

Features:

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



Electrical Specifications (RPCA)

Type/Code	Power Rating (W) @ 70°C	Maximum Working Voltage (V)	Maximum Overload Voltage (V)	TCR (ppm/°C)	Ohmic Range (Ω) and Tolerance		
					0.5%	1%	5%, 10%, 20%
RPCA0402	0.2	50	100	±300	-	1 - 9.76	1 - 20
				±100	100 - 1M	10 - 1M	22 - 1M
RPCA0603	0.1	50	100	±200	-	1 - 6.98	-
				±100	7.15 - 1M		-
	0.125			±200	-		1 - 270
				±100	-		300 - 1M
RPCA0805	0.125	150	300	±200	-	1 - 2.94	-
				±100	3 - 20M		-
	0.25			±200	-		1 - 270
				±100	-		300 - 20M
RPCA1206	0.33	200	400	±200	-	1 - 4.99	1 - 20
				±100	5.1 - 20M		22 - 20M
RPCA1210	0.5	200	400	±200	-	1 - 9.76	1 - 20
				±100	10 - 20M		22 - 20M
RPCA2010	0.75	400	800	±200	-	1 - 9.76	1 - 20
				±100	10 - 20M		22 - 20M
RPCA2512	1.5	500	1000	±200	-	1 - 9.76	1 - 20
				±100	10 - 20M		22 - 20M

Working Voltage = $\sqrt{P \cdot R}$ or Max. Working Voltage listed above, whichever is lower.

Overload Voltage = $2.5 \cdot \sqrt{P \cdot R}$ or Max. Overload Voltage listed above, whichever is lower.

Electrical Specifications - High Power (RPCA-HP)

Type/Code	Power Rating (W) @ 70°C	Maximum Working Voltage (V)	Maximum Overload Voltage (V)	TCR (ppm/°C)	Ohmic Range (Ω) and Tolerance		
					0.5%	1%	5%
RPCA0603-HP	0.25	75	150	±200	-	1 - 6.98	1 - 270
				±100	7.15 - 1M		300 - 1M
RPCA0805-HP	0.4	150	300	±200	-	1 - 2.94	1 - 270
				±100	3 - 1M		300 - 1M
RPCA1206-HP	0.5	200	400	±200	-	1 - 4.99	1 - 20
				±100	5.1 - 1M		22 - 1M
RPCA1210-HP	0.75	200	400	±200	-	1 - 9.76	1 - 20
				±100	10 - 1M		22 - 1M
RPCA2010-HP	1	400	800	±200	-	1 - 9.76	1 - 20
				±100	10 - 1M		22 - 1M
RPCA2512-HP(*)	2	500	1000	±350	10	1 - 10	
				±100	10.2 - 200K		11 - 200K

(*) Double-sided printed resistor element.

Working Voltage = $\sqrt{P \cdot R}$ or Max. Working Voltage listed above, whichever is lower.

Overload Voltage = $2.5 \cdot \sqrt{P \cdot R}$ or Max. Overload Voltage listed above, whichever is lower.

Electrical Specifications - Ultra High Power (RPCA-UP)

Type/Code	Power Rating (W) @ 70°C	Maximum Working Voltage (V)	Maximum Overload Voltage (V)	TCR (ppm/°C)	Ohmic Range (Ω) and Tolerance		
					0.5%	1%	5%
RPCA0603-UP	0.33	75	150	±200	-	1 - 6.98	1 - 270
				±100	7.15 - 1M		300 - 1M
RPCA0805-UP(*)	0.5	400	600	±200	-	1 - 9.76	1 - 270
				±100	10 - 1M		300 - 1M
RPCA1206-UP(*)	0.75	500	1000	±200	-	1 - 9.76	1 - 20
				±100	10 - 1M		22 - 1M

(*) Ultra High Power: double side printed resistor element.

Working Voltage = $\sqrt{P \cdot R}$ or Max. Working Voltage listed above, whichever is lower.

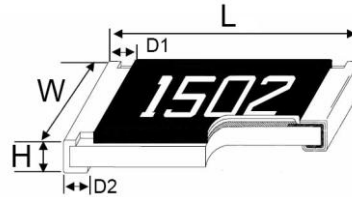
Overload Voltage = $2.5 \cdot \sqrt{P \cdot R}$ or Max. Overload Voltage listed above, whichever is lower.

