RPC2010KT10R0 Datasheet

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DiGi Electronics Part Number	RPC2010KT10R0-DG
Manufacturer	Stackpole Electronics Inc
Manufacturer Product Number	RPC2010KT10R0
Description	RES 10 OHM 10% 3/4W 2010
Detailed Description	10 Ohms ±10% 0.75W, 3/4W Chip Resistor 2010 (5025 Metric) Automotive AEC-Q200, Pulse Withstanding Thick Film

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Manufacturer Product Number:	Manufacturer:
RPC2010KT10R0	Stackpole Electronics Inc
Series:	Product Status:
RPC	Active
Resistance:	Tolerance:
10 Ohms	±10%
Power (Watts):	Composition:
0.75W, 3/4W	Thick Film
Features:	Temperature Coefficient:
Automotive AEC-Q200, Pulse Withstanding	±200ppm/°C
Operating Temperature:	Package / Case:
-55°C ~ 155°C	2010 (5025 Metric)
Supplier Device Package:	Ratings:
2010	AEC-Q200
Size / Dimension:	Height - Seated (Max):
0.197" L x 0.098" W (5.00mm x 2.50mm)	0.026" (0.65mm)
Number of Terminations:	Failure Rate:
2	-

Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	1 (Unlimited)
REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8533.21.0030	

RPC Series

Pulse Withstanding Thick Film Chip Resistor

Stackpole Electronics, Inc.
Resistive Product Solutions

Features:

- Excellent pulse withstanding performance
- Higher anti-surge performance compared to RMCF Series
- Standard power RPC, 5% and wider tolerances, are untrimmed
- RoHS compliant, REACH compliant, and halogen free
- 1% and wider tolerances are AEC-Q200 compliant
- Lower values may be available – contact Stackpole

Electrical Specifications (RPC)

Type/Code	Power Rating (W) @ 70ºC	Maximum Working Voltage (V)	Maximum Overload Voltage (V)	TCR (ppm/ºC)	Ohmic Range (Ω) and Tolerance		
					0.5%	1%	5%, 10%, 20%
RPC0402	0.2	50	100	±300	-	1 - 19.6	1 - 20
				±100	100 - 1M	20 - 1M	22 - 1M
RPC0603	0.1	50	100	±200	-	1 - 9.76	1 - 270
				±100	10 - 1M		300 - 20M
RPC0805	0.25	150	300	±200	-	1 - 9.76	1 - 270
				±100	10 - 20M		300 - 20M
RPC1206	0.33	200	400	±200	-	1 - 9.76	1 - 20
				±100	10 - 20M		22 - 20M
RPC1210	0.5	200	400	±200	-	1 - 9.76	1 - 20
				±100	10 - 20M		22 - 20M
RPC2010	0.75	400	800	±200	-	1 - 9.76	1 - 20
				±100	10 - 20M		22 - 20M
RPC2512	1.5	500	1000	±200	-	1 - 9.76	1 - 20
				±100	10 - 20M		22 - 20M

Working Voltage = √(P*R) or Max. Working Voltage listed above, whichever is lower.
Overload Voltage = 2.5*√(P*R) or Max. Overload Voltage listed above, whichever is lower.

Electrical Specifications - High Power (RPC-HP)

Type/Code	Power Rating (W) @ 70ºC	Maximum Working Voltage (V)	Maximum Overload Voltage (V)	TCR (ppm/ºC)	Ohmic Range (Ω) and Tolerance		
					0.5%	1%	5%
RPC0603-HP	0.25	75	150	±200	-	1 - 9.76	1 - 270
				±100	10 - 1M		300 - 1M
RPC0805-HP	0.4	150	300	±200	-	1 - 9.76	1 - 270
				±100	10 - 1M		300 - 1M
RPC1206-HP	0.5	200	400	±200	-	1 - 9.76	1 - 20
				±100	10 - 1M		22 - 1M
RPC1210-HP	0.75	200	400	±200	-	1 - 9.76	1 - 20
				±100	10 - 1M		22 - 1M
RPC2010-HP	1	400	800	±200	-	1 - 9.76	1 - 20
				±100	10 - 1M		22 - 1M
RPC2512-HP(*)	2	500	1000	±350	-	1 - 9.76	1 - 10
				±100	10 - 200K		11 - 200K

(*) Double-sided printed resistor element.
Working Voltage = √(P*R) or Max. Working Voltage listed above, whichever is lower.
Overload Voltage = 2.5*√(P*R) or Max. Overload Voltage listed above, whichever is lower.

RPC Series

Pulse Withstanding Thick Film Chip Resistor

Stackpole Electronics, Inc.

Resistive Product Solutions

Electrical Specifications - Ultra High Power (RPC-UP)

Type/Code	Power Rating (W) @ 70ºC	Maximum Working Voltage (V)	Maximum Overload Voltage (V)	TCR (ppm/ºC)	Ohmic Range (Ω) and Tolerance		
					0.5%	1%	5%
RPC0603-UP	0.33	75	150	±200	-	1 - 9.76	1 - 270
				±100	10 - 1M		300 - 1M
RPC0805-UP	0.5	400	600	±200	-	1 - 9.76	1 - 270
				±100	10 - 1M		300 - 1M
RPC1206-UP	0.75	500	1000	±200	-	1 - 9.76	1 - 20
				±100	10 - 1M		22 - 1M
RPC1210-UP	1	200	400	±200	-	1 - 9.76	1 - 20
				±100	10 - 1M		22 - 1M

Ultra High Power: double side printed resistor element.

Working Voltage = √(P*R) or Max. Working Voltage listed above, whichever is lower.

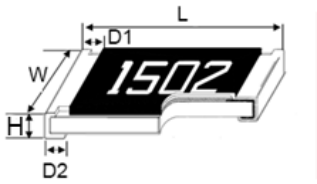
Overload Voltage = 2.5*√(P*R) or Max. Overload Voltage listed above, whichever is lower.

Electrical Specifications - Ultra High Power Jumper

Type/Code	Jumper Rated Current (A)	Max. Resistance
RPC0603-UP	5	0 Ω (≤ 8 mΩ)
RPC0805-UP	6	0 Ω (≤ 5 mΩ)
RPC1206-UP	10	0 Ω (≤ 5 mΩ)

Ultra High Power: double side printed resistor element.

