Features:

- Inner terminations and layers engineered to deter sulfur contamination
- Non-standard resistance values may be available
- Operating temperature range from -55ºC to +155ºC
- Zero ohm available
- “-PD” denotes >12% palladium inner termination
- RoHS compliant and halogen free

Electrical Specifications

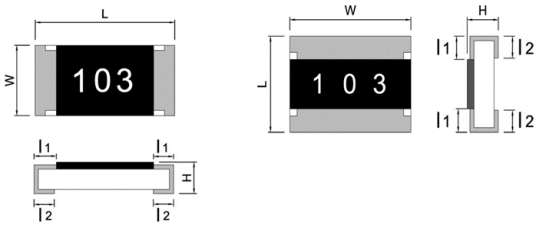
Type / Code	Power Rating (W) @ 70ºC	Maximum Working Voltage (V)(1)	Maximum Overload Voltage (V)(2)	TCR (ppm/ºC)	Ohmic Range (Ω) and Tolerance		
					0.5%	1%	5%
RMCS0402…-PD	0.063	50	100	±400	-	1 - 9.76	1 - 9.1
				±100	10 - 1M	10 - 10M	10 - 10M
RMCS0603…-PD	0.1	75	150	±400	-	1 - 9.76	1 - 9.1
				±100	10 - 1M	10 - 10M	10 - 10M
RMCS0805…-PD	0.125	150	300	±400	-	1 - 9.76	1 - 9.1
				±100	10 - 1M	10 - 10M	10 - 10M
RMCS1206…-PD	0.25	200	400	±400	-	1 - 9.76	1 - 9.1
				±100	10 - 1M	10 - 10M	10 - 10M
RMCS1210…-PD	0.5	200	400	±400	-	1 - 9.76	1 - 9.1
				±100	10 - 1M	10 - 10M	10 - 10M
RMCS1218…-PD	1	200	400	±400	-	1 - 9.76	1 - 9.1
				±100	10 - 1M	10 - 10M	10 - 10M
RMCS1812…-PD	0.75	200	400	±400	-	1 - 9.76	1 - 9.1
				±100	10 - 1M	10 - 10M	10 - 10M
RMCS2010…-PD	0.75	200	400	±400	-	1 - 9.76	1 - 9.1
				±100	10 - 1M	10 - 10M	10 - 10M
RMCS2512…-PD	1	200	400	±400	-	1 - 9.76	1 - 9.1
				±100	10 - 1M	10 - 10M	10 - 10M

(1) Lesser of √P*R or maximum working voltage, whichever is lower.
(2) 2.5* √P*R or Max. Overload Voltage listed above, whichever is lower.

Electrical Specifications - Jumper

Size	0402	0603	0805	1206	1210	1218	1812	2010	2512
Rated Current (A)	1			2					
Resistance Value (Ω)	0.05 max.								