Electrical Specifications - Ultra High Power Jumper (RPCA-UP)

Type/Code	Jumper Rated Current (A)	Max. Resistance
RPCA0402-UP	3	0Ω (≤ 10mΩ)
RPCA0603-UP	5	0Ω (≤ 8mΩ)
RPCA0805-UP(*)	6	0Ω (≤ 5mΩ)
RPCA1206-UP(*)	10	0Ω (≤ 5mΩ)
RPCA1210-UP	12	0Ω (≤ 4mΩ)
RPCA2010-UP	12	0Ω (≤ 5mΩ)
RPCA2512-UP	16	0Ω (≤ 5mΩ)

(*) 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 Termination	Unit
RPCA0402	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	0.010 ± 0.004 0.25 ± 0.10	inches mm
RPCA0603, -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
RPCA0805 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
RPCA0805-UP	5.0	0.079 ± 0.004 2.00 ± 0.10	0.049 ± 0.004 1.25 ± 0.10	0.022 ± 0.004 0.55 ± 0.10	0.014 ± 0.008 0.35 ± 0.20	0.016 ± 0.008 0.40 ± 0.20	inches mm
RPCA1206 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
RPCA1206-UP	9.2	0.122 ± 0.004 3.10 ± 0.10	0.061 ± 0.004 1.55 ± 0.10	0.022 ± 0.004 0.55 ± 0.10	0.024 ± 0.010 0.60 ± 0.25	0.022 ± 0.010 0.55 ± 0.25	inches mm
RPCA1210 and -HP	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
RPCA2010 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
RPCA2512	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
RPCA2512-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	0.031 ± 0.010 0.80 ± 0.25	0.024 ± 0.012 0.60 ± 0.30	inches mm

Performance Characteristics

Item	Test Method	Test Specification			Test Condition
		Tolerances of 0.5% and 1%	Tolerances of 5%, 10%, 20%	Jumper	
Temperature Coefficient of	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)		as per specification	RCWV * 2.5 or max. overload voltage whichever is lower for 5 seconds Jumper: 2*I _{max} for 5 seconds
Insulation Resistance	JIS-C-5201-1 4.6 IEC-60115-1 4.6	≥ 10G			Max. overload voltage for 1 minute
Operational Life	MIL-STD-202 Method 108	± (1% + 0.05Ω)	± (3% + 0.05Ω)	as per specification	Condition D Stead State TA=125°C at derated power. Measurement at 24 ± 4 hours after test conclusion
Biased Humidity	MIL-STD-202 Method 103	± (1% + 0.05Ω)	± (3% + 0.05Ω)	as per specification	1000 hours 85°C/85% R.H. 10% of operating power (≤ 100 V)
High Temperature Exposure	MIL-STD-202 Method 108	± (1% + 0.05Ω)		as per specification	At 155°C for 1000 hours

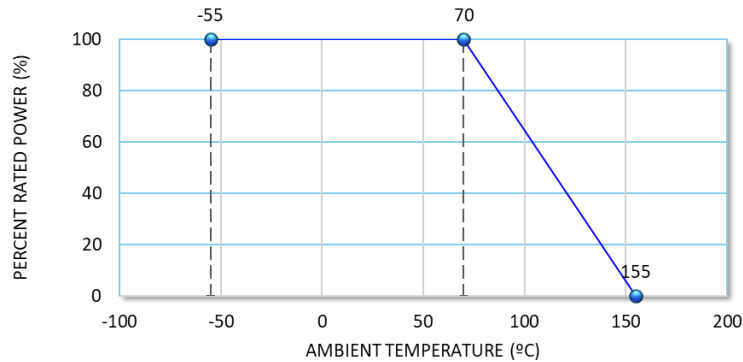
Performance Characteristics					
Item	Test Method	Test Specification			Test Condition
		Tolerances of 0.5% and 1%	Tolerances of 5%, 10%, 20%	Jumper	
Board Flex	AEC-Q200-005	$\pm (1\% + 0.05\Omega)$		as per specification	Bending once for 60 seconds. 2010, 2512 sizes: 2 mm; other sizes: 3 mm
Solderability	JIS-C-5201-1 4.17 IEC-60115-1 4.17	95% min. coverage			$245 \pm 5^\circ\text{C}$ for 3 seconds
Resistance to Soldering Heat	JIS-C-5201-1 4.18 IEC-60115-1 4.18	$\pm (0.5\% + 0.05\Omega)$	$\pm (1\% + 0.05\Omega)$	as per specification	$260 \pm 5^\circ\text{C}$ 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 $\leq 5\%$ Total leaching area $\leq 10\%$			$260 \pm 5^\circ\text{C}$ for 30 seconds
Temperature Cycling	JESD22 Method JA-104	$\pm (0.5\% + 0.05\Omega)$	$\pm (1\% + 0.05\Omega)$	as per specification	-55 to $+125^\circ\text{C}$, 1000 cycles
Mechanical Shock	MIL-STD-202 Method 213	$\pm (0.25\% + 0.05\Omega)$	$\pm (1\% + 0.05\Omega)$	as per specification	Wave form: Tolerance for half sine shock pulse. Peak value is 100 g. Normal duration (D) is 6.
Vibration	MIL-STD-202 Method 204	$\pm (0.5\% + 0.05\Omega)$	$\pm (1\% + 0.05\Omega)$	as per specification	5 g for 20 minutes, 12 cycles each of 3 orientations, 10 - 2000 Hz
ESD	AEC-Q200-002	$\pm (3\% + 0.05\Omega)$			Human body model 0402/0603: 1 KV; 0805 and above: 2 KV
Resistance to Solvents	MIL-STD-202	No visible damage on appearance and marking.			Add aqueous wash chemical - OKEM clean or
Terminal Strength	AEC-Q200-006	No breakage.			Force of 1.8 Kg for 60 seconds
Flammability	UL-94	No ignition of the tissue paper or scorching on the pinewood board			V-0 or V-1 are acceptable. Electrical test not required.
Sulfur Test	EIA-977 (Condition A)	$\Delta R \pm 1\%$	$\Delta R \pm 5\%$	as per specification	$60 \pm 2^\circ\text{C}$, no power rating for 500 hours