Mechanical Specifications



Type/Code	Weight (mg)	L Body Length	W Body Width	H Body Height	D1 Top Termination	D2 Bottom	Unit
RPC0402	0.64	0.039 ± 0.002 1.00 ± 0.05	0.020 ± 0.002 0.50 ± 0.05	0.014 ± 0.002 0.35 ± 0.05	0.008 ± 0.004 0.20 ± 0.10	0.008 ± 0.004 0.20 ± 0.10	inches mm
RPC0603, -HP and -UP	2.0	0.063 ± 0.004 1.60 ± 0.10	0.031 ± 0.004 0.80 ± 0.10	0.018 ± 0.004 0.45 ± 0.10	0.012 ± 0.008 0.30 ± 0.20	0.012 ± 0.008 0.30 ± 0.20	inches mm
RPC0805 and -HP	4.4	0.079 ± 0.004 2.00 ± 0.10	0.049 ± 0.004 1.25 ± 0.10	0.020 ± 0.004 0.50 ± 0.10	0.014 ± 0.008 0.35 ± 0.20	0.016 ± 0.008 0.40 ± 0.20	inches mm
RPC0805-UP	5.0	0.079 ± 0.004 2.00 ± 0.10	0.049 ± 0.004 1.25 ± 0.10	0.020 ± 0.004 0.50 ± 0.10	0.014 ± 0.008 0.35 ± 0.20	0.016 ± 0.008 0.40 ± 0.20	inches mm
RPC1206 and -HP	8.9	0.122 ± 0.004 3.10 ± 0.10	0.061 ± 0.004 1.55 ± 0.10	0.022 ± 0.004 0.55 ± 0.10	0.020 ± 0.010 0.50 ± 0.25	0.020 ± 0.008 0.50 ± 0.20	inches mm
RPC1206-UP	9.5	0.122 ± 0.004 3.10 ± 0.10	0.061 ± 0.004 1.55 ± 0.10	0.022 ± 0.004 0.55 ± 0.10	0.020 ± 0.010 0.50 ± 0.25	0.020 ± 0.008 0.50 ± 0.20	inches mm

Mechanical Specifications (cont.)

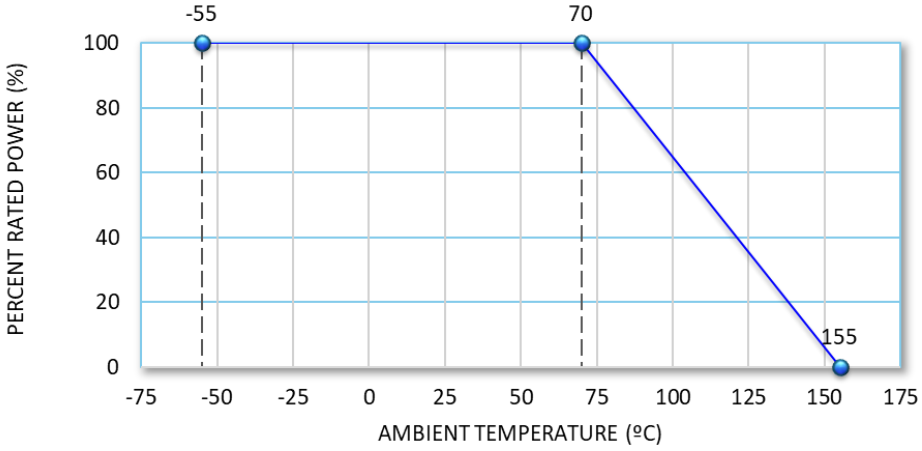
Type/Code	Weight (mg)	L Body Length	W Body Width	H Body Height	D1 Top Termination	D2 Bottom	Unit
RPC1210, -HP and -UP	16.0	0.122 ± 0.004 3.10 ± 0.10	0.102 ± 0.006 2.60 ± 0.15	0.022 ± 0.004 0.55 ± 0.10	0.020 ± 0.010 0.50 ± 0.25	0.020 ± 0.008 0.50 ± 0.20	inches mm
RPC2010 and -HP	24.2	0.197 ± 0.004 5.00 ± 0.10	0.098 ± 0.006 2.50 ± 0.15	0.022 ± 0.004 0.55 ± 0.10	0.024 ± 0.010 0.60 ± 0.25	0.020 ± 0.008 0.50 ± 0.20	inches mm
RPC2512	39.4	0.250 ± 0.004 6.35 ± 0.10	0.122 ± 0.006 3.10 ± 0.15	0.022 ± 0.004 0.55 ± 0.10	0.024 ± 0.010 0.60 ± 0.25	0.020 ± 0.008 0.50 ± 0.20	inches mm
RPC2512-HP	42.0	0.250 ± 0.008 6.35 ± 0.20	0.124 ± 0.006 3.15 ± 0.15	0.024 ± 0.004 0.60 ± 0.10	0.024 ± 0.010 0.60 ± 0.25	0.020 ± 0.008 0.50 ± 0.20	inches mm

Performance Characteristics

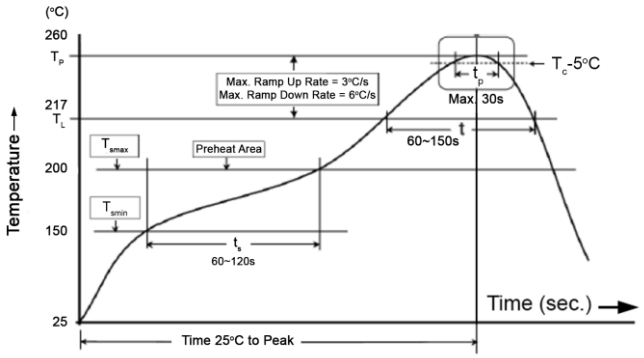
Item	Test Method	Test Specification	Test Condition
Temperature Coefficient of Resistance (T.C.R.)	JIS-C-5201-1 4.8 IEC-60115-1 4.8	Within the specified tolerance	At 25°C / -55°C and 25°C / + 125°C, 25°C is the reference temperature
Short Time Overload	JIS-C-5201-1 4.13 IEC-60115-1 4.13	± (1% + 0.05Ω)	RCWV * 2.5 or max. overload voltage whichever is lower for 5 seconds Jumper: 2*Imax for 5 seconds
Insulation Resistance	JIS-C-5201-1 4.6 IEC-60115-1 4.6	≥ 10G	Max. overload voltage for 1 minute
Endurance Tolerances of 0.5%, 1%	JIS-C-5201-1 4.25 IEC-60115-1 4.25.1	± (1% + 0.05Ω)	70 ± 2°C, RCWV for 1000 hours with 1.5 hours "ON" and 0.5 hour "OFF"
Endurance Tolerances of 5%, 10%, 20%	JIS-C-5201-1 4.25 IEC-60115-1 4.25.1	± (3% + 0.05Ω)	70 ± 2°C, RCWV for 1000 hours with 1.5 hours "ON" and 0.5 hour "OFF"
Damp Heat with Load Tolerances of 0.5%, 1%	JIS-C-5201-1 4.24 IEC-60115-1 4.24	± (0.5% + 0.05Ω)	40 ± 2°C, 90~95% R.H, RCWV for 1000 hour with 1.5 hours "ON" and 0.5 hour "OFF"
Damp Heat with Load Tolerances of 5%, 10%, 20%	JIS-C-5201-1 4.24 IEC-60115-1 4.24	± (3% + 0.05Ω)	40 ± 2°C, 90~95% R.H, RCWV for 1000 hours with 1.5 hours "ON" and 0.5 hour "OFF"
Damp Heat with Load Ultra High Power	JIS-C-5201-1 4.24 IEC-60115-1 4.24	± (1% + 0.05Ω)	
Dry Heat Tolerances of 0.5%, 1%	JIS-C-5201-1 4.23 IEC-60115-1 2.23.2	± (0.5% + 0.05Ω)	At +155°C for 1000 hours
Dry Heat Tolerances of 5%, 10%, 20%	JIS-C-5201-1 4.23 IEC-60115-1 2.23.2	± (3% + 0.05Ω)	At +155°C for 1000 hours
Bending Strength	JIS-C-5201-1 4.33 IEC-60115-1 4.33	± (1% + 0.05Ω)	Bending once for 5 seconds 2010, 2512 sizes: 2 mm; other sizes: 3 mm
Solderability	JIS-C-5201-1 4.17 IEC-60115-1 4.17	95% min. coverage	245 ± 5°C for 3 seconds
Resistance to Soldering Heat tolerances of 0.5%, 1%	JIS-C-5201-1 4.18 IEC-60115-1 4.18	± (0.5% + 0.05Ω)	260 ± 5°C for 10 seconds
Resistance to Soldering Heat Tolerances of 5%, 10%, 20%	JIS-C-5201-1 4.18 IEC-60115-1 4.18	± (1% + 0.05Ω)	260 ± 5°C for 10 seconds
Voltage Proof	JIS-C-5201-1 4.7 IEC-60115-1 4.7	No Breakdown or flashover	1.42 times max. operating voltage for 1 minute
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
Rapid Change of Temperature tolerances of 0.5%, 1%	JIS-C-5201-1 4.18 IEC-60115-1 4.18	± (0.5% + 0.05Ω)	-55 to + 150°C , 5 cycles
Rapid Change of Temperature Tolerances of 5%, 10%, 20%	JIS-C-5201-1 4.18 IEC-60115-1 4.18	± (1% + 0.05Ω)	-55 to + 150°C , 5 cycles

