

Type 418P, Orange Drop[®], Polyester Film/Foil Capacitors

Type 418P Orange Drop[®] Round Profile Polyester Film/Foil Capacitors

Features

- Radial-lead. Round profile.
- Non-inductively wound, extended foil construction.
- Ratings up to 1000 Volts DC.



Specifications

Capacitance Range:

.001 to 1.0 μF

Capacitance Tolerance:

$\pm 5\%$, $\pm 10\%$, $\pm 20\%$

Voltage Ratings:

100 to 1000 Volts DC

Operating Temperature Range:

-55°C to $+85^{\circ}\text{C}$ (at full voltage)

Voltage Derating:

At $+105^{\circ}\text{C}$, 70% of $+85^{\circ}\text{C}$ rating.

At $+125^{\circ}\text{C}$, 50% of $+85^{\circ}\text{C}$ rating.

Lead Wire:

Tinned copper-clad steel,
.032 (0.8) diameter, #20 AWG

Insulation Resistance:

At $+25^{\circ}\text{C}$: 100,000 $\text{M}\Omega$ for $C \leq .25 \mu\text{F}$

25,000 $\text{M}\Omega\text{-}\mu\text{F}$ for $C > .25 \mu\text{F}$

At $+85^{\circ}\text{C}$: 10,000 $\text{M}\Omega$ for $C \leq .15 \mu\text{F}$

1,500 $\text{M}\Omega\text{-}\mu\text{F}$ for $C > .15 \mu\text{F}$

At $+105^{\circ}\text{C}$: 1,500 $\text{M}\Omega$ for $C \leq .17 \mu\text{F}$

250 $\text{M}\Omega\text{-}\mu\text{F}$ for $C > .17 \mu\text{F}$

At $+125^{\circ}\text{C}$: 200 $\text{M}\Omega$ for $C \leq .13 \mu\text{F}$

25 $\text{M}\Omega\text{-}\mu\text{F}$ for $C > .13 \mu\text{F}$

Dissipation Factor:

0.75% Maximum @ 1 KHz, $+25^{\circ}\text{C}$

Encapsulation:

Conformal coating of orange, flame retardant epoxy. Meets UL94V-0 specifications.

Dielectric/Construction:

Polyester film, single section design.
Non-inductively wound with extended aluminum foil.

Type 418P, Orange Drop[®], Polyester Film/Foil Capacitors

General Specifications

The Type 418P Orange Drop[®] is designed and manufactured for operation in a wide range of demanding environments and applications. Type 418P capacitors are wound from the most reliable polyester film and aluminum foil available and are protected by a rugged conformal coating of orange epoxy. They may be operated up to +125°C with proper derating.

The 418P series finds use in many commercial and industrial applications, from power supplies and audio amplifiers to welding equipment and ultrasonics.

Operating Temperature Range:

The standard operating temperature range for polyester film is -55°C to +85°C. The 418P may be operated at full voltage within this temperature range.

The 418P may be operated up to +105°C provided the DC working voltage is reduced to 70% of the +85°C rating (full rating), and up to +125°C with a 50% reduction from the +85°C rating (full rating).

For more specific details regarding operation above +85°C please contact our design engineering department.

The maximum operating temperature for the 418P polyester film capacitor is +125°C.

Dielectric Withstanding Voltage:

Units rated below 1000 VDC shall withstand a DC potential of 250% of rated voltage applied between terminals for not more than 5 seconds. Units rated at 1000 VDC shall withstand a DC potential of 200% of rated voltage applied between terminals for not more than 5 seconds.

Lead Bend Test:

After 3 consecutive 180° bends. No damage.

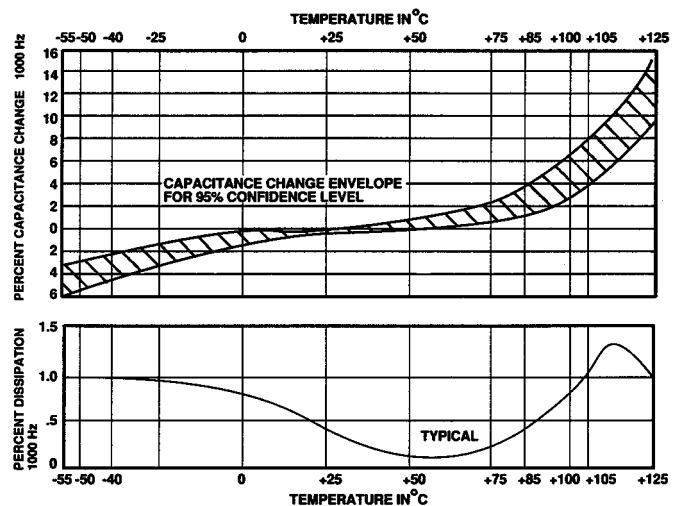
Humidity Testing:

Units subjected to 95% relative humidity for 72 hours with no voltage applied at +75°C. After 4 hours of drying minimum product of insulation resistance and capacitance shall be 5,000 MΩ-μF

DC Voltage Life Test:

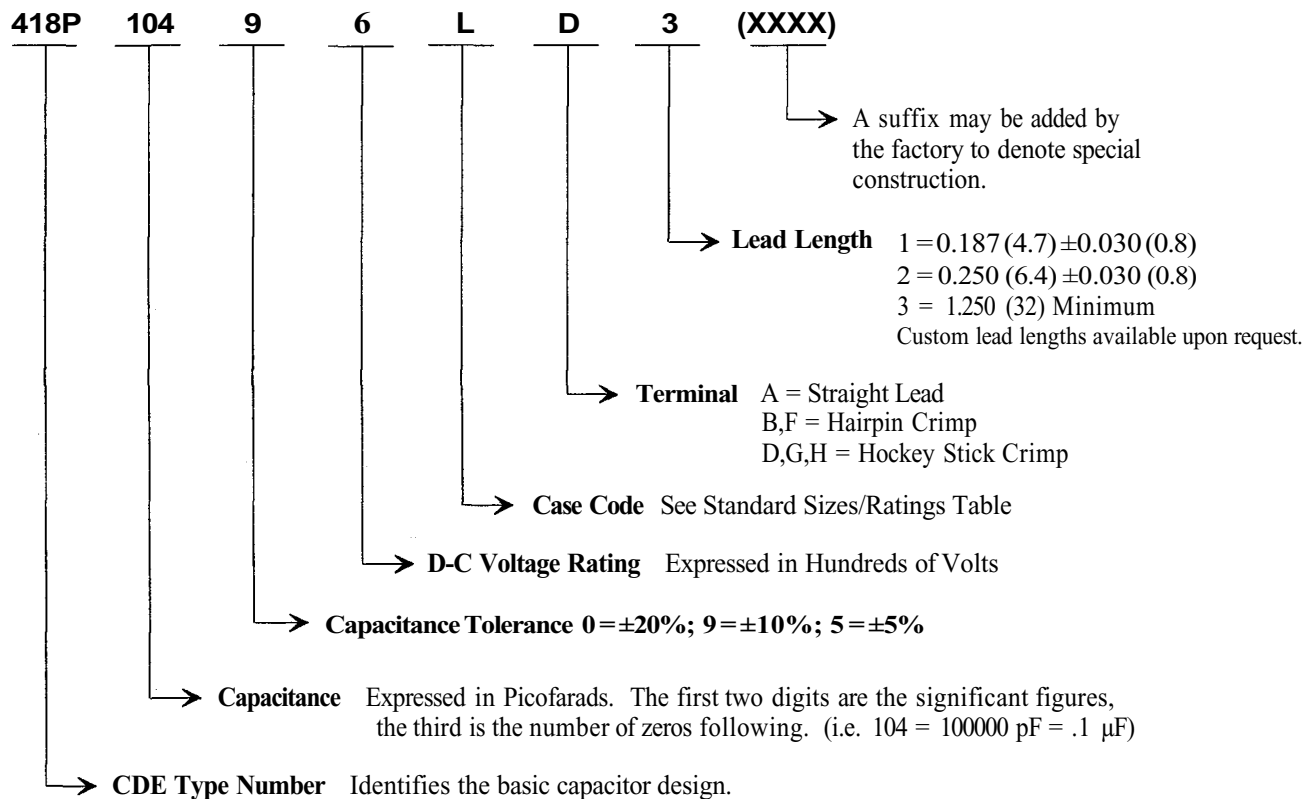
500 hours at +85°C at 150% of rated voltage. After test; capacitance shall not have changed by more than ±5% of initial value, insulation resistance shall not have decreased by more than 50% of initial value and dissipation factor shall not have increased to more than 1.0%. In addition, there should be no open or short circuits, and no sign of visible damage.