RCWV (Rated Continuous Working Voltage) = $\sqrt{P \cdot R}$ or Max. Operating Voltage whichever is lower.

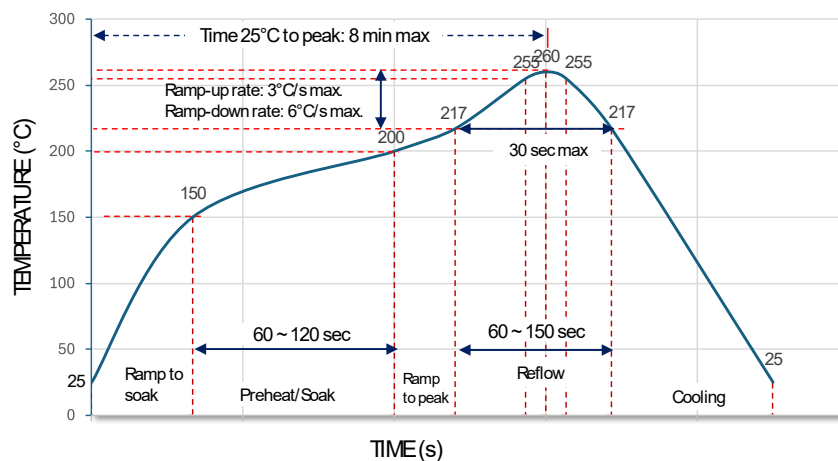
Recommended storage temperature is $15 \sim 28^\circ\text{C}$; humidity $< 80\%$ R.H.

Operating temperature range is $-55 \sim +155^\circ\text{C}$

Power Derating Curve:



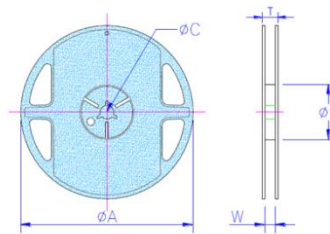
Soldering Condition



Reflow Profiles

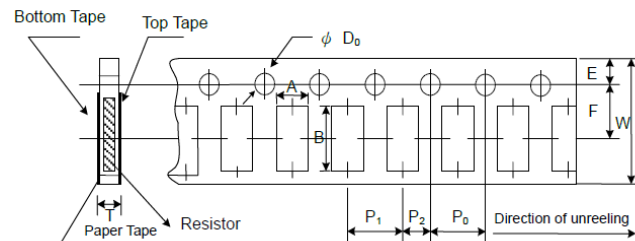
Profile Feature	Pb-Free Assembly
Preheat:	
Min. temperature (T _{smin})	150°C
Max. temperature (T _{smax})	200°C
Preheating time (t _s) from T _{smin} to T _{smax}	60 ~ 120 seconds
Ramp-up rate (T _L to T _P)	3°C/second max
Liquidous temperature (T _L)	217°C
Time (t _L) maintained above T _L	60 ~ 150 seconds
Min. peak temperature (T _{p min})	235°C
Max. peak temperature (T _{p max})	260°C
Time (t _p) within 5°C of the specified classification temperature (T _c)	30 seconds max.
Ramp-down rate (T _L to T _P)	6°C/second max.
Time 25°C to peak temperature	8 minutes max.