RCWV (Rated Continuous Working Voltage)= √(P*R) or Max. Working Voltage whichever is lower.
Recommended storage Temperature: 15 ~ 28ºC; humidity < 80% R.H.
Operating temperature range is -55 + 155°C

Power Derating Curve:



Soldering Conditions



Reflow Profiles	
Profile Feature	Pb-Free Assembly
Preheat Min. Temperature (Tsmin) Max. Temperature (Tsmax) Preheating time (ts) from Tsmin to Tsmax)	 150°C 200°C 60-120 seconds
Ramp-up rate (T_L to Tp)	3°C/second max.
Liquidous Temperature (T_L)	217°C
Time (t_L) maintained above T_L	60-150 seconds
Min. Peak Temperature	235°C
Max. Peak Temperature (Tp max)	260°C
Time (tp) within 5°C of the specified classification temperature (Tc)	30 seconds max.
Ramp-down rate (Tp to T_L)	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

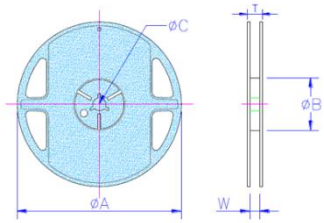
RPC Series

Pulse Withstanding Thick Film Chip Resistor

Stackpole Electronics, Inc.

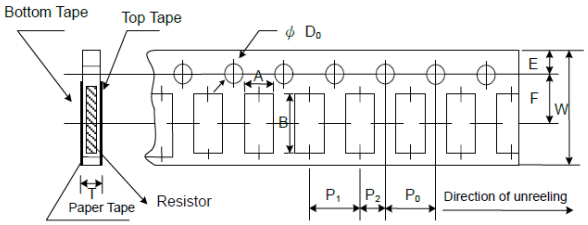
Resistive Product Solutions

Reel Specifications



Type/Code	Packaging	Tape Width	A	B	C	W	T	Unit
RPC0402	Paper Tape	8 mm	7.028 ± 0.059 178.50 ± 1.50	2.362 +0.039 / -0 60.00 +1.00 / -0	0.512 ± 0.008 13.00 ± 0.20	0.354 ± 0.020 9.00 ± 0.50	0.492 ± 0.020 12.50 ± 0.50	inches mm
RPC0603	Paper Tape	8 mm	7.028 ± 0.059 178.50 ± 1.50	2.362 +0.039 / -0 60.00 +1.00 / -0	0.512 ± 0.008 13.00 ± 0.20	0.354 ± 0.020 9.00 ± 0.50	0.492 ± 0.020 12.50 ± 0.50	inches mm
RPC0805	Paper Tape	8 mm	7.028 ± 0.059 178.50 ± 1.50	2.362 +0.039 / -0 60.00 +1.00 / -0	0.512 ± 0.008 13.00 ± 0.20	0.354 ± 0.020 9.00 ± 0.50	0.492 ± 0.020 12.50 ± 0.50	inches mm
RPC1206	Paper Tape	8 mm	7.028 ± 0.059 178.50 ± 1.50	2.362 +0.039 / -0 60.00 +1.00 / -0	0.512 ± 0.008 13.00 ± 0.20	0.354 ± 0.020 9.00 ± 0.50	0.492 ± 0.020 12.50 ± 0.50	inches mm
RPC1210	Paper Tape	8 mm	7.028 ± 0.059 178.50 ± 1.50	2.362 +0.039 / -0 60.00 +1.00 / -0	0.512 ± 0.008 13.00 ± 0.20	0.354 ± 0.020 9.00 ± 0.50	0.492 ± 0.020 12.50 ± 0.50	inches mm
RPC2010	Plastic Tape	12 mm	7.028 ± 0.059 178.50 ± 1.50	2.362 +0.039 / -0 60.00 +1.00 / -0	0.512 ± 0.020 13.00 ± 0.50	0.512 ± 0.020 13.00 ± 0.50	0.610 ± 0.020 15.50 ± 0.50	inches mm
RPC2512	Plastic Tape	12 mm	7.028 ± 0.059 178.50 ± 1.50	2.362 +0.039 / -0 60.00 +1.00 / -0	0.512 ± 0.020 13.00 ± 0.50	0.512 ± 0.020 13.00 ± 0.50	0.610 ± 0.020 15.50 ± 0.50	inches mm