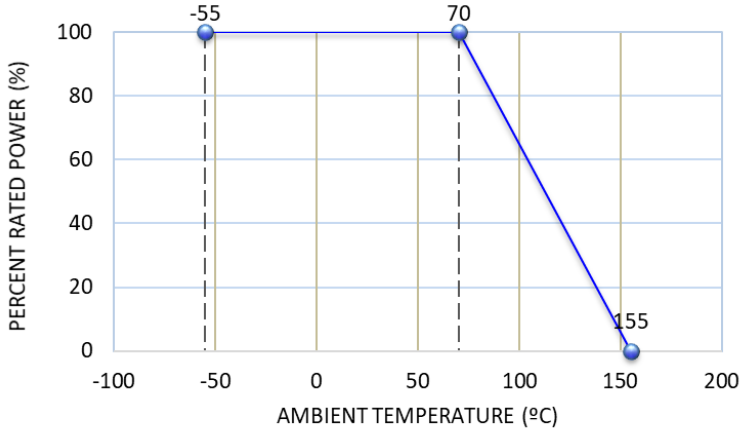
Mechanical Specifications



Type/Code	L Body Length	W Body Width	H Body Height	L1 Top Termination	L2 Bottom Termination	Unit
RMCS0402…-PD	0.039 ± 0.004	0.020 ± 0.002	0.012 ± 0.002	0.006 ± 0.004	0.008 ± 0.004	inches
	1.00 ± 0.10	0.50 ± 0.05	0.30 ± 0.05	0.15 ± 0.10	0.20 ± 0.10	mm
RMCS0603…-PD	0.063 ± 0.008	0.031 ± 0.006	0.016 ± 0.004	0.012 ± 0.008	0.012 ± 0.004	inches
	1.60 ± 0.20	0.80 ± 0.15	0.40 ± 0.10	0.30 ± 0.20	0.30 ± 0.10	mm

Mechanical Specifications (cont.)						
Type/Code	L Body Length	W Body Width	H Body Height	L1 Top Termination	L2 Bottom Termination	Unit
RMCS0805…-PD	0.079 ± 0.008 2.00 ± 0.20	0.049 ± 0.006 1.25 ± 0.15	0.020 ± 0.006 0.50 ± 0.15	0.012 ± 0.006 0.30 ± 0.15	0.016 ± 0.006 0.40 ± 0.15	inches mm
RMCS1206…-PD	0.120 ± 0.004 3.05 ± 0.10	0.063 ± 0.008 1.60 ± 0.20	0.022 ± 0.006 0.55 ± 0.15	0.016 ± 0.008 0.40 ± 0.20	0.020 ± 0.008 0.50 ± 0.20	inches mm
RMCS1210…-PD	0.120 ± 0.004 3.05 ± 0.10	0.098 ± 0.008 2.50 ± 0.20	0.022 ± 0.006 0.55 ± 0.15	0.020 ± 0.008 0.50 ± 0.20	0.020 ± 0.008 0.50 ± 0.20	inches mm
RMCS1218…-PD	0.122 ± 0.004 3.10 ± 0.10	0.181 ± 0.004 4.60 ± 0.10	0.022 ± 0.002 0.55 ± 0.05	0.016 ± 0.008 0.40 ± 0.20	0.020 ± 0.008 0.50 ± 0.20	inches mm
RMCS1812…-PD	0.177 ± 0.004 4.50 ± 0.10	0.122 ± 0.008 3.10 ± 0.20	0.022 ± 0.002 0.55 ± 0.05	0.022 ± 0.008 0.55 ± 0.20	0.028 ± 0.008 0.70 ± 0.20	inches mm
RMCS2010…-PD	0.197 ± 0.008 5.00 ± 0.20	0.098 ± 0.008 2.50 ± 0.20	0.022 ± 0.004 0.55 ± 0.10	0.024 ± 0.008 0.60 ± 0.20	0.024 ± 0.008 0.60 ± 0.20	inches mm
RMCS2512…-PD	0.248 ± 0.008 6.30 ± 0.20	0.126 ± 0.008 3.20 ± 0.20	0.022 ± 0.004 0.55 ± 0.10	0.024 ± 0.008 0.60 ± 0.20	0.024 ± 0.008 0.60 ± 0.20	inches mm

Power Derating Curve:



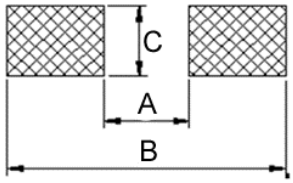
Performance Characteristics			
Test	Test Method	Test Specification	Test Condition
Temperature Coefficient of Resistance (TCR)	JIS-C-5201-1 4.8 IEC-60115-1 4.8	As per specification	At 25 / -55°C and 25°C / +155°C, 25°C is the reference temperature
Short Time Overload	JIS-C-5201-1 4.13 IEC-60115-1 4.13	1% and below: ±(1% + 0.05 Ω) 2%, 5%: ±(2% + 0.1 Ω)	2.5 times RCWV or max. overload voltage, whichever is less for 5 seconds
Leaching	JIS-C-5201-1 4.18 IEC-60068-2-58 8.2.1	Individual leaching area ≤ 5% Total leaching area ≤ 10%	260 ± 5°C for 30 seconds
Resistance to Soldering Heat	JIS-C-5201-1 4.18 IEC60115-1 4.18	1% and below: ±(0.5% + 0.05 Ω) 2%, 5%: ±(1% + 0.05 Ω)	260 ± 5°C for 10 seconds
Rapid Change of Temperature	JIS-C-5201-1 4.19 IEC-60115-1 4.19	1% and below: ±(0.5% + 0.05 Ω) 2%, 5%: ±(1% + 0.1 Ω)	-55°C to + 155°C, 5 cycles
Resistance to Solvent	JIS-C-5201-1 4.29	1% and below: ±(0.5% + 0.05 Ω) 2%, 5%: ±(1% + 0.05 Ω)	The tested resistor should be immersed into isopropyl alcohol of 20 ~ 25°C for 60 seconds. Then the resistor is left in the room for 48 hours.
Damp Heat with Load	JIS-C-5201-1 4.24 IEC-60115-1 4.24	1% and below: ±(1% + 0.05 Ω) 2%, 5%: ±(2% + 0.05 Ω) Value <1 Ω: ±(2% + 0.05 Ω)	40 ± 2°C, 90 ~ 95% R.H. RCWV or max. working voltage whichever is less for 1000 hours with 1.5 hours "ON" and 0.5 hour "OFF"
Load Life (Endurance)	JIS-C-5201-1 4.25 IEC-60115-1 4.25.1	1% and below: ±(1% + 0.05 Ω) 2%, 5%: ±(3% + 0.1 Ω) Value <1 Ω: ±(3% + 0.1 Ω)	70 ± 2°C, RCWV or max. working voltage, whichever is less for 1000 hours with 1.5 hours "ON" and 0.5 hour "OFF".

Performance Characteristics (cont.)

Test	Test Method	Test Specification	Test Condition
Insulation Resistance	JIS-C-5201-1 4.6 IEC-60115-1 4.6	≥ 10G Ω	Apply 100VDC for 1 minute.
Bending Strength	JIS-C-5201-1 4.33 IEC-60115-1 4.33	1% and below: ±(1% + 0.05 Ω) 2%, 5%: ±(1% + 0.05 Ω)	Bending once for 5 seconds. D: 0402, 0603, 0805 = 5 mm 1206, 1210, 1812 = 3 mm 1218, 2010, 2512, 2030 = 2 mm
Sulfur Test	ASTM-B-809-95	ΔR: ±(1% + 0.05 Ω)	60 ± 2°C, no rating power for 1000 hours
		ΔR: ±(4% + 0.05 Ω)	105 ± 2°C, no rating power for 1000 hours

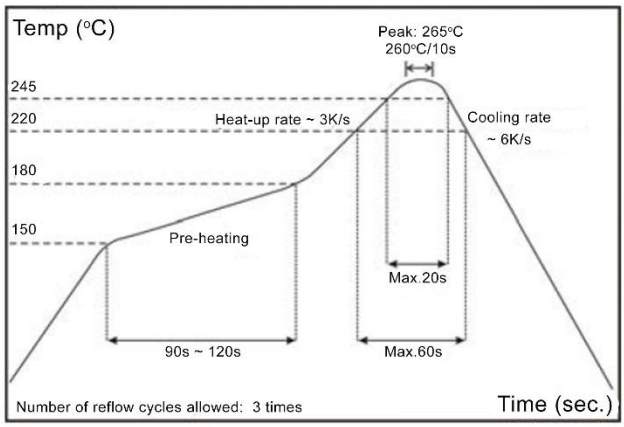
Operating temperature range is -55°C to 155°C

