

- Features:
- Excellent pulse withstanding performance
 - Broad resistance range
 - Higher anti-surge performance compared with RMC Series
 - Stability class: 5%
 - RoHS compliant / lead-free



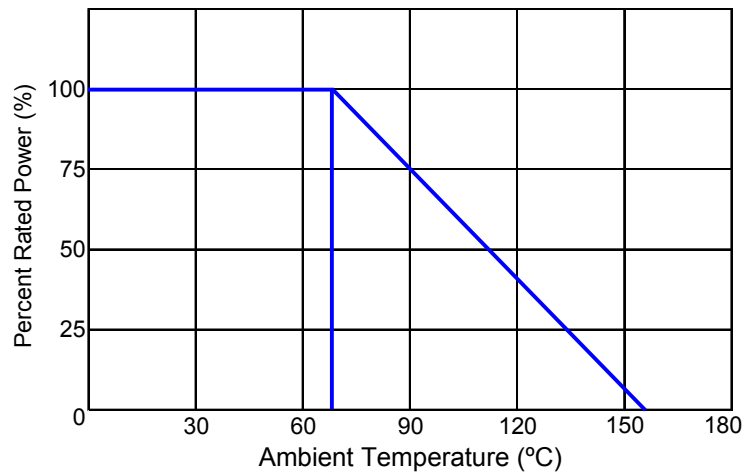
| Electrical Specifications | | | | |
|---------------------------|-----------------------------|-----------------------------|------------------------------------|--|
| Type / Code | Power Rating (Watts) @ 70°C | Maximum Working Voltage (1) | Resistance Temperature Coefficient | Ohmic Range (Ω) and Tolerance 1%, 5%, 10%, 20% (3) |
| RPC0603 | 0.1W(2) | 50V | ±100 ppm/°C ±200 ppm/°C | 300 - 1M 10 - 299 |
| RPC0805 | 0.25W(2) | 150V | ±100 ppm/°C ±200 ppm/°C | 300 - 20M 1 - 299 |
| RPC1206 | 0.33W(2) | 200V | ±100 ppm/°C ±200 ppm/°C | 20.1 - 20M 1 - 20 |
| RPC1210 | 0.5W(2) | 200V | ±100 ppm/°C ±200 ppm/°C | 20.1 - 20M 1 - 20 |
| RPC2010 | 0.75W | 400V | ±100 ppm/°C ±200 ppm/°C | 20.1 - 20M 1 - 20 |
| RPC2512 | 1.5W | 500V | ±100 ppm/°C ±200 ppm/°C | 20.1 - 20M 1 - 20 |

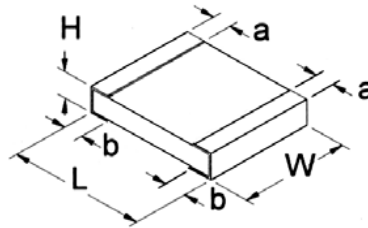
(1) Lesser of \sqrt{PR} or maximum working voltage

(2) Higher power ratings available. Contact factory for available resistance ranges, tolerances and TCR's.

(3) 0.5% tolerances may be available for some resistance values. Contact factory for availability.

Power Derating Curve:





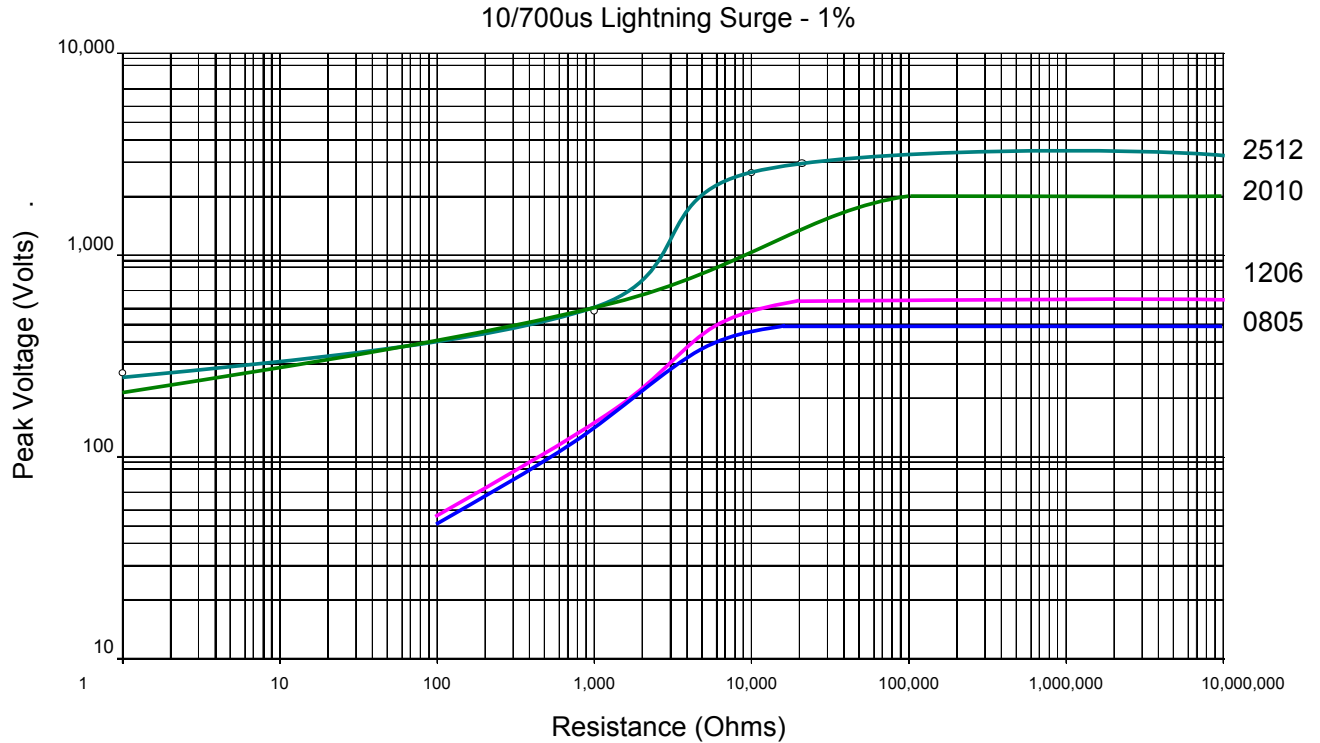
| Mechanical Specifications | | | | | | |
|---------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|--------------|
| Type / Code | L Body Length | W Body Width | H Body Height | a Top Termination | b Bottom Termination | Unit |
| RPC0603 | 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 | 0.079 ± 0.004 2.00 ± 0.10 | 0.049 ± 0.004 1.25 ± 0.10 | 0.022 ± 0.006 0.55 ± 0.15 | 0.014 ± 0.010 0.35 ± 0.25 | 0.016 ± 0.008 0.40 ± 0.20 | inches mm |
| RPC1206 | 0.126 ± 0.006 3.20 ± 0.15 | 0.063 ± 0.006 1.60 ± 0.15 | 0.022 ± 0.004 0.55 ± 0.10 | 0.020 ± 0.016 0.50 ± 0.40 | 0.020 ± 0.010 0.50 ± 0.25 | inches mm |
| RPC1210 | 0.126 ± 0.006 3.20 ± 0.15 | 0.098 ± 0.006 2.50 ± 0.15 | 0.022 ± 0.006 0.55 ± 0.15 | 0.020 ± 0.010 0.50 ± 0.25 | 0.020 ± 0.010 0.50 ± 0.25 | inches mm |
| RPC2010 | 0.197 ± 0.008 5.00 ± 0.20 | 0.098 ± 0.006 2.50 ± 0.15 | 0.022 ± 0.006 0.55 ± 0.15 | 0.024 ± 0.020 0.60 ± 0.50 | 0.020 ± 0.012 0.50 ± 0.30 | inches mm |
| RPC2512 | 0.250 ± 0.008 6.35 ± 0.20 | 0.126 ± 0.006 3.20 ± 0.15 | 0.022 ± 0.006 0.55 ± 0.15 | 0.024 ± 0.020 0.60 ± 0.50 | 0.020 ± 0.012 0.50 ± 0.30 | inches mm |