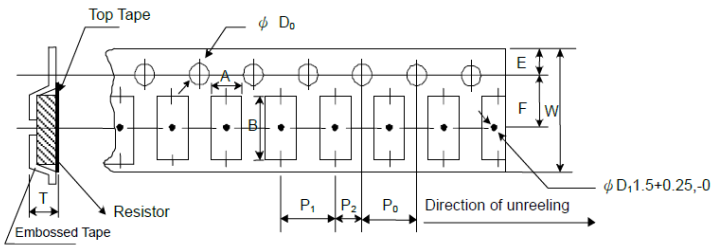
Packaging Specifications - Paper Tape



Type/Code	A	B	W	E	F	Unit
RPC0402	0.026 ± 0.004 0.65 ± 0.10	0.045 ± 0.004 1.15 ± 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
RPC0603	0.043 ± 0.004 1.10 ± 0.10	0.075 ± 0.004 1.90 ± 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
RPC0805	0.063 ± 0.004 1.60 ± 0.10	0.094 ± 0.008 2.40 ± 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
RPC1206	0.075 ± 0.004 1.90 ± 0.10	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
RPC1210	0.114 ± 0.004 2.90 ± 0.10	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

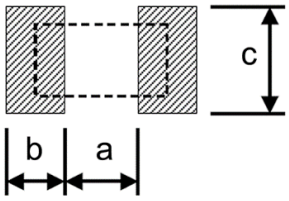
Packaging Specifications - Paper Tape (cont.)						
Type/Code	P_0	P_1	P_2	$ØD_0$	T	Unit
RPC0402	0.157 ± 0.004 4.00 ± 0.10	0.079 ± 0.002 2.00 ± 0.05	0.079 ± 0.002 2.00 ± 0.05	0.059 +0.004/-0.0 1.50 +0.1/-0.0	0.018 ± 0.004 0.45 ± 0.10	inches mm
RPC0603	0.157 ± 0.004 4.00 ± 0.10	0.157 ± 0.002 4.00 ± 0.05	0.079 ± 0.002 2.00 ± 0.05	0.059 +0.004/-0.0 1.50 +0.1/-0.0	0.028 ± 0.004 0.70 ± 0.10	inches mm
RPC0805	0.157 ± 0.004 4.00 ± 0.10	0.157 ± 0.002 4.00 ± 0.05	0.079 ± 0.002 2.00 ± 0.05	0.059 +0.004/-0.0 1.50 +0.1/-0.0	0.033 ± 0.004 0.85 ± 0.10	inches mm
RPC1206	0.157 ± 0.004 4.00 ± 0.10	0.157 ± 0.002 4.00 ± 0.05	0.079 ± 0.002 2.00 ± 0.05	0.059 +0.004/-0.0 1.50 +0.1/-0.0	0.033 ± 0.004 0.85 ± 0.10	inches mm
RPC1210	0.157 ± 0.004 4.00 ± 0.10	0.157 ± 0.002 4.00 ± 0.05	0.079 ± 0.002 2.00 ± 0.05	0.059 +0.004/-0.0 1.50 +0.1/-0.0	0.033 ± 0.004 0.85 ± 0.10	inches mm

Packaging Specifications - Plastic Tape



Type/Code	A	B	W	E	F	Unit
RPC2010	0.110 ± 0.004 2.80 ± 0.10	0.217 ± 0.004 5.50 ± 0.10	0.472 ± 0.012 12.00 ± 0.30	0.069 ± 0.004 1.75 ± 0.10	0.217 ± 0.002 5.50 ± 0.05	inches mm
RPC2512	0.138 ± 0.004 3.50 ± 0.10	0.264 ± 0.004 6.70 ± 0.10	0.472 ± 0.012 12.00 ± 0.30	0.069 ± 0.004 1.75 ± 0.10	0.217 ± 0.002 5.50 ± 0.05	inches mm
Type/Code	P_0	P_1	P_2	$ØD_0$	T	Unit
RPC2010	0.157 ± 0.004 4.00 ± 0.10	0.157 ± 0.004 4.00 ± 0.10	0.079 ± 0.002 2.00 ± 0.05	0.059 +0.004/-0.0 1.50 +0.1/-0.0	0.047 + 0.000 1.20 + 0.00	inches mm
RPC2512	0.157 ± 0.004 4.00 ± 0.10	0.157 ± 0.004 4.00 ± 0.10	0.079 ± 0.002 2.00 ± 0.05	0.059 +0.004/-0.0 1.50 +0.1/-0.0	0.047 + 0.000 1.20 + 0.00	inches mm

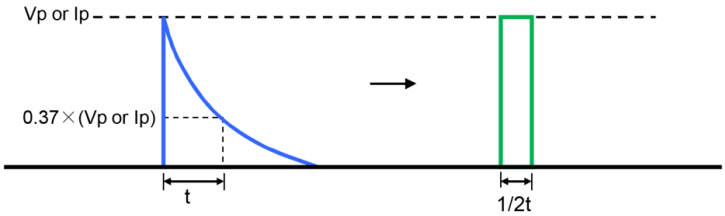
Recommended Pad Layout



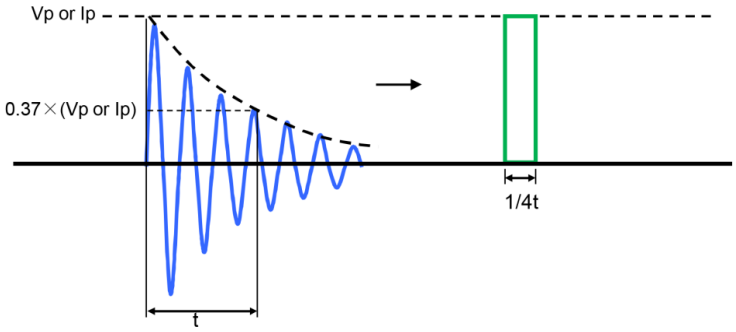
Type/Code	a	b	c	Unit
RPC0402	0.020 0.50	0.018 0.45	0.024 0.60	inches mm
RPC0603	0.035 0.90	0.024 0.60	0.035 0.90	inches mm
RPC0805	0.047 1.20	0.028 0.70	0.051 1.30	inches mm
RPC1206	0.079 2.00	0.035 0.90	0.063 1.60	inches mm
RPC1210	0.079 2.00	0.035 0.90	0.110 2.80	inches mm
RPC2010	0.150 3.80	0.035 0.90	0.110 2.80	inches mm
RPC2512	0.193 4.90	0.039 1.00	0.134 3.40	inches mm

Waveform Transformation to Square Wave

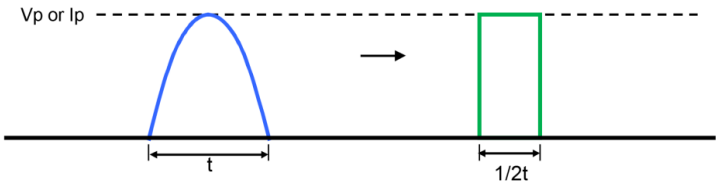
1. Discharge curve wave with time constant “t” → Square wave