Typical Temperature Characteristics:



Type 418P, Orange Drop[®], Polyester Film/Foil Capacitors

Ordering/Part Number Information



Standard Marking Format

Sample Marking on unit

CDE418P600V
104K 9810

Description

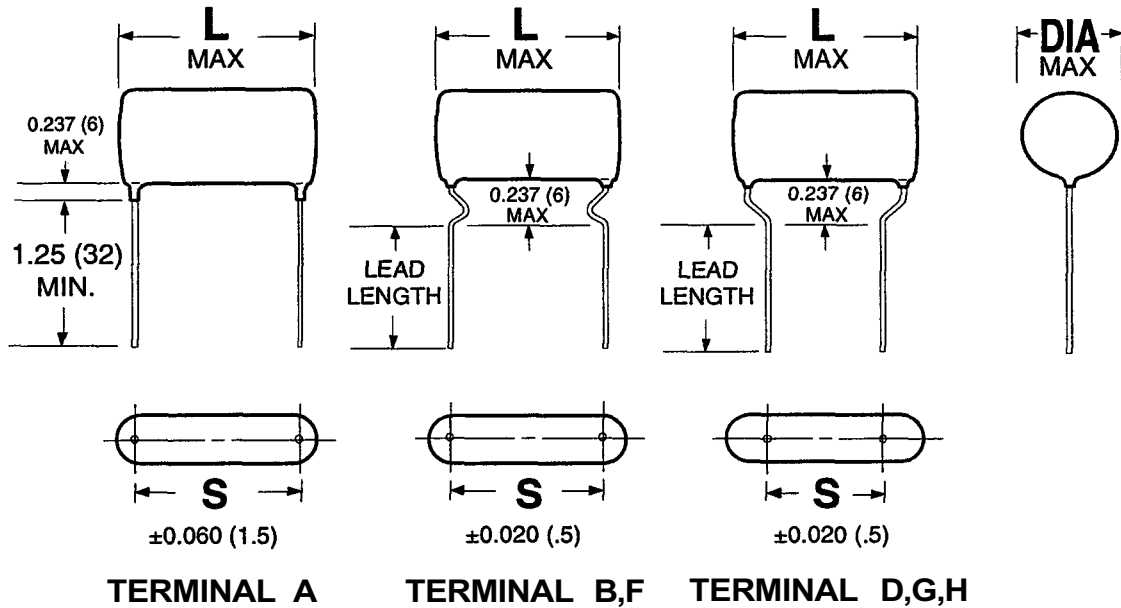
CDE - CDE Electronics identification
418P - Type number
600V - D-C Voltage rating, Volts
104K - Capacitance and tolerance code
9810 - Weekly date code
(i.e. 10th week of 1998)

Tolerance codes per EIA Standards

J ±5%
K ±10%
M ±20%

Type 418P, Orange Drop[®], Polyester Film/Foil Capacitors

Standard Lead Styles



Standard Lead Spacings

| CASE CODE | S | | | | | |
|-----------|--------------|--------------|--------------|--------------|--------------|-------------|
| | Term. A | Term. B | Term. D | Term. F | Term. G | Term. H |
| J | 0.500 (12.7) | 0.500 (12.7) | 0.375 (9.5) | 0.394 (10) | 0.295 (7.5) | 0.197 (5) |
| K | 0.688 (17.5) | 0.688 (17.5) | 0.375 (9.5) | 0.590 (15) | 0.394 (10) | 0.295 (7.5) |
| L | 0.969 (24.6) | 0.969 (24.6) | 0.719 (18.3) | 0.886 (22.5) | 0.590 (15) | --- |
| M | 1.344 (34.1) | 1.344 (34.1) | 1.094 (27.8) | --- | 1.083 (27.5) | --- |