| Performance Characteristics | | |
|---|---|---|
| Test | Test Methods (JIS C 5201-1 : 1998) | Test Results |
| Voltage Proof | Clause 4.7 500Va.a., 60s | No breakdown or flashover R ≥ 1G Ohm |
| Variation of Resistance with Temperature | Clause 4.8 +20°C/ -55°C / +20°C/ +125°C/ +20°C: RPC 2010, 2512 +20°C/ -55°C/ +20°C/ +155°C/ +20°C: RPC 0603, 0805, 1206, 1210 | See ratings table |
| Overload | Clause 4.13 The applied voltage shall be 2.5 times of the rated voltage or twice of the limiting element voltage, whichever is the less severe, 2s. | ΔR ≤ ± 1% +0.05Ω No visible damage, legible markings |
| Solderability | Clause 4.17 235°C, 2s. | In accordance with Clause 4.17.4.5 |
| Resistance to Soldering Heat | Clause 4.18 After immersion into the flux, the immersion into solder shall be carried out in solder bath at 260° for 5s. | ΔR ≤ ± 1% +0.05Ω |
| Rapid Change of Temperature | Clause 4.19 Cycle: -55°C/ +125°C 5 times: RPC 2010, 2512 Cycle: -55°C/ +155°C 5 times: RPC 0603, 0805, 1206, 1210 | ΔR ≤ ± 1% +0.05Ω No visible damage |
| Climatic Sequence | Clause 4.23 Dry/Damp heat (12+12h cycle), first cycle/ Cold/Damp heat (12+12h cycle), remaining cycle / D.C. Load | ΔR ≤ ± 5% +0.1Ω No visible damage |
| Damp Test, Steady State | Clause 4.24 40°C, 95% R.H., 56 days, test a) and b) of Clause 4.24.2.1 | ΔR ≤ ± 5% +0.1Ω No visible damage, legible markings |
| Endurance @ 70°C | Clause 4.25.1 Rated voltage, 1.5h "ON", 0.5h "OFF", 70°C, 1,000h | ΔR ≤ ± 5% +0.1Ω No visible damage |
| Endurance at the Upper Category Temperature | Clause 4.25.3 125°C, no load, 1.000h: RPC 2010, 2512 155°C, no load, 1.000h: RPC 0603, 0805, 1206, 1210 | ΔR ≤ ± 5% +0.1Ω No visible damage |
| Adhesion | Clause 4.32 5N, 10s | No visible damage |
| Bend of Strength of the Face Plating | Clause 4.33 Amount of bend: 3mm RPC 0603, 0805, 1206, 1210 Amount of bend: 1mm RPC 2010, 2512 | ΔR ≤ ± 1% +0.05Ω |