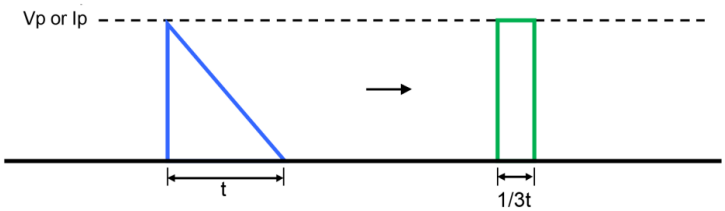
2. Damping oscillation wave with time constant of envelope “t” → Square wave



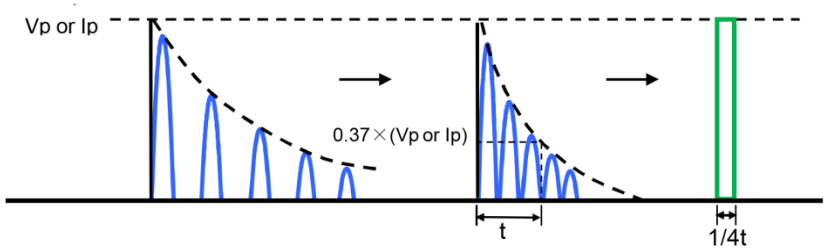
3. Half-wave rectification wave → Square wave



4. Triangular wave → Square wave



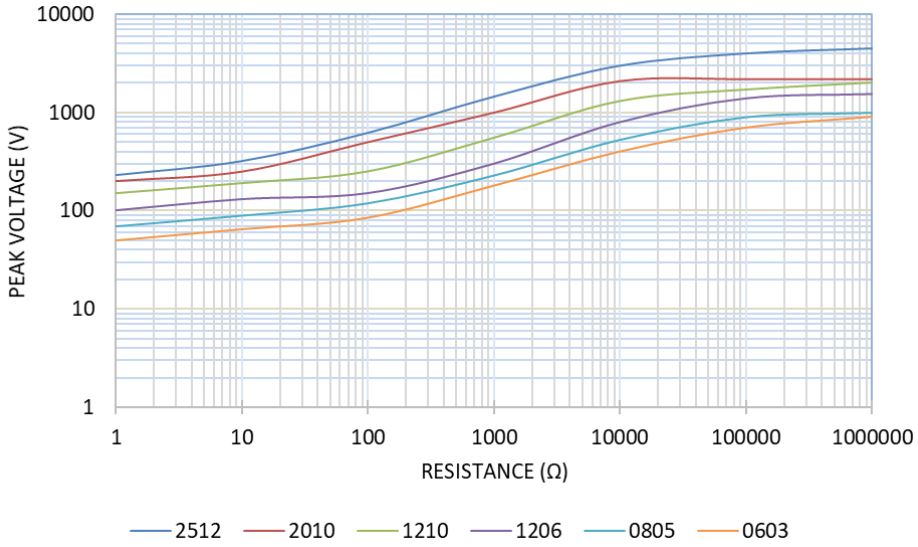
5. Special wave → Square wave



Lightning Surge

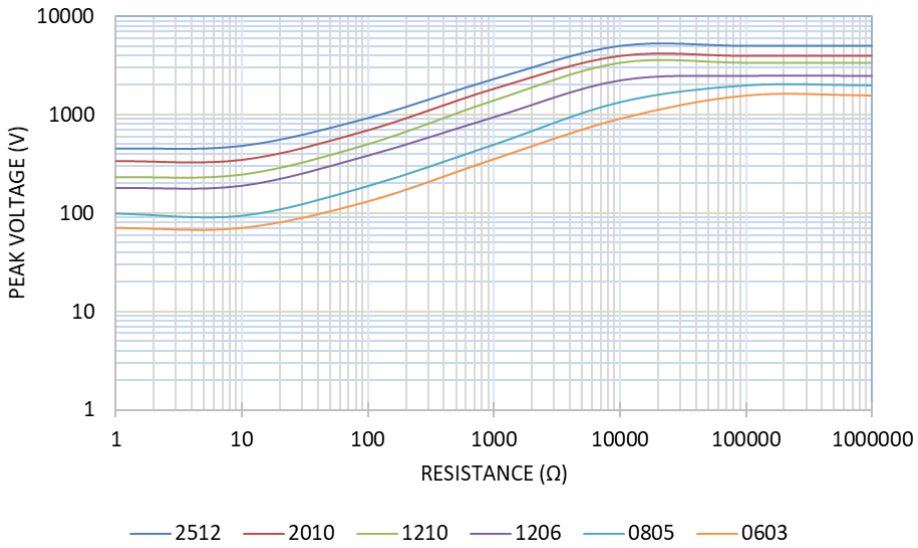
Resistors are tested in accordance with IEC 60115-1 using both 1.2 / 50 us and 10 / 700 pulse shapes. The limit of acceptance is a shift in resistance of less than 1% from the initial value.

1.2/50us Lightning Surge (*)
RPC (Standard Power) tolerances of 0.5% and 1%
RPC-HP (High Power) all tolerances
RPC-UP (Ultra High Power) all tolerances

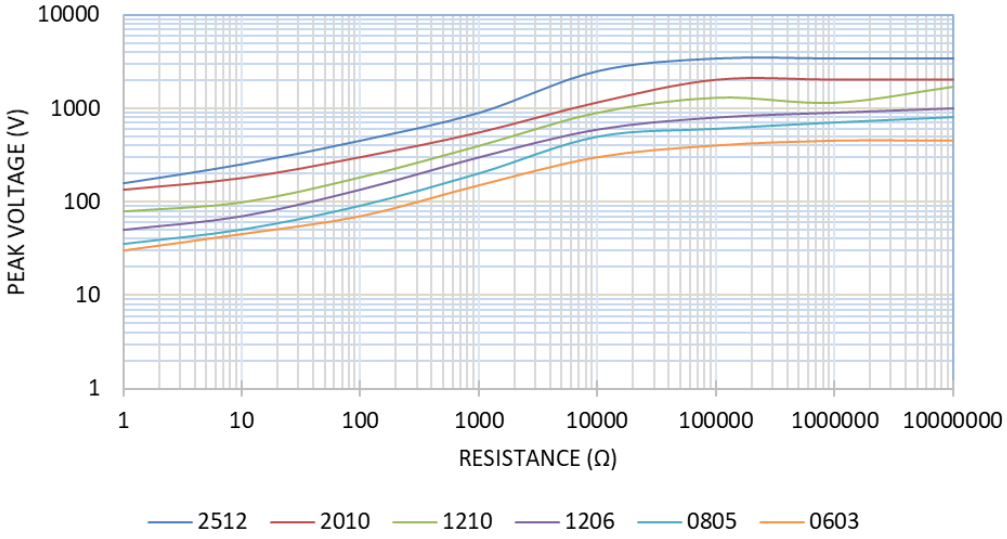


(*) Note: Data provided shows typical performance and is for reference only.