Type 418P, Orange Drop[®], Polyester Film/Foil Capacitors

Type 418P Standard Sizes/Ratings²

| Value, μ F | Part Number ¹ | LMAX | DIA MAX | Value, μ F | Part Number ¹ | L MAX | DIA MAX |
|----------------|--------------------------|-------------|------------|----------------|--------------------------|-------------|------------|
| 100 VDC | | | | 400 VDC | | | |
| .027 | 418P27391J | .70 (17.8) | .35 (8.9) | .001 | 418P10294J | .70 (17.8) | .30 (7.6) |
| .033 | 418P33391J | .70 (17.8) | .35 (8.9) | .0012 | 418P12294J | .70 (17.8) | .30 (7.6) |
| .039 | 418P39391J | .70 (17.8) | .35 (8.9) | .0015 | 418P15294J | .70 (17.8) | .30 (7.6) |
| .047 | 418P47391J | .70 (17.8) | .35 (8.9) | .0018 | 418P18294J | .70 (17.8) | .30 (7.6) |
| .056 | 418P56391J | .70 (17.8) | .35 (8.9) | .0022 | 418P22294J | .70 (17.8) | .30 (7.6) |
| .068 | 418P68391J | .70 (17.8) | .35 (8.9) | .0027 | 418P27294J | .70 (17.8) | .30 (7.6) |
| .082 | 418P82391K | .90 (22.9) | .40 (10.2) | .0033 | 418P33294J | .70 (17.8) | .30 (7.6) |
| .1 | 418P10491K | .90 (22.9) | .40 (10.2) | .0039 | 418P39294J | .70 (17.8) | .30 (7.6) |
| .12 | 418P12491K | .90 (22.9) | .45 (11.4) | .0047 | 418P47294J | .70 (17.8) | .30 (7.6) |
| .15 | 418P15491K | .90 (22.9) | .45 (11.4) | .0056 | 418P56294J | .70 (17.8) | .33 (8.4) |
| .18 | 418P18491L | 1.20 (30.5) | .45 (11.4) | .0068 | 418P68294J | .70 (17.8) | .33 (8.4) |
| .22 | 418P22491L | 1.20 (30.5) | .45 (11.4) | .0082 | 418P82294J | .70 (17.8) | .35 (8.9) |
| .27 | 418P27491L | 1.20 (30.5) | .50 (12.7) | .01 | 418P10394J | .70 (17.8) | .35 (8.9) |
| .33 | 418P33491L | 1.20 (30.5) | .50 (12.7) | .012 | 418P12394J | .70 (17.8) | .35 (8.9) |
| .39 | 418P39491M | 1.60 (40.6) | .50 (12.7) | .015 | 418P15394J | .70 (17.8) | .38 (9.7) |
| .47 | 418P47491M | 1.60 (40.6) | .50 (12.7) | .018 | 418P18394K | .90 (22.9) | .38 (9.7) |
| .56 | 418P56491M | 1.60 (40.6) | .60 (15.2) | .022 | 418P22394K | .90 (22.9) | .38 (9.7) |
| .68 | 418P68491M | 1.60 (40.6) | .60 (15.2) | .027 | 418P27394K | .90 (22.9) | .40 (10.2) |
| .82 | 418P82491M | 1.60 (40.6) | .65 (16.5) | .033 | 418P33394K | .90 (22.9) | .40 (10.2) |
| 1.0 | 418P10591M | 1.60 (40.6) | .70 (17.8) | .039 | 418P39394L | 1.20 (30.5) | .40 (10.2) |
| 200 VDC | | | | .047 | 418P47394L | 1.20 (30.5) | .40 (10.2) |
| .0056 | 418P56292J | .70 (17.8) | .33 (8.4) | .056 | 418P56394L | 1.20 (30.5) | .45 (11.4) |
| .0068 | 418P68292J | .70 (17.8) | .33 (8.4) | .068 | 418P68394L | 1.20 (30.5) | .45 (11.4) |
| .0082 | 418P82292J | .70 (17.8) | .33 (8.4) | .082 | 418P82394L | 1.20 (30.5) | .52 (13.2) |
| .01 | 418P10392J | .70 (17.8) | .33 (8.4) | .1 | 418P10494L | 1.20 (30.5) | .52 (13.2) |
| .012 | 418P12392J | .70 (17.8) | .33 (8.4) | .12 | 418P12494L | 1.20 (30.5) | .55 (14.0) |
| .015 | 418P15392J | .70 (17.8) | .33 (8.4) | .15 | 418P15494L | 1.20 (30.5) | .57 (14.5) |
| .018 | 418P18392J | .70 (17.8) | .33 (8.4) | .18 | 418P18494M | 1.60 (40.6) | .60 (15.2) |
| .022 | 418P22392J | .70 (17.8) | .33 (8.4) | .22 | 418P22494M | 1.60 (40.6) | .60 (15.2) |
| .027 | 418P27392J | .70 (17.8) | .35 (8.9) | .27 | 418P27494M | 1.60 (40.6) | .65 (16.5) |
| .033 | 418P33392K | .90 (22.9) | .38 (9.7) | .33 | 418P33494M | 1.60 (40.6) | .65 (16.5) |
| .039 | 418P39392K | .90 (22.9) | .38 (9.7) | .39 | 418P39494M | 1.60 (40.6) | .72 (18.3) |
| .047 | 418P47392K | .90 (22.9) | .38 (9.7) | .47 | 418P47494M | 1.60 (40.6) | .80 (20.3) |
| .056 | 418P56392L | 1.20 (30.5) | .38 (9.7) | | | | |
| .068 | 418P68392L | 1.20 (30.5) | .38 (9.7) | | | | |
| .082 | 418P82392L | 1.20 (30.5) | .40 (10.2) | | | | |
| .1 | 418P10492L | 1.20 (30.5) | .40 (10.2) | | | | |
| .12 | 418P12492L | 1.20 (30.5) | .45 (11.4) | | | | |
| .15 | 418P15492L | 1.20 (30.5) | .45 (11.4) | | | | |
| .18 | 418P18492L | 1.20 (30.5) | .50 (12.7) | | | | |
| .22 | 418P22492L | 1.20 (30.5) | .50 (12.7) | | | | |
| .27 | 418P27492M | 1.60 (40.6) | .47 (11.9) | | | | |
| .33 | 418P33492M | 1.60 (40.6) | .47 (11.9) | | | | |
| .39 | 418P39492M | 1.60 (40.6) | .50 (12.7) | | | | |
| .47 | 418P47492M | 1.60 (40.6) | .55 (14.0) | | | | |