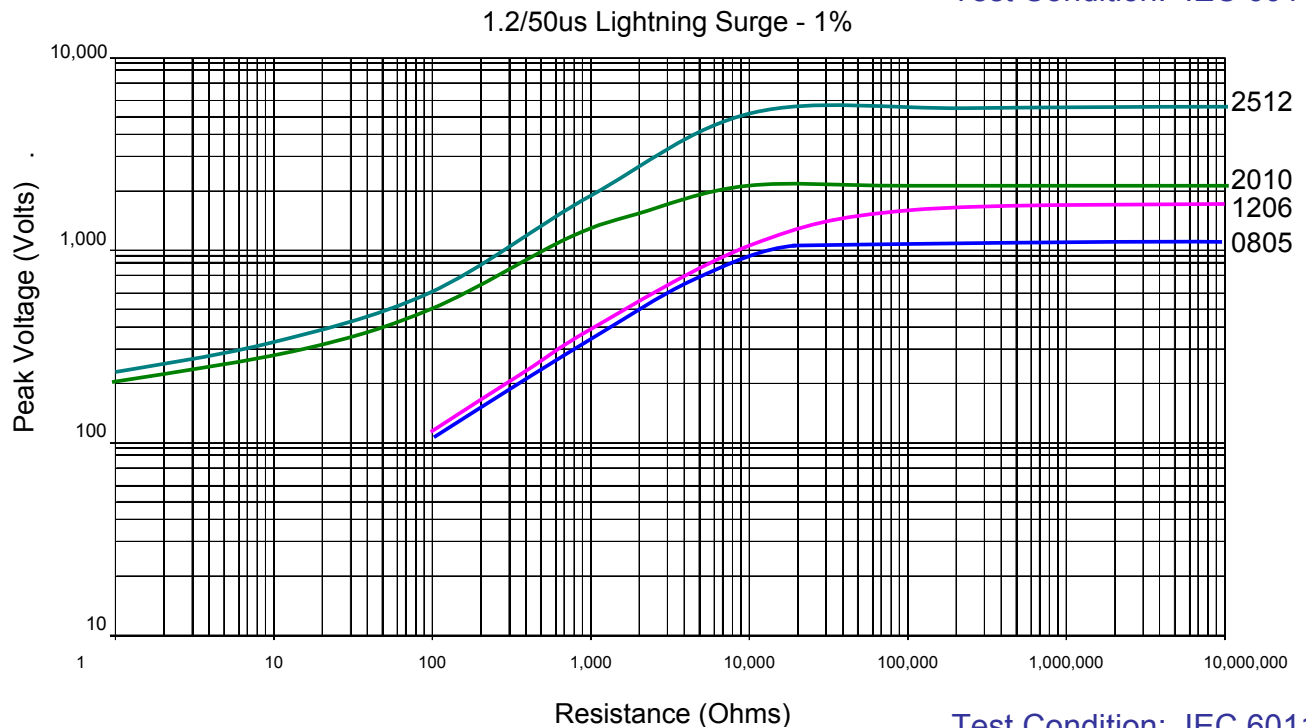
Operating Temperature Range: -55°C to +155°C