1.2/50us Lightning Surge (*)
RPC (Standard Power)
Tolerances of 5%, 10% and 20%

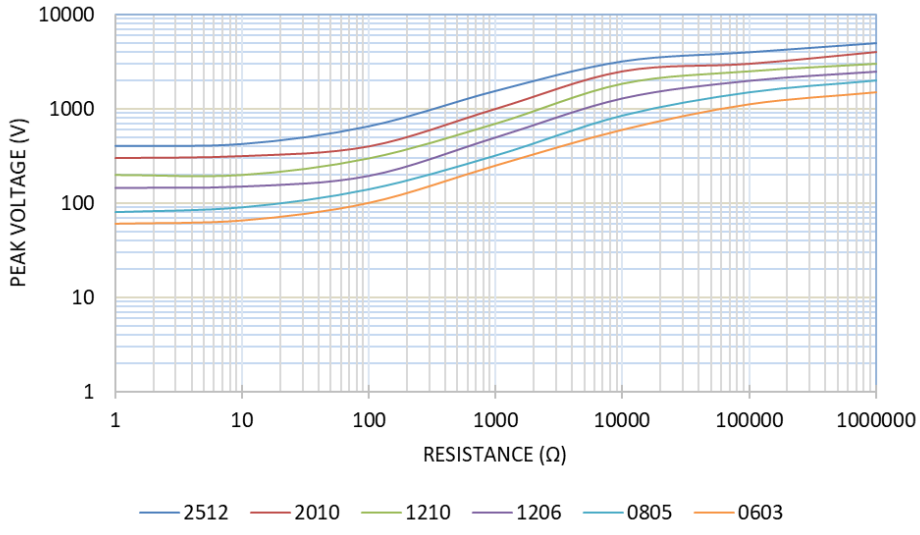


10/700us Lightning Surge (*)
RPC (Standard Power) tolerances of 0.5% and 1%
RPC-HP (High Power) all tolerances
RPC-UP (Ultra High Power) all tolerances



(*) Note: Data provided shows typical performance and is for reference only.

10/700us Lightning Surge (*)
RPC (Standard Power)
Tolerances of 5%, 10% and 20%

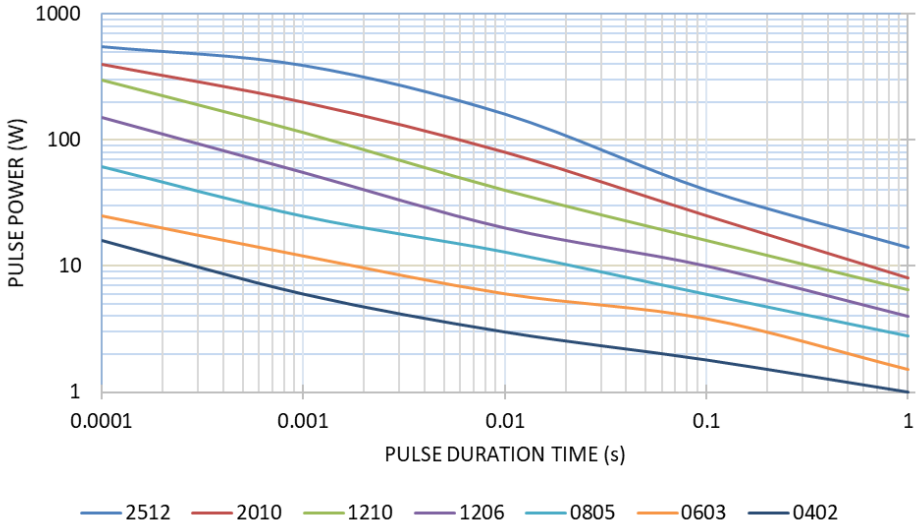


(*) Note: Data provided shows typical performance and is for reference only.

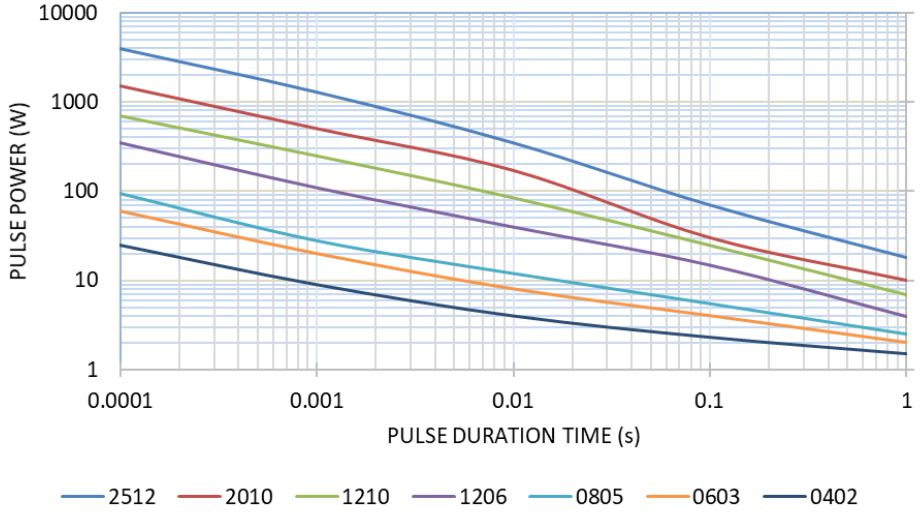
Pulse Withstand Capacity

The single impulse graph is the result of 50 impulses of rectangular shape applied at one-minute intervals. The limit of acceptance was a shift in resistance of less than 1% from the initial value. The power applied was subject to the restrictions of the maximum permissible impulse voltage graph shown.