Recommended Pad Layout

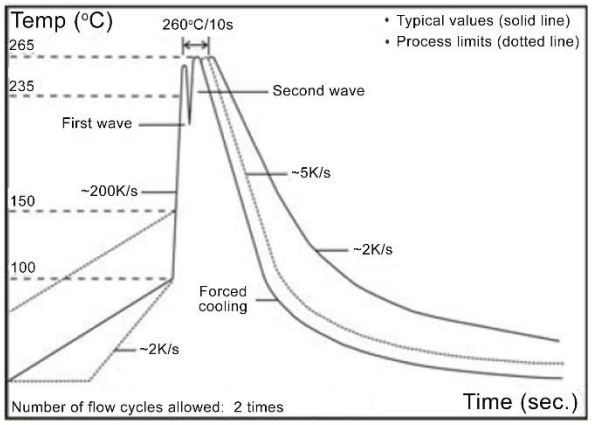


Type / Code	A	B	C	Unit
RMCS0402…-PD	0.024 0.60	0.063 1.60	0.028 0.70	inches mm
RMCS0603…-PD	0.031 0.80	0.094 2.40	0.039 1.00	inches mm
RMCS0805…-PD	0.051 1.30	0.114 2.90	0.055 1.40	inches mm
RMCS1206…-PD	0.087 2.20	0.165 4.20	0.067 1.70	inches mm
RMCS1210…-PD	0.079 2.00	0.173 4.40	0.106 2.70	inches mm
RMCS1218…-PD	0.080 2.04	0.167 4.24	0.189 4.80	inches mm
RMCS1812…-PD	0.122 3.11	0.233 5.91	0.118 3.00	inches mm
RMCS2010…-PD	0.150 3.80	0.260 6.60	0.106 2.70	inches mm
RMCS2512…-PD	0.193 4.90	0.319 8.10	0.134 3.40	inches mm

Soldering Condition



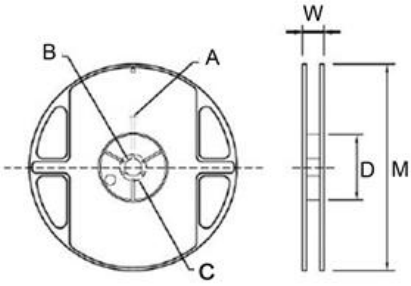
Reflow Soldering



Wave Soldering (Flow Soldering)

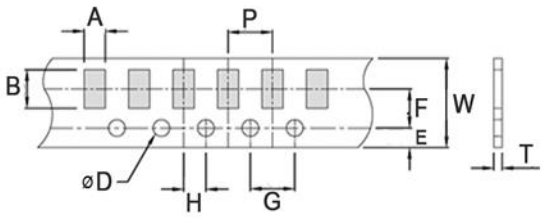
Rework temperature (hot air equipment): 350 °C, 3 to 5 seconds
Recommended reflow methods
IR, vapor phase oven, hot air oven
If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

Packaging Specifications



Size	Reel Size and Quantity		A	ØB	ØC	ØD	W	ØM	Unit
0402	7"	10000	0.079 ± 0.020 2.00 ± 0.50	0.531 ± 0.039 13.50 ± 1.00	0.827 ± 0.039 21.00 ± 1.00	2.362 ± 0.039 60.00 ± 1.00	0.453 ± 0.079 11.50 ± 2.00	7.008 ± 0.079 178.00 ± 2.00	inches mm
0603, 0805 1206, 1210	7"	5000	0.079 ± 0.020 2.00 ± 0.50	0.531 ± 0.039 13.50 ± 1.00	0.827 ± 0.039 21.00 ± 1.00	2.362 ± 0.039 60.00 ± 1.00	0.453 ± 0.079 11.50 ± 2.00	7.008 ± 0.079 178.00 ± 2.00	inches mm
1218, 1812 2010, 2512	7"	4000	0.079 ± 0.020 2.00 ± 0.50	0.531 ± 0.039 13.50 ± 1.00	0.827 ± 0.039 21.00 ± 1.00	2.362 ± 0.039 60.00 ± 1.00	0.630 ± 0.079 16.00 ± 2.00	7.008 ± 0.079 178.00 ± 2.00	inches mm

