

Detonator and Pulse Energy capacitors



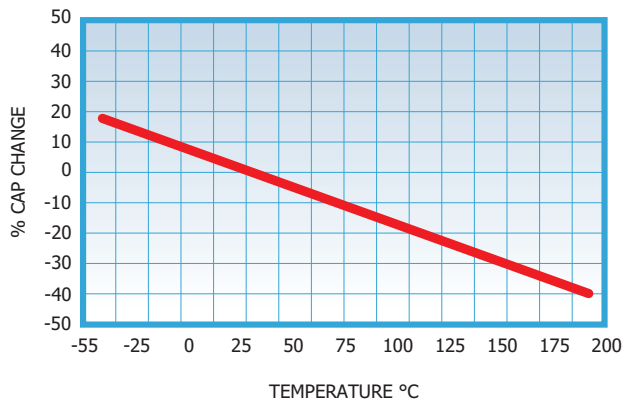
Description

These high temperature, high energy, capacitors are manufactured with a dielectric formulation designed for reliable operation under single or multiple pulse firing applications. Energy density exceeds that of conventional Class 1 materials and offers excellent short duration pulse delivery at temperatures to 200°C. Discharge pulse width which is typically less than 100 nanoseconds will vary with load conditions which are influenced by inductive and resistive load components.

All parts are 100% tested to Novacap High Reliability Pulse Screening tests and are evaluated at temperature extremes up to 200°C consistent with munitions and oil field exploration/seismic detonation conditions.

As an added safety feature, these pulse discharge capacitors can be supplied with integral bleed resistors at various resistance values. With exceptionally low ESR and low signal distortion, additional applications at high temperature include power supply filtering, energy storage and coupling/decoupling.

Temperature-capacitance coefficient



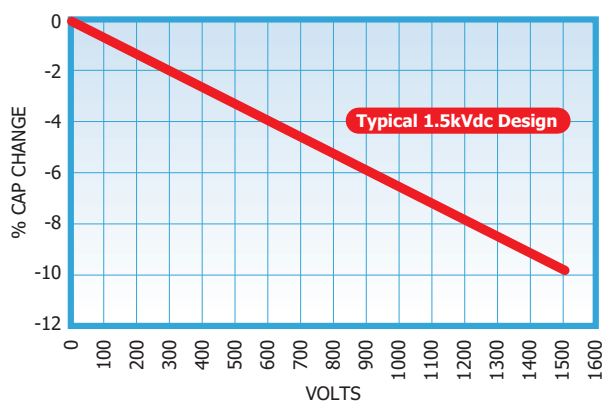
Applications

- Military detonation
- Down hole detonation
- Rocket ignition

Benefits

- Small size
- More energy in cold temperature detonation
- Low ESR
- Low Inductance

Voltage-capacitance coefficient



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Dielectric Characteristics - Pulse Energy (R)

Operating temperature range:	-55°C to 200°C
Temperature coefficient:	+25°C to +200°C -2200 ppm/°C ±500 ppm/°C +25°C to -55°C -3330 to -1700 ppm/°C
Dissipation factor @ 25°C:	0.1% Max.
Insulation resistance	@ 25°C: >100GΩ or >1000ΩF whichever is less @ 200°C: >1GΩ or >10ΩF whichever is less
Dielectric withstanding voltage:	120%
Ageing rate:	0% per decade
Test parameters:	1KHz, 1.0 ±0.2 VRMS, 25°C

Specifications - Detonator & Pulse Energy

Size	2225	3040	3640	4040	5550	6560	7565
Length L	0.220/5.59 ±0.015/0.381	0.300/7.62 ±0.015/0.381	0.360/9.15 ±0.018/0.457	0.400/10.2 ±0.020/0.508	0.550/14.0 ±0.028/0.711	0.650/16.5 ±0.033/0.838	0.750/19.1 ±0.038/0.965
Width W	0.250/6.35 ±0.015/0.381	0.400/10.2 ±0.020/0.508	0.400/10.2 ±0.020/0.508	0.400/10.2 ±0.020/0.508	0.500/12.7 ±0.025/0.635	0.600/15.2 ±0.030/0.762	0.650/16.5 ±0.033/0.838
End Band MB	0.030/0.762 ±0.015/0.381	0.030/0.762 ±0.015/0.381	0.030/0.762 ±0.015/0.381	0.040/1.02 ±0.020/0.508	0.040/1.02 ±0.020/0.508	0.040/1.02 ±0.020/0.508	0.040/1.02 ±0.020/0.508

Capacitance and Voltage Selection - Detonator & Pulse Energy

Size	2225	3040	3640	4040	5550	6560	7565	
Tmax inches: mm:	*0.150 3.81	0.250 6.35	0.200 5.08	*0.250 6.35	0.300 7.62	0.300 7.62	0.300 7.62	0.300 7.62
1kV	633	204	204	224	254	394	614	724
1.1kV	543	184	184	214	244	354	564	674
1.2kV	483	174	174	204	224	334	524	624
1.3kV	393	164	174	194	204	314	474	574
1.4kV	373	154	164	194	204	294	454	544
1.5kV	333	144	154	184	194	274	414	514
1.6kV	273	124	124	154	174	254	394	464
1.7kV	203	963	963	124	154	224	354	414
1.8kV	173	793	793	104	134	204	324	374
1.9kV	133	653	653	853	104	174	254	294
2kV	113	563	563	723	913	144	224	254
2.5kV	682	313	313	403	503	833	134	154
3kV	202	113	113	143	173	283	433	513

- Notes: 1) Maximum capacitance values are shown above as 3 digit code: 2 significant figures followed by the no. of zeros e.g. 473 = 47,000pF
 2) Capacitance values at 25°C, 1vrms and 1kHz. Additional case sizes and voltages available. Listed capacitance values and performance characteristics are for reference only.
 3) *X140, X150 or X250 needs to be in the part number for special thickness order.

How to Order - Detonator & Pulse Energy

RC	3640	R	124	K	102	P	X---	T
STYLE RC = Bleed Resistor (optional)	SIZE See chart	DIELECTRIC R = R2D	CAPACITANCE Value in Picofarads. Two significant figures, followed by number of zeros: 124 = 120,000pF	TOLERANCE J = ± 5.0% K = ± 10% M = ± 20% Z = +80-20% P = +100-0%	VOLTAGE VDCW Two significant figures, followed by number of zeros: 102 = 1000V	TERMINATION K = Palladium Silver for Lead Free Solder P = Palladium Silver	THICKNESS X140, X150 or X250 dependant on case size. See capacitance table.	PACKING T = Reeled