Single Pulse Power (100 ohms)
RPC (Standard Power) tolerances of 0.5% and 1%
RPC-HP (High Power) all tolerances
RPC-UP (Ultra High Power) all tolerances



Single Pulse Power (100 ohms)
RPC (Standard Power)
Tolerances of 5%, 10% and 20%

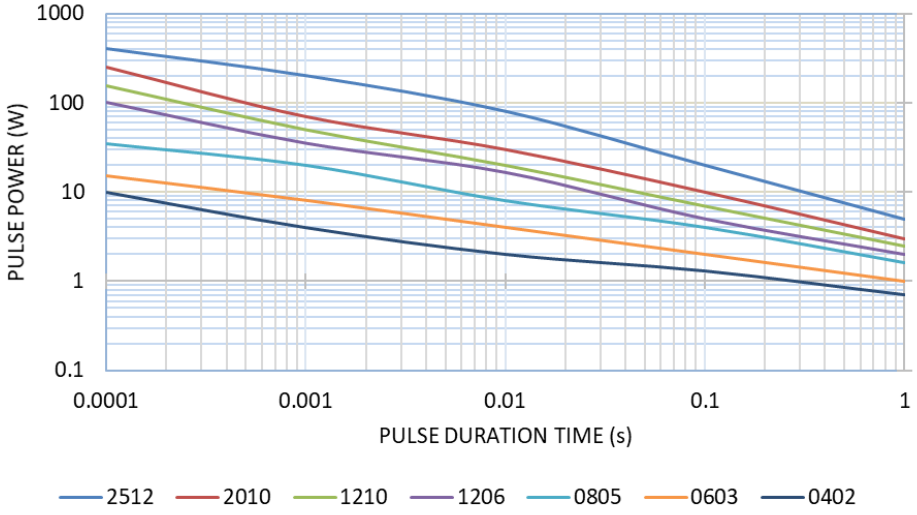


This data is for the 100 Ω resistance value for each size. Pulse power handling is dependent on the resistance value. For resistance values higher or lower than 100 Ω, contact Stackpole for advice on pulse handling characteristics of your particular resistance value of interest.

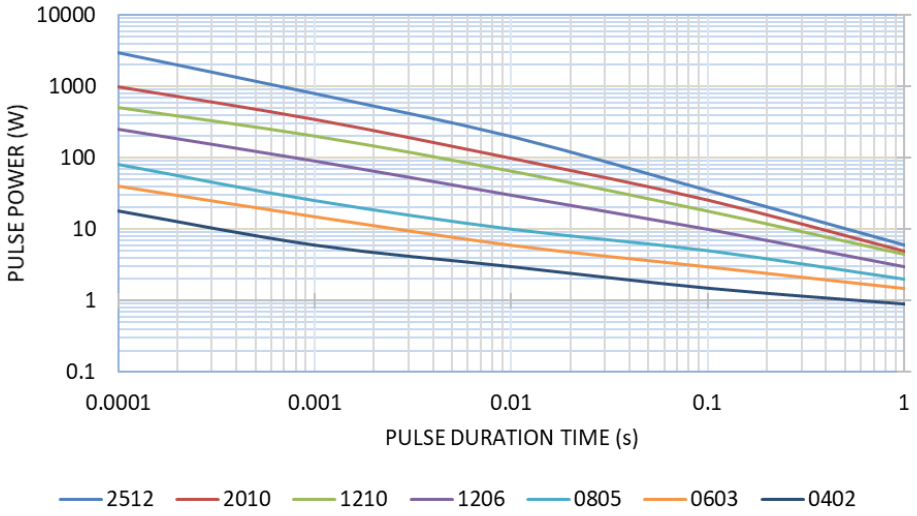
Continuous Pulse

The continuous load graph was obtained by applying repetitive rectangular pulses where the pulse period was adjusted so that the average power dissipated in the resistor was equal to its rated power at 70 ºC. Again, the limit of acceptance was a shift in resistance of less than 1% from the initial value.

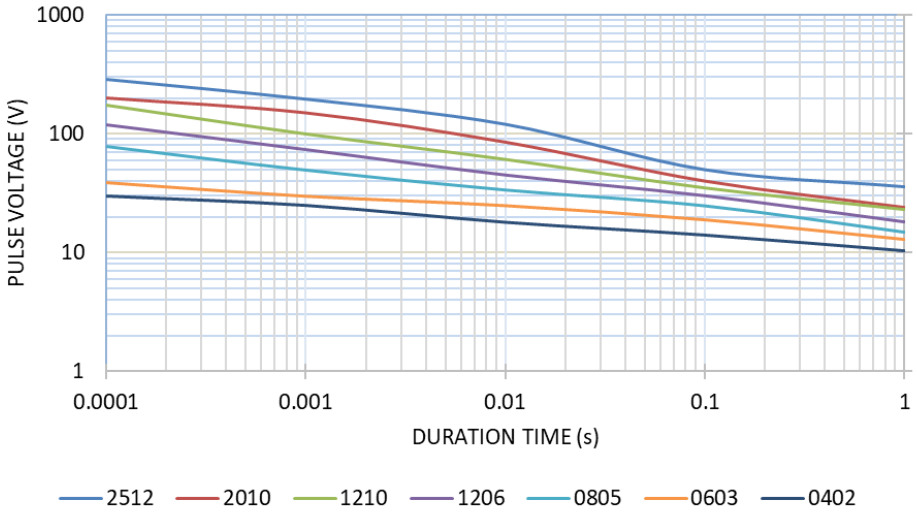
Continuous Pulse Power (100 ohms)
RPC (Standard Power) tolerances of 0.5% and 1%
RPC-HP (High Power) all tolerances
RPC-UP (Ultra High Power) all tolerances



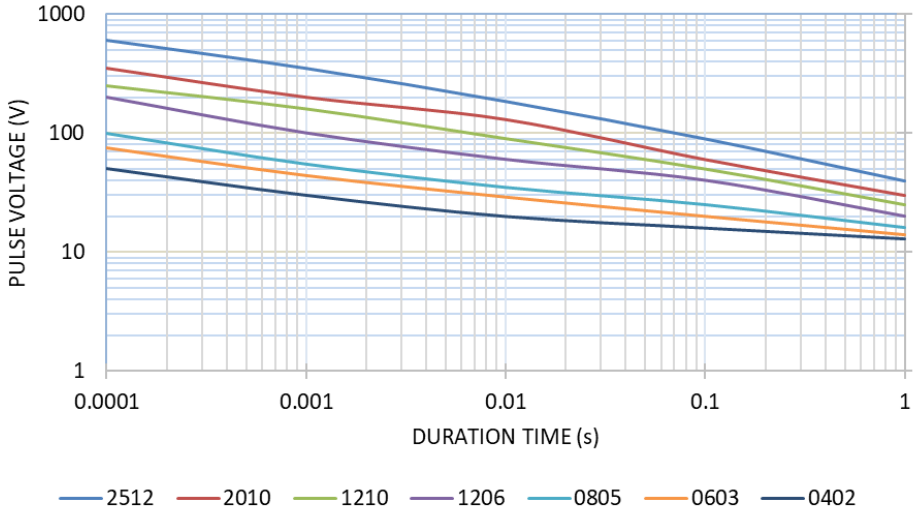
Continuous Pulse Power (100 ohms)
RPC (Standard Power)
Tolerances of 5%, 10% and 20%



Pulse Voltage (100 ohms)
RPC (Standard Power) tolerances of 0.5% and 1%
RPC-HP (High Power) all tolerances
RPC-UP (Ultra High Power) all tolerances



Pulse Voltage (100 ohms)
RPC (Standard Power)
Tolerances of 5%, 10% and 20%



Part Marking Instructions

1. 0402 is unmarked.