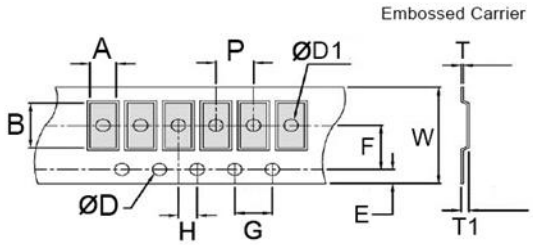
Taping Specifications – Paper Tape



Size	A	B	W	E	F	Unit
0402	0.028 ± 0.004 0.70 ± 0.10	0.047 ± 0.004 1.20 ± 0.10	0.315 ± 0.008 8.00 ± 0.20	0.069 ± 0.004 1.75 ± 0.10	0.138 ± 0.002 3.50 ± 0.05	inches mm
0603	0.041 ± 0.008 1.05 ± 0.20	0.071 ± 0.008 1.80 ± 0.20	0.315 ± 0.008 8.00 ± 0.20	0.069 ± 0.004 1.75 ± 0.10	0.138 ± 0.002 3.50 ± 0.05	inches mm
0805	0.061 ± 0.008 1.55 ± 0.20	0.091 ± 0.008 2.30 ± 0.20	0.315 ± 0.008 8.00 ± 0.20	0.069 ± 0.004 1.75 ± 0.10	0.138 ± 0.002 3.50 ± 0.05	inches mm
1206	0.075 ± 0.008 1.90 ± 0.20	0.138 ± 0.008 3.50 ± 0.20	0.315 ± 0.008 8.00 ± 0.20	0.069 ± 0.004 1.75 ± 0.10	0.138 ± 0.002 3.50 ± 0.05	inches mm
1210	0.112 ± 0.008 2.85 ± 0.20	0.138 ± 0.008 3.50 ± 0.20	0.315 ± 0.008 8.00 ± 0.20	0.069 ± 0.004 1.75 ± 0.10	0.138 ± 0.002 3.50 ± 0.05	inches mm

Size	G	H	T	ØD	P	Unit
0402	0.157 ± 0.004 4.00 ± 0.10	0.079 ± 0.002 2.00 ± 0.05	0.018 ± 0.004 0.45 ± 0.10	0.059 +0.004 / -0 1.50 +0.10 / -0	0.079 ± 0.004 2.00 ± 0.10	inches mm
0603	0.157 ± 0.004 4.00 ± 0.10	0.079 ± 0.002 2.00 ± 0.05	0.024 ± 0.004 0.60 ± 0.10	0.059 +0.004 / -0 1.50 +0.10 / -0	0.157 ± 0.004 4.00 ± 0.10	inches mm
0805	0.157 ± 0.004 4.00 ± 0.10	0.079 ± 0.002 2.00 ± 0.05	0.030 ± 0.004 0.75 ± 0.10	0.059 +0.004 / -0 1.50 +0.10 / -0	0.157 ± 0.004 4.00 ± 0.10	inches mm
1206	0.157 ± 0.004 4.00 ± 0.10	0.079 ± 0.002 2.00 ± 0.05	0.030 ± 0.004 0.75 ± 0.10	0.059 +0.004 / -0 1.50 +0.10 / -0	0.157 ± 0.004 4.00 ± 0.10	inches mm
1210	0.157 ± 0.004 4.00 ± 0.10	0.079 ± 0.002 2.00 ± 0.05	0.030 ± 0.004 0.75 ± 0.10	0.059 +0.004 / -0 1.50 +0.10 / -0	0.157 ± 0.004 4.00 ± 0.10	inches mm

