	13" Reel Plastic Tape	4527(-LP), H4527	1200
		4527	900
		4124	800
		6227	750
		8035	350

Resistance Value

Four characters with the multiplier used as the decimal holder. "L" used as multiplier of 10^{-3} for any value under 0.1 ohm.

0.01 ohm = 10L0
0.1 ohm = R100
1 Kohm = 1K00

Special

Code	Description
blank	Standard
-LP	Low Profile

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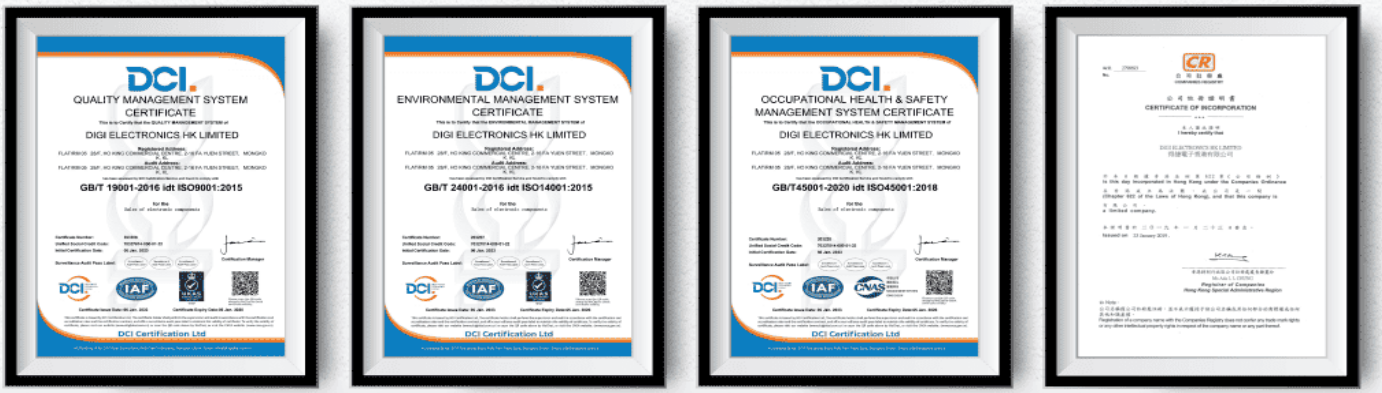

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