Reel Specifications



Type/Code	Packaging	Tape Width	Reel Diameter	A	B	C	W	T	Unit
RPCA0402	Paper Tape	0.315 8.00	7.000 177.80	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
RPCA0603	Paper Tape	0.315 8.00	7.000 177.80	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
RPCA0805	Paper Tape	0.315 8.00	7.000 177.80	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
RPCA1206	Paper Tape	0.315 8.00	7.000 177.80	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
RPCA1210	Paper Tape	0.315 8.00	7.000 177.80	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
RPCA2010	Plastic Tape	0.472 12.00	7.000 177.80	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
RPCA2512	Plastic Tape	0.472 12.00	7.000 177.80	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

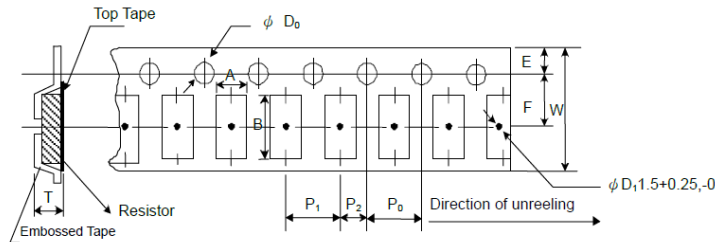


Type/Code	A	B	W	E	F	Unit
RPCA0402	0.026 ± 0.004 0.65 ± 0.10	0.045 ± 0.004 1.15 ± 0.10	0.315 ± 0.008 8.00 ± 0.20	0.069 ± 0.004 1.75 ± 0.10	0.138 ± 0.002 3.50 ± 0.05	inches mm
RPCA0603	0.043 ± 0.004 1.10 ± 0.10	0.075 ± 0.004 1.90 ± 0.10	0.315 ± 0.008 8.00 ± 0.20	0.069 ± 0.004 1.75 ± 0.10	0.138 ± 0.002 3.50 ± 0.05	inches mm
RPCA0805	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
RPCA1206	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
RPCA1210	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.)

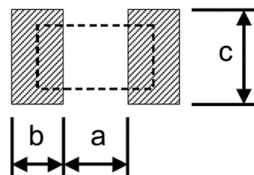
Type/Code	P ₀	P ₁	P ₂	ØD ₀	T	Unit
RPCA0402	0.157 ± 0.004 4.00 ± 0.10	0.079 ± 0.002 2.00 ± 0.05	0.079 ± 0.002 2.00 ± 0.05	0.059 + 0.004/-0 1.50 + 0.1/-0	0.018 ± 0.004 0.45 ± 0.10	inches mm
RPCA0603	0.157 ± 0.004 4.00 ± 0.10	0.157 ± 0.002 4.00 ± 0.05	0.079 ± 0.002 2.00 ± 0.05	0.059 + 0.004/-0 1.50 + 0.1/-0	0.028 ± 0.004 0.70 ± 0.10	inches mm
RPCA0805	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 1.50 + 0.1/-0	0.033 ± 0.004 0.85 ± 0.10	inches mm
RPCA1206	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 1.50 + 0.1/-0	0.033 ± 0.004 0.85 ± 0.10	inches mm
RPCA1210	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 1.50 + 0.1/-0	0.033 ± 0.004 0.85 ± 0.10	inches mm

Packaging Specifications - Plastic Tape



Type/Code	A	B	W	E	F	Unit
RPCA2010	0.110 ± 0.004 2.80 ± 0.10	0.213 ± 0.008 5.40 ± 0.20	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
RPCA2512	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
RPCA2010	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 1.50 + 0.1/-0	0.047 - 0.000 1.20 - 0.00	inches mm
RPCA2512	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 1.50 + 0.1/-0	0.047 - 0.000 1.20 - 0.00	inches mm