Lightning Surge

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



Test Condition: IEC 60115-1

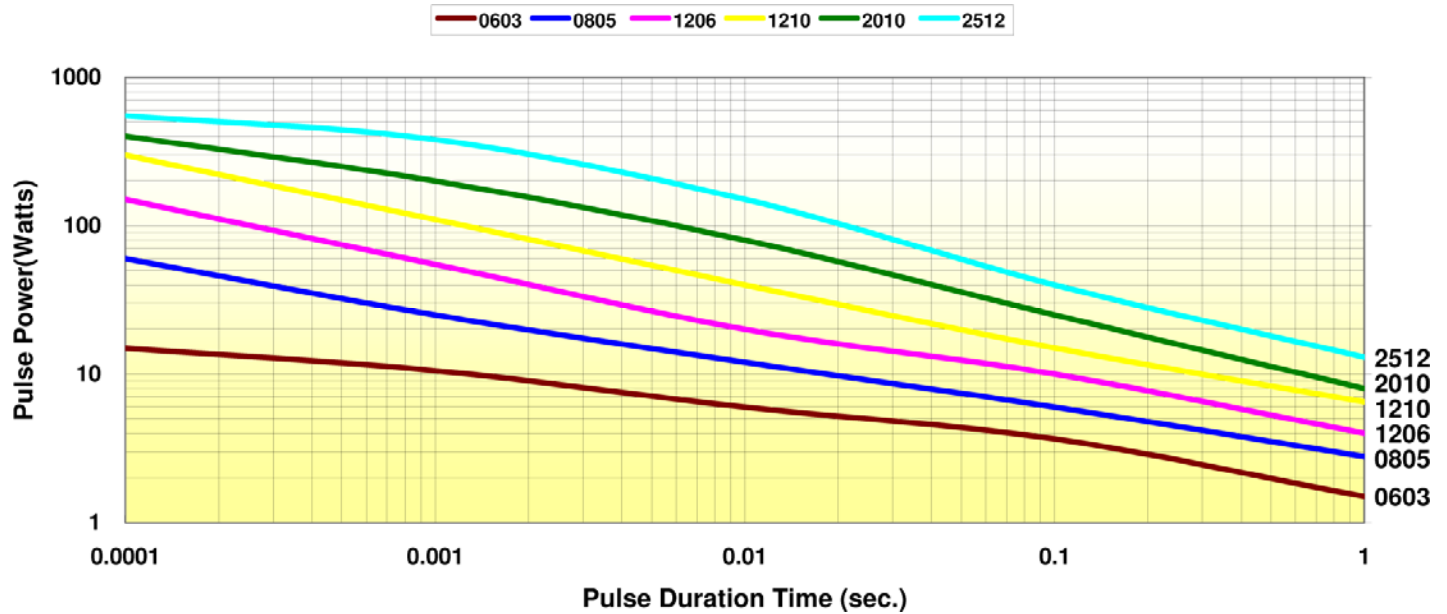


Test Condition: IEC 60115-1

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.