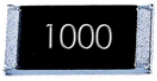
2. 3-digit marking for 0603 in E24
   First and second digits are E24 code; third digit is the multiplier

3-digit marking for 0603 in E24			
Resistance	18Ω	100Ω	1KΩ
Marking	180	101	102

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

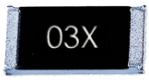
3. 4-digit marking for 0805-2512 in E96 and E24
   Values below 100Ω will use "R" as the decimal holder

4-digit marking for 0805-2512						
Resistance	9.76Ω	100Ω	2.2KΩ	10KΩ	100KΩ	1MΩ
Marking	9R76	1000	2201	1002	1003	1004



E96 Values for 0603 (1% Marking)

A two character number is assigned to each standard R-Value (E96) as shown in the chart below.
This is followed by one alpha character which is used as a multiplier.
Each letter from "Y" to "F" represents a specific multiplier.



10.5Ω

Alpha Character = Multiplier	
Y = 0.1	C = 1000
X = 1	D = 10000
A = 10	E = 100000
B = 100	F = 1000000

Chip Marking	Value
01B	10.0 x 100 = 1KΩ
25C	17.8 x 1000 = 17.8KΩ
93D	90.9 x 10000 = 909KΩ

E96

#	R-Value	#	R-Value	#	R-Value	#	R-Value	#	R-Value	#	R-Value
01	10.0	**17**	14.7	**33**	21.5	**49**	31.6	**65**	46.4	**81**	68.1
02	10.2	**18**	15.0	**34**	22.1	**50**	32.4	**66**	47.5	**82**	69.8
03	10.5	**19**	15.4	**35**	22.6	**51**	33.2	**67**	48.7	**83**	71.5
04	10.7	**20**	15.8	**36**	23.2	**52**	34.0	**68**	49.9	**84**	73.2
05	11.0	**21**	16.2	**37**	23.7	**53**	34.8	**69**	51.1	**85**	75.0
06	11.3	**22**	16.5	**38**	24.3	**54**	35.7	**70**	52.3	**86**	76.8
07	11.5	**23**	16.9	**39**	24.9	**55**	36.5	**71**	53.6	**87**	78.7
08	11.8	**24**	17.4	**40**	25.5	**56**	37.4	**72**	54.9	**88**	80.6
09	12.1	**25**	17.8	**41**	26.1	**57**	38.3	**73**	56.2	**89**	82.5
10	12.4	**26**	18.2	**42**	26.7	**58**	39.2	**74**	57.6	**90**	84.5
11	12.7	**27**	18.7	**43**	27.4	**59**	40.2	**75**	59.0	**91**	86.6
12	13.0	**28**	19.1	**44**	28.0	**60**	41.2	**76**	60.4	**92**	88.7
13	13.3	**29**	19.6	**45**	28.7	**61**	42.2	**77**	61.9	**93**	90.9
14	13.7	**30**	20.0	**46**	29.4	**62**	43.2	**78**	63.4	**94**	93.1
15	14.0	**31**	20.5	**47**	30.1	**63**	44.2	**79**	64.9	**95**	95.3
16	14.3	**32**	21.0	**48**	30.9	**64**	45.3	**80**	66.5	**96**	97.6

RPC Series

Pulse Withstanding Thick Film Chip Resistor

Stackpole Electronics, Inc.
Resistive Product Solutions

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)
RPC	Pulse Withstanding Thick Film Chip Resistor	SMD	YES RoHS Compliant by means of exemption 7c-I	100% Matte Sn over Ni	Jan-03	03/01

"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

R	P	C	1	2	0	6	F	T	1	R	2	0	-	H	P

Product Series

Code
RPC

Power Rating

Size	W
0402	0.2
0603	0.1
0603-HP	0.25
0603-UP	0.33
0805	0.25
0805-HP	0.4
0805-UP	0.5
1206	0.33
1206-HP	0.5
1206-UP	0.75
1210	0.5
1210-HP	0.75
1210-UP	1
2010	0.75
2010-HP	1
2512	1.5
2512-HP	2

Tolerance

Code	Tol	Value
D	0.5%	E96
F	1%	E24
J	5%	E24
K	10%	
M	20%	
Z	Jumper	

Packaging

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

Resistance Value

Four characters with the multiplier used as the decimal holder.

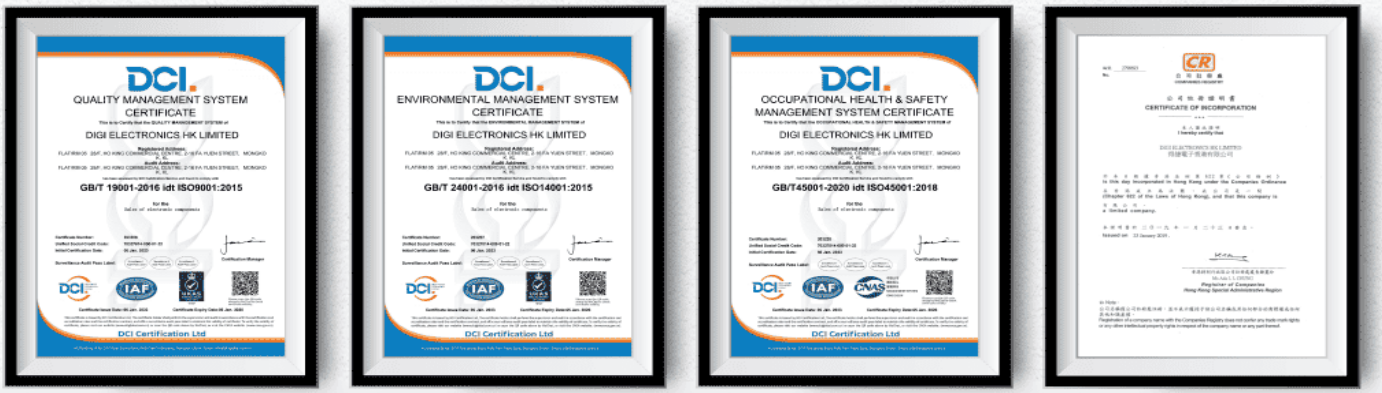
300 ohm = 300R
10.2 Kohm = 10K2
1 Mohm = 1M00
Zero ohm jumper = 0R00

Special

Code	Description
blank	Standard
-HP	High Power
-UP	Ultra High Power

OUR CERTIFICATE

DiGi provide top-quality products and perfect service for customer worldwide through standardization, technological innovation and continuous improvement. DiGi through third-party certification, we striciy control the quality of products and services. Welcome your RFQ to Email: Info@DiGi-Electronics.com



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RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.