Recommended Pad Layout



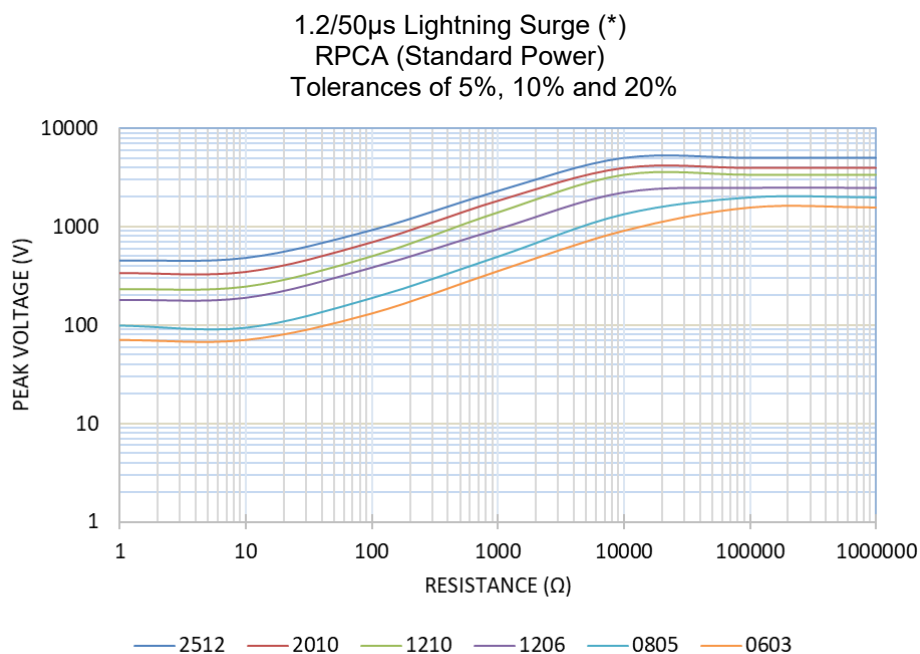
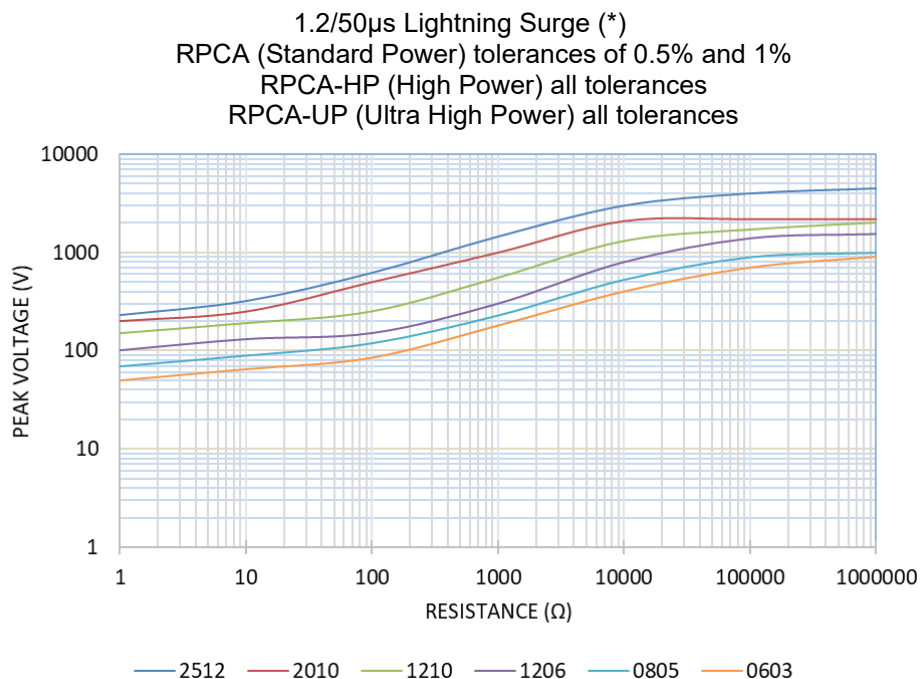
Type/Code	a	b	c	Unit
RPCA0402	0.020 0.50	0.018 0.45	0.024 0.60	inches mm
RPCA0603	0.035 0.90	0.024 0.60	0.035 0.90	inches mm

Recommended Pad Layout (cont.)

RPCA0805	0.047 1.20	0.028 0.70	0.051 1.30	inches mm
RPCA1206	0.079 2.00	0.035 0.90	0.063 1.60	inches mm
RPCA1210	0.079 2.00	0.035 0.90	0.110 2.80	inches mm
RPCA2010	0.150 3.80	0.035 0.90	0.110 2.80	inches mm
RPCA2512	0.193 4.90	0.039 1.00	0.134 3.40	inches mm