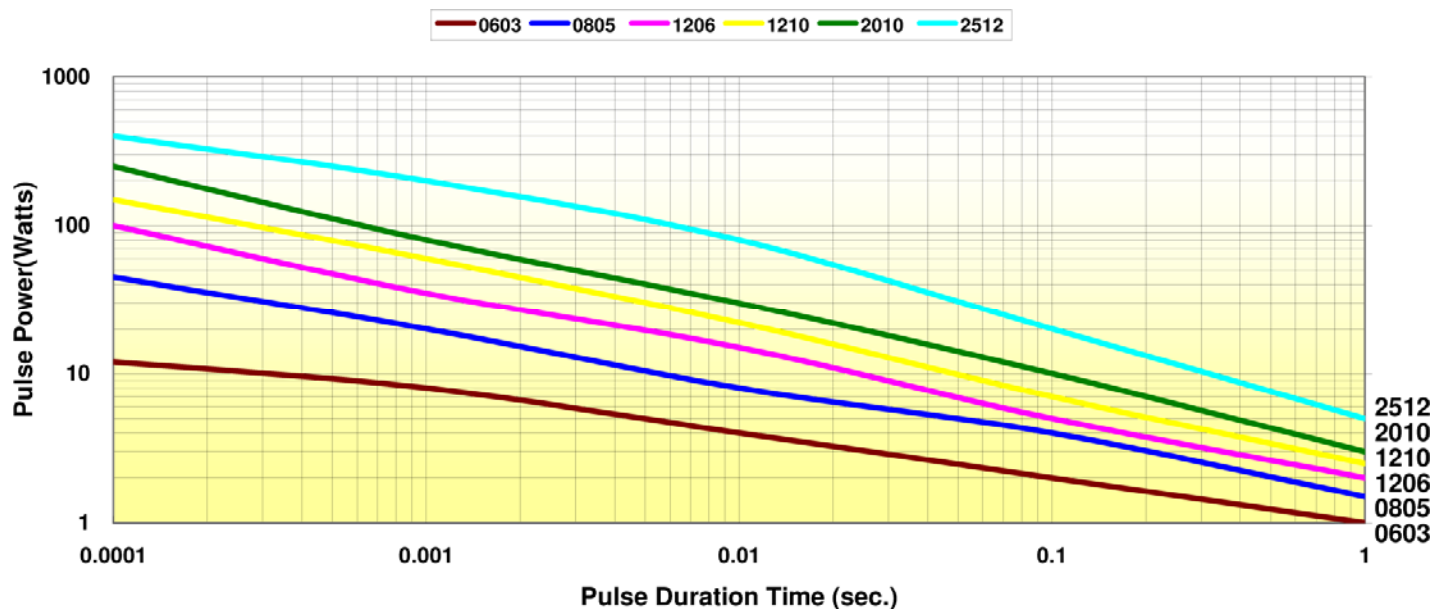
Single Pulse Power (100 Ohm) – 1%



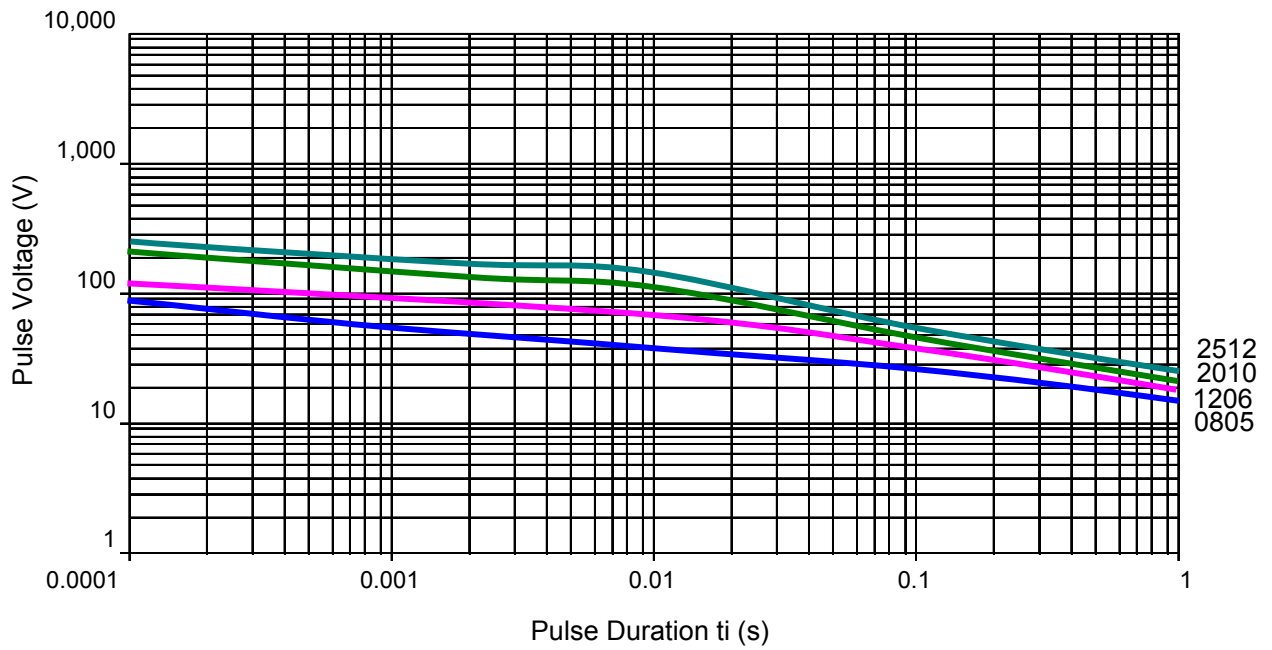
Continuous Pulse

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.