Taping Specifications – Plastic Tape



Size	A	B	W	E	F	G	Unit
1218	0.130 ± 0.008 3.30 ± 0.20	0.181 ± 0.008 4.60 ± 0.20	0.472 ± 0.004 12.00 ± 0.10	0.069 ± 0.004 1.75 ± 0.10	0.217 ± 0.002 5.50 ± 0.05	0.157 ± 0.004 4.00 ± 0.10	inches mm
1812	0.130 ± 0.008 3.30 ± 0.20	0.181 ± 0.008 4.60 ± 0.20	0.472 ± 0.004 12.00 ± 0.10	0.069 ± 0.004 1.75 ± 0.10	0.217 ± 0.002 5.50 ± 0.05	0.157 ± 0.004 4.00 ± 0.10	inches mm
2010	0.110 ± 0.008 2.80 ± 0.20	0.220 ± 0.008 5.60 ± 0.20	0.472 ± 0.004 12.00 ± 0.10	0.069 ± 0.004 1.75 ± 0.10	0.217 ± 0.002 5.50 ± 0.05	0.157 ± 0.004 4.00 ± 0.10	inches mm
2512	0.134 ± 0.008 3.40 ± 0.20	0.264 ± 0.008 6.70 ± 0.20	0.472 ± 0.004 12.00 ± 0.10	0.069 ± 0.004 1.75 ± 0.10	0.217 ± 0.002 5.50 ± 0.05	0.157 ± 0.004 4.00 ± 0.10	inches mm

Taping Specifications – Plastic Tape (cont.)							
Size	H	T	ØD	ØD1	T1	P	Unit
1218	0.079 ± 0.002 2.00 ± 0.05	0.009 ± 0.004 0.23 ± 0.10	0.059 +0.004 / -0 1.50 +0.10 / -0	0.059 ± 0.004 1.50 ± 0.10	0.033 ± 0.006 0.85 ± 0.15	0.157 ± 0.004 4.00 ± 0.10	inches mm
1812	0.079 ± 0.002 2.00 ± 0.05	0.009 ± 0.004 0.23 ± 0.10	0.059 +0.004 / -0 1.50 +0.10 / -0	0.059 ± 0.004 1.50 ± 0.10	0.033 ± 0.006 0.85 ± 0.15	0.157 ± 0.004 4.00 ± 0.10	inches mm
2010	0.079 ± 0.002 2.00 ± 0.05	0.009 ± 0.004 0.23 ± 0.10	0.059 +0.004 / -0 1.50 +0.10 / -0	0.059 ± 0.004 1.50 ± 0.10	0.033 ± 0.006 0.85 ± 0.15	0.157 ± 0.004 4.00 ± 0.10	inches mm
2512	0.079 ± 0.002 2.00 ± 0.05	0.009 ± 0.004 0.23 ± 0.10	0.059 +0.004 / -0 1.50 +0.10 / -0	0.059 ± 0.004 1.50 ± 0.10	0.033 ± 0.006 0.85 ± 0.15	0.157 ± 0.004 4.00 ± 0.10	inches mm

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)
RMCS	Sulfur Resistant Thick Film Surface Mount Chip Resistor	SMD	YES(1)	100% Matte Sn over Ni	Always	Always

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.

How to Order

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
R	**M**	**C**	**S**	**0**	**4**	**0**	**2**	**F**	**T**	**4**	**K**	**7**	**0**	**-**	**P**	**D**

Product Series

Product Series
RMCS

Size

Code	W
0402	0.063
0603	0.1
0805	0.125
1206	0.25
1210	0.5
1218	1
1812	0.75
2010	0.75
2512	1

Tolerance

Code	Tol	Value
D	0.5%	E96, E24
F	1%	
J	5%	E24
Z	Jumper	

Packaging

Code	Description	Size	Quantity
T	7" Reel - Paper Tape	0402	10000
		0603, 0805 1206, 1210	5000
	7" Reel - Plastic Tape	1218, 1812 2010, 2512	4000

Resistance Value

Resistance Value
Four characters with the multiplier used as the decimal holder.
1 ohm = 1R00 100 Kohm = 100K 1.02 Mohm = 1M02 Zero ohm jumper = 0R00

Special

Code	Description
-PD	High Sulfur Resistant Chip Resistor