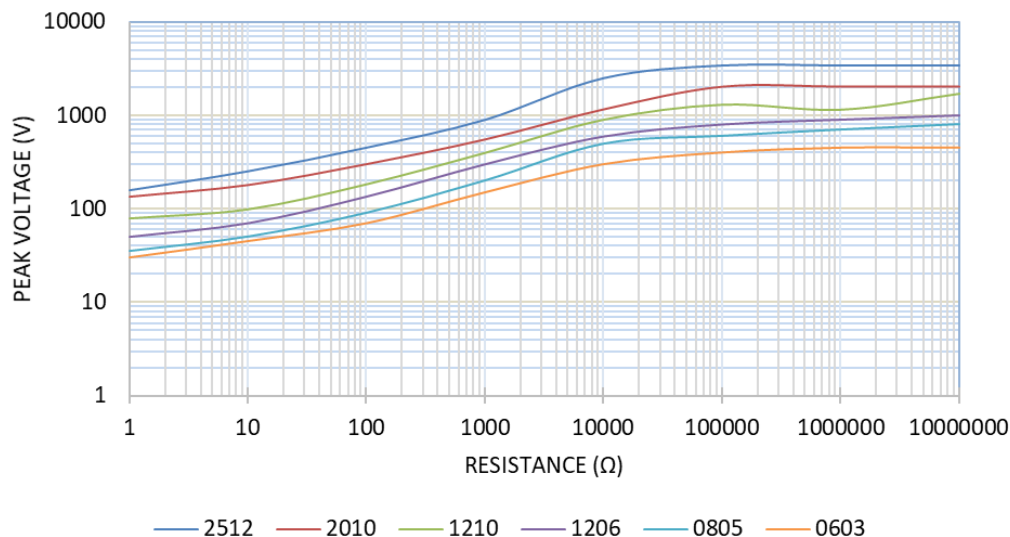
Lightning Surge

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

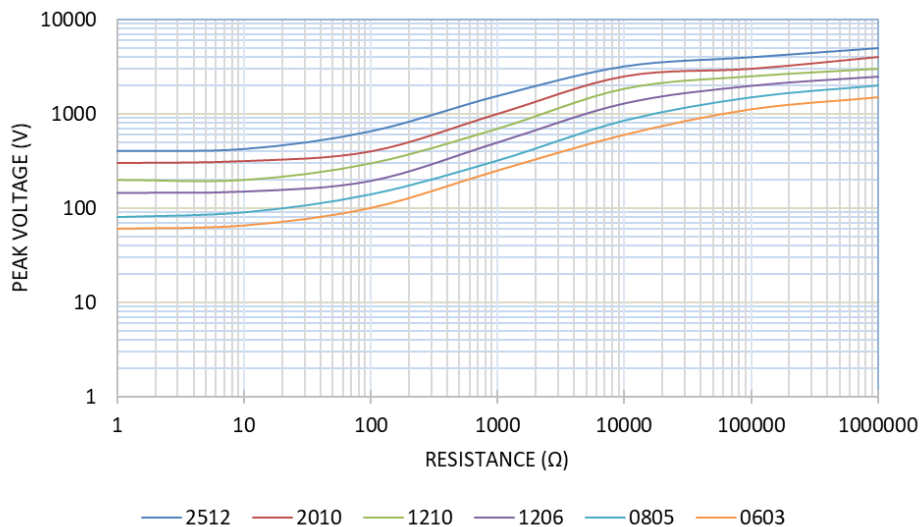


(*) Note: Data provided shows typical performance and is for reference only.

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



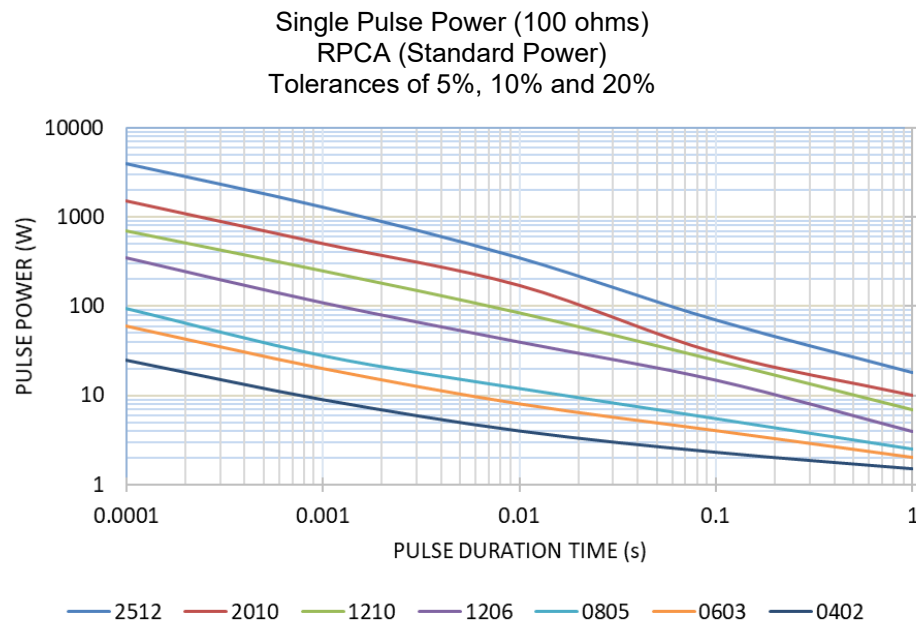
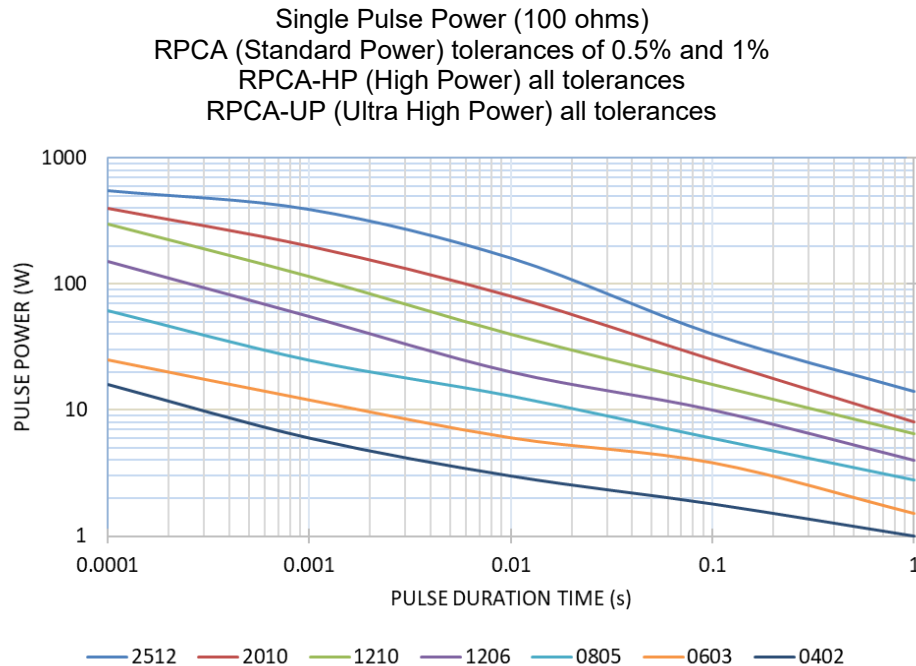
10/700 μ s Lightning Surge (*)
 RPCA (Standard Power)
 Tolerances of 5%, 10% and 20%



