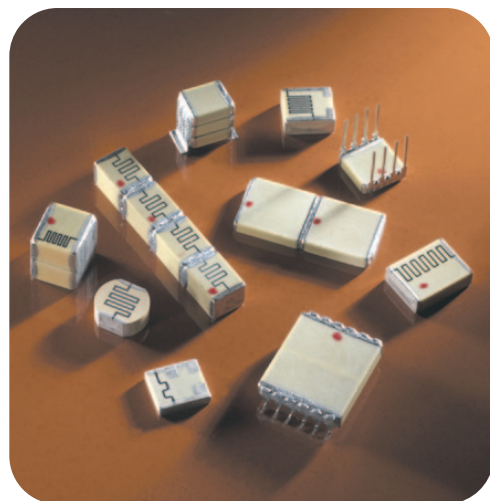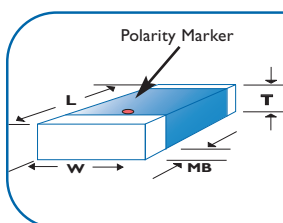# PULSED POWER CAPACITORS

NOVACAP offers a line of MLC pulsed power chip capacitors, sizes 1825, 3530, 3640, 7565, which provide exceptional discharge energy at elevated voltages. These devices are manufactured using a unique dielectric formulation which has a positive voltage coefficient and a high dielectric constant. These properties can provide over 7 joules/cc of discharge energy depending on part size, capacitance value and voltage applied, far surpassing conventional X7R or Temperature Compensating Dielectrics, permitting discharge solutions in greatly reduced component footprint and volume. Multiple units can be used in series, parallel or series-parallel arrangements for increased delivered energy. Additional case sizes, custom designed sizes, and assemblies are also available. Consult the factory. 500 Megohm and 1 Gigohm safety bleed resistors are standard, but other values are available.

Applications:

- Detonation circuitry
- Oil field exploration circuitry
- Photo flash
- Laser
- Power interruption
- Ignition circuits
- Power storage modules
- HID Ignition

These are polarized parts and polarity markers must be observed during application

DIMENSIONS

|	SIZE	3530	3640	5440	7565
DIMENSIONS INCHES (MM)	LENGTH L	.350 (8.89)	360 (9.14)	.540 (13.7)	.750 (19.1)
	WIDTH W	.300 (7.62)	.400 (10.2)	.400 (10.2)	.650 (16.5)
	T MAX.	.250 (6.35)	.200 (5.08)	.250 (6.35)	.300 (7.62)
	MB	.030 (.762)	.030 (.762)	.030 (.762)	.040 (1.02)
TOLERANCE +/- INCHES (MM)	LENGTH	.018 (.457)	.018 (.457)	.025 (.635)	.038 (.965)
	WIDTH	.015 (.381)	.020 (.508)	.025 (.635)	.033 (.838)
	MB	.015 (.381)	.015 (.381)	.015 (.381)	.020 (.508)

PULSED POWER
CAPACITANCE & VOLTAGE SELECTION*
3 digit code: two significant digits, followed by number of zeros eg: 473 = 47,000 pF

|	SIZE	3530	3640	5440	7565
MAX CAP & VOLTAGE	800V	114	154	194	584
	1000V	104	144	184	544
	1200V	953	134	174	514
	1400V	903	124	154	484
	1600V	553	703	903	294
	2000V	473	553	703	234
	2500V	403	453	603	184
	3000V	203	253	333	114

* Capacitance values at 25°C, 1vrms & 1kHz. Additional case sizes and voltages available. Listed capacitance values and performance characteristics are for reference only.

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PULSED POWER CAPACITORS
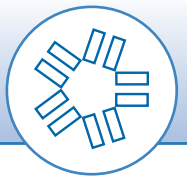
Active Energy Density Performance of Pulsed Power Capacitor Vs. X7R MLC
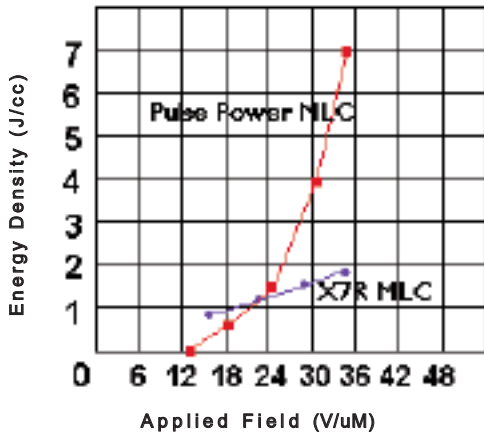
Temperature-Voltage Coefficient (3640P104K122P)
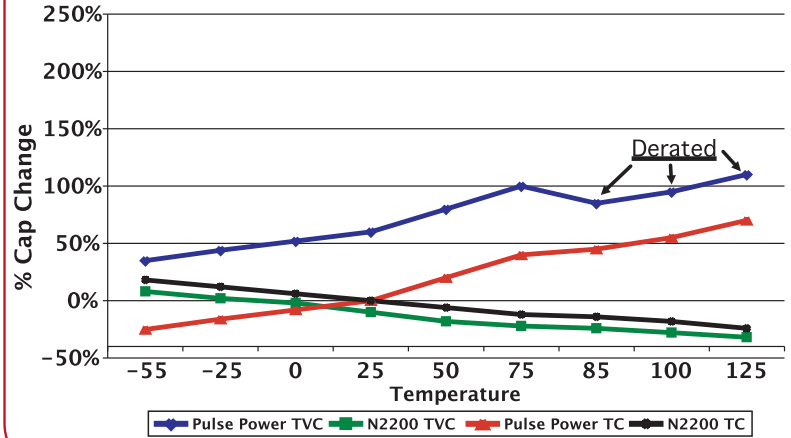
These devices require a high electric field for maximum energy storage and pulse delivery. Voltage ratings for these components are thus between 500Vdc and 2800Vdc typically, depending on application. Individual chip capacitors can also be assembled into parallel, series or series parallel arrangements for higher voltage and energy requirements. Please consult with NOVACAP to best determine part size needed to meet your application requirements.

DIELECTRIC CHARACTERISTICS

Operating Temperature Range:	-55°C to 85°C (Derate at 125°C)
Temperature Coefficient:	7000 +/- 1000 ppm/°C (+25°C to +125°C) 3000 +/- 1000 ppm/°C (-55°C to +25°C)
Dissipation Factor:	1.0 % max @ 25°C
Insulation Resistance, 25°C / 125°C	>10GΩ or >100ΩF / >1GΩ or >10ΩF
Operating Voltage:	Specification Voltage
Aging Rate:	<2% per decade
Voltage Coefficient:	+60% to +80%, based at application voltage
Energy Density:	0.5 to 7.0 joules/cc, based on voltage rating and part size

HOW TO ORDER

RC	3640	P	803	K	122	P	X	T
STYLE OPTION RC = Bleed Resistor (optional)	**SIZE** See Chart	**DIELECTRIC** P = Pulsed Power	**CAPACITANCE** Value in Picofarads Two significant figures, followed by number of zeros: 803 = 80,000 pF	**TOLERANCE** K = +/- 10 % M = +/- 20 % P = +100%/-0%	**VOLTAGE-VDCW** Two significant figures, followed by number of zeros: 122 = 1200V	**TERMINATION** P = Palladium Silver	**THICKNESS OPTION** X = Non-standard thickness. Specify in Mils. if non-standard is required. Standard items are any thickness to Maximum shown in charts.	**PACKING OPTION** T = Reeled