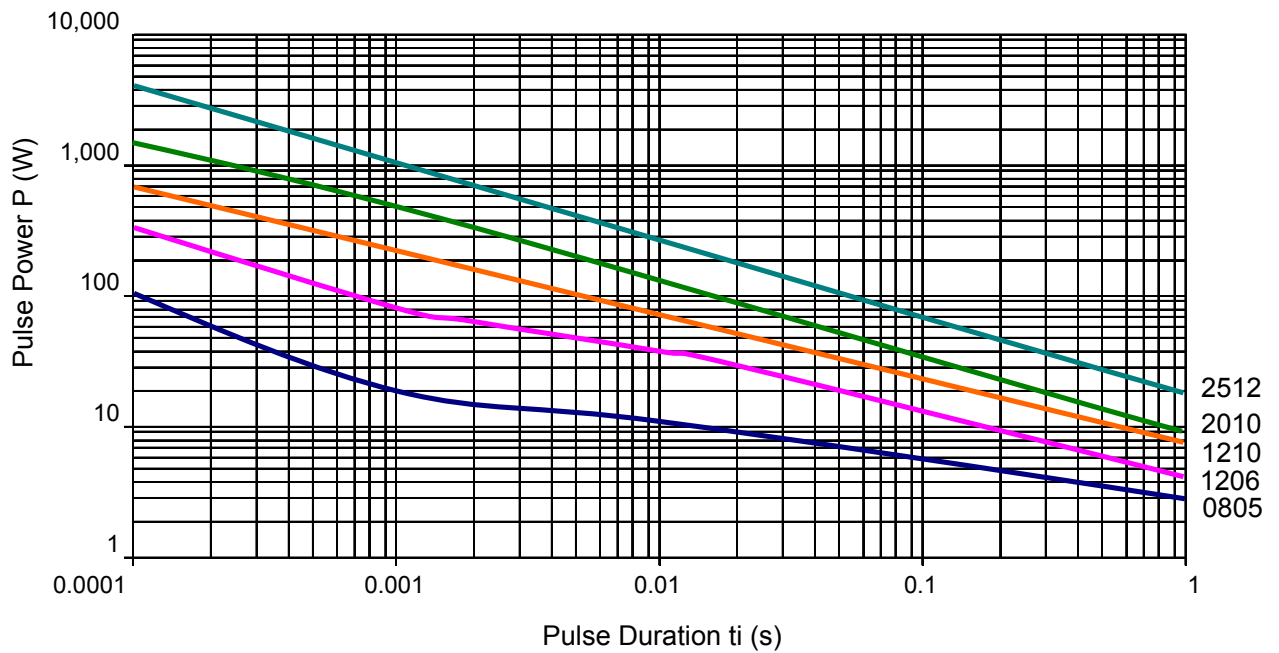
Continuous Pulse Power (100 Ohm) – 1%



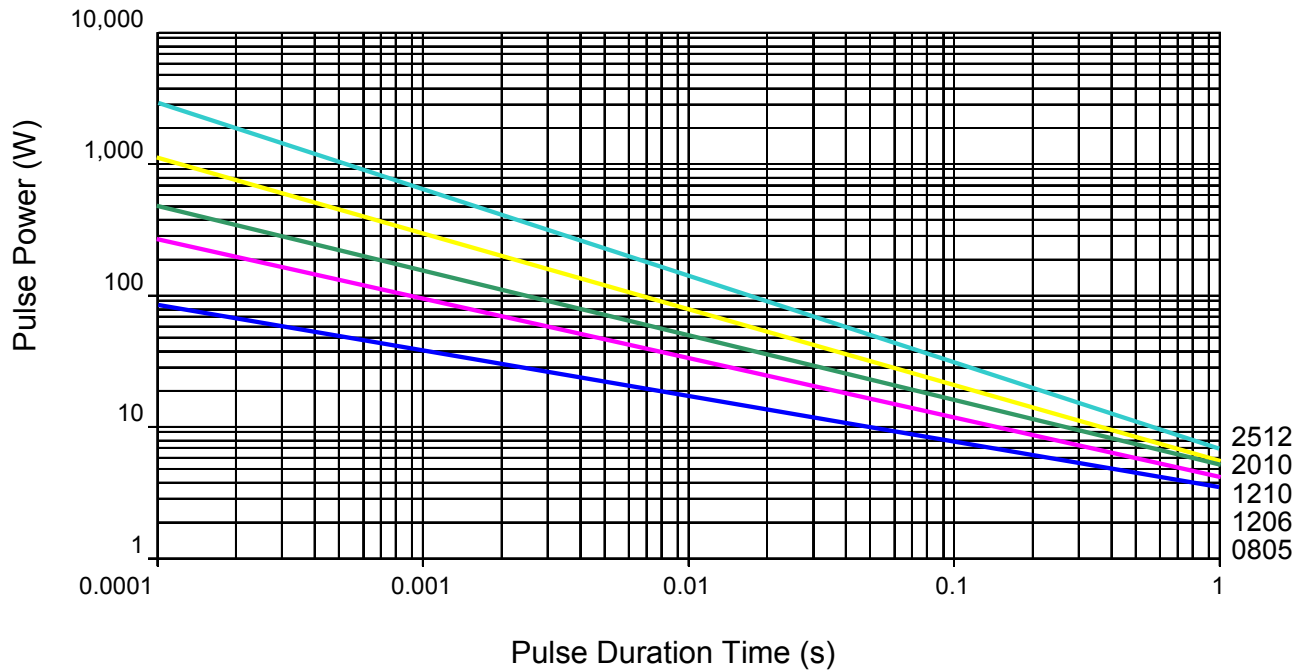
Single Pulse Voltage (100 Ohm) – 1%



Single Pulse Power (100 Ohm) – 5%



Continuous Pulse Power (100 Ohm) – 5%



How to Order

1 2 3 4 5 6 7 8 9 10 11 12 13

R P C 0 8 0 5 J T 1 0 M 0

| Product Series | | Size | Power | Tolerance | | | Packaging | | | Resistance Value | |
|----------------|--------------------|------|-------|-----------|-----|-------|-----------|------------------------|------------------------------|------------------|--|
| RPC | Pulse Withstanding | 0603 | 0.1W | Code | Tol | Value | Code | Description | Size | Quantity | Four characters with the multiplier used as the decimal holder. 300 ohm = 300R 10.2 Kohm = 10K2 1 Mohm = 1M00 |
| | | 0805 | 0.25W | F | 1% | E96 | T | 7" Reel Paper Tape | 0603 0805 1206 1210 | 5,000 | |
| | | 1206 | 0.33W | J | 5% | E24 | | | | | |
| | | 1210 | 0.5W | K | 10% | | | | | | |
| | | 2010 | 0.75W | M | 20% | | G | 10" Reel Paper Tape | 0805 1206 | 10,000 | |
| | | 2512 | 1.5W | | | | | | | | |

Legacy Part Number (before January 3, 2011):

| SEI Type | Code | Nominal Resistance | Tolerance | Packaging |
|------------|-------------|--------------------|-----------|-----------|
| RPC | 0805 | 10M | 5% | R |

| Type | Description | Code | Wattage |
|------|--------------------|------|---------|
| RPC | Pulse Withstanding | 0603 | 0.1W |
| | | 0805 | 0.25W |
| | | 1206 | 0.33W |
| | | 1210 | 0.5W |
| | | 2010 | 0.75W |
| | | 2512 | 1.5W |

| Tolerance | Values |
|-----------|--------|
| 1% | E96 |
| | E24 |
| 5% | |
| 10% | E24 |
| 20% | |

| SEI Types | Pkg Qty | Description | Code |
|------------------------|---------|------------------------|------|
| 0603, 0805, 1206, 1210 | 5,000 | 7" reel - paper tape | R |
| 0805, 1206 | 10,000 | 10" reel - paper tape | G |
| 2010, 2512 | 4,000 | 7" reel - plastic tape | R |