(*) 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.

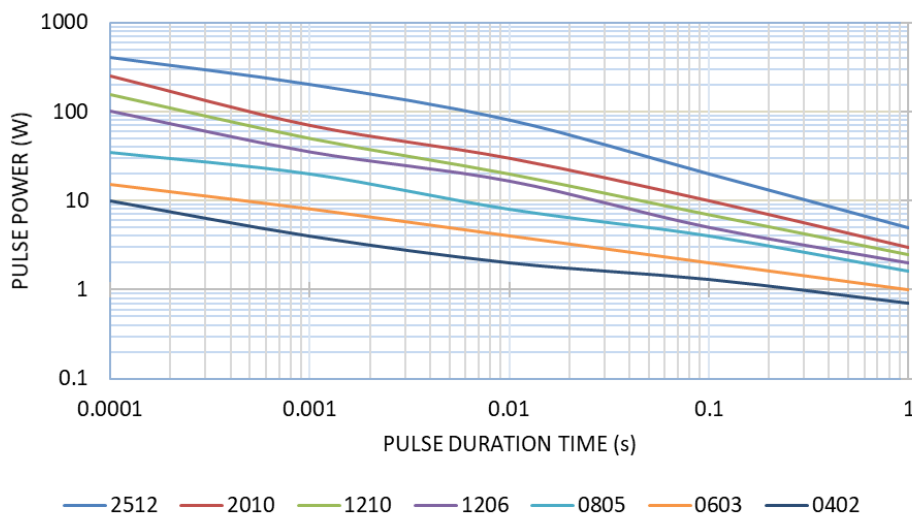


This data is for the 100Ω resistance value for each size. Pulse power handling is dependent on the resistance value. For resistance values higher or lower than 100Ω, contact Stackpole for advice on pulse handling characteristics of your particular resistance value of interest.

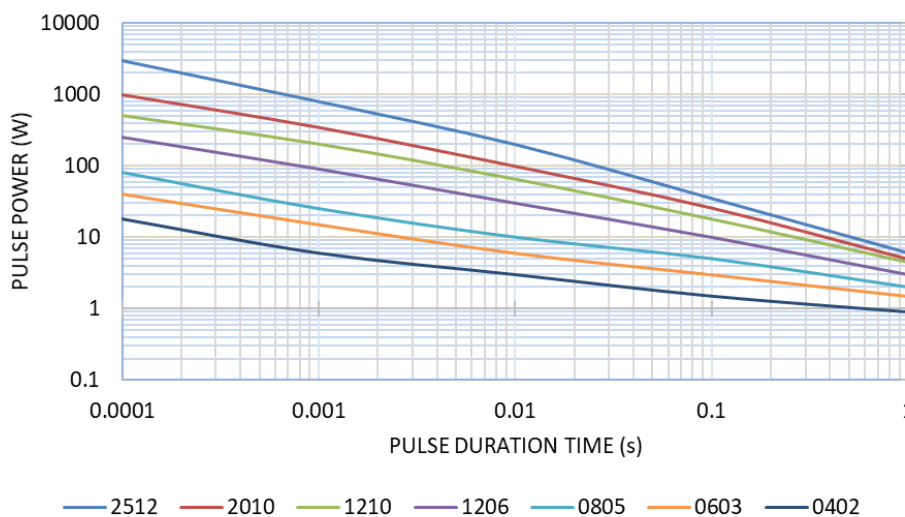
Continuous Pulse

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°C. Again, the limit of acceptance was a shift in resistance of less than 1% from the initial value.

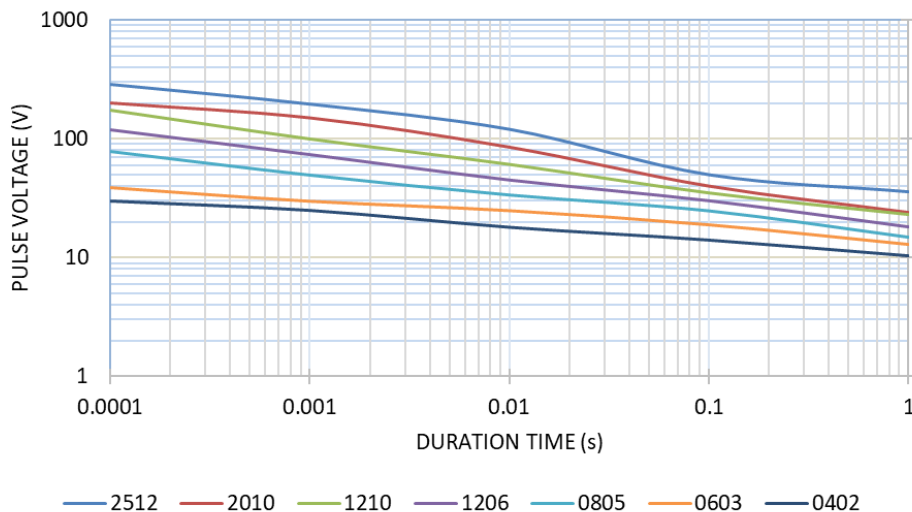
Continuous Pulse Power (100 ohms)
RPCA (Standard Power) tolerances of 0.5% and 1%
RPCA-HP (High Power) all tolerances
RPCA-UP (Ultra High Power) all tolerances



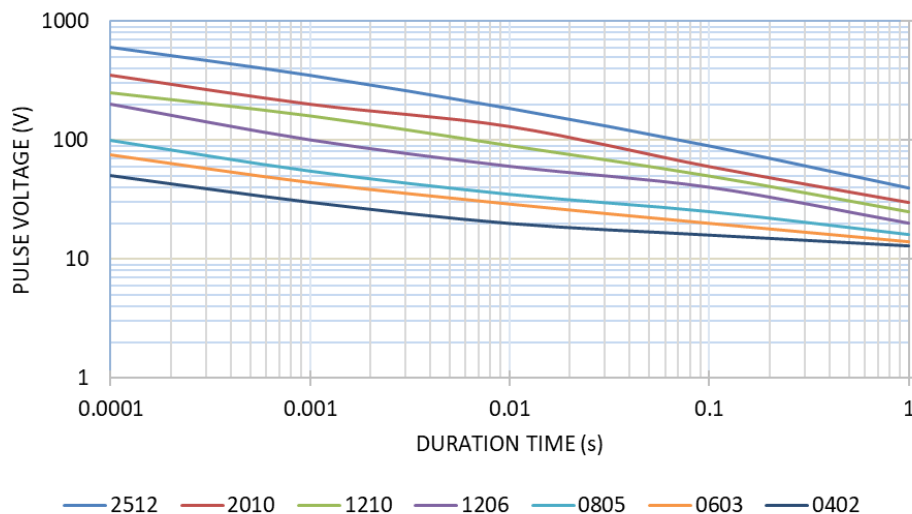
Continuous Pulse Power (100 ohms)
RPCA (Standard Power)
Tolerances of 5%, 10% and 20%



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



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



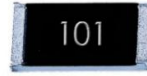
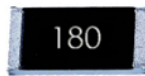
Part Marking Instructions

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

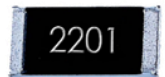
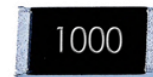
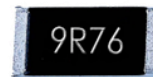


E24 Code	10	11	12	13	15	16	18	20	22	24	27	30	33	36	39	43	47	51	56	62	68	75	82	91
----------	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

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



4. Jumpers

All jumpers will be marked "0".

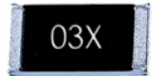


E96 Values for 0603 (1% Marking)

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

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)
RPCA	Automotive Grade Surge Withstanding Chip Resistor	SMD	YES ⁽¹⁾	100% Matte Sn over Ni	Jan-03	03/01

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

R	P	C	A	1	2	0	6	F	T	1	R	2	0	-	H	P
Product Series RPCA		Power Rating Size W		Tolerance Code Tol Value			Packaging Code Description Size Quantity				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		
		0402	0.2	D	0.5%	E96	T	7" Reel Paper Tape	0402	10000						
		0603	0.1	F	1%	E24			0603	5000						
		0603	0.125	J	5%	E24			0805							
		0603-HP	0.25	K	10%				1206							
		0603-UP	0.33	M	20%				1210							
		0805	0.125	Z	Jumper		7" Reel Plastic Tape	2010	4000							
		0805	0.25					2512								
		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													
		2010-UP	1.25													
		2512	1.5													
		2512-HP	2													
		2512-UP	2													