1. To complete part number for specific tolerance, terminal style and lead length please refer to Ordering/Part Number Information

² page. The 418P series is available through the CDE Distribution Network on special order.

Dimensions in inches, metric (mm) in parenthesis.

Type 418P, Orange Drop[®], Polyester Film/Foil Capacitors

Type 418P Standard Sizes/Ratings²

| Value, μ F | Part Number ¹ | LMAX | DIA MAX | Value, μ F | Part Number ¹ | L MAX | DIA MAX |
|----------------|--------------------------|-------------|------------|-----------------|--------------------------|-------------|------------|
| 600 VDC | | | | 1000 VDC | | | |
| .001 | 418P10296J | .70 (17.8) | .30 (7.6) | .001 | 418P102910J | .70 (17.8) | .33 (8.4) |
| .0012 | 418P12296J | .70 (17.8) | .33 (8.4) | .0012 | 418P122910J | .70 (17.8) | .33 (8.4) |
| .0015 | 418P15296J | .70 (17.8) | .33 (8.4) | .0015 | 418P152910J | .70 (17.8) | .33 (8.4) |
| .0018 | 418P18296J | .70 (17.8) | .33 (8.4) | .0018 | 418P182910J | .70 (17.8) | .35 (8.9) |
| .0022 | 418P22296J | .70 (17.8) | .33 (8.4) | .0022 | 418P222910J | .70 (17.8) | .35 (8.9) |
| .0027 | 418P27296J | .70 (17.8) | .35 (8.9) | .0027 | 418P272910K | .90 (22.9) | .35 (8.9) |
| .0033 | 418P33296J | .70 (17.8) | .35 (8.9) | .0033 | 418P332910K | .90 (22.9) | .35 (8.9) |
| .0039 | 418P39296J | .70 (17.8) | .38 (9.7) | .0039 | 418P392910K | .90 (22.9) | .38 (9.7) |
| .0047 | 418P47296J | .70 (17.8) | .38 (9.7) | .0047 | 418P472910K | .90 (22.9) | .40 (10.2) |
| .0056 | 418P56296J | .70 (17.8) | .40 (10.2) | .0056 | 418P562910K | .90 (22.9) | .43 (10.9) |
| .0068 | 418P68296J | .70 (17.8) | .40 (10.2) | .0068 | 418P682910K | .90 (22.9) | .43 (10.9) |
| .0082 | 418P82296K | .90 (22.9) | .40 (10.2) | .0082 | 418P822910K | .90 (22.9) | .48 (12.2) |
| .01 | 418P10396K | .90 (22.9) | .40 (10.2) | .01 | 418P103910K | .90 (22.9) | .48 (12.2) |
| .012 | 418P12396K | .90 (22.9) | .40 (10.2) | .012 | 418P123910L | 1.20 (30.5) | .48 (12.2) |
| .015 | 418P15396K | .90 (22.9) | .40 (10.2) | .015 | 418P153910L | 1.20 (30.5) | .48 (12.2) |
| .018 | 418P18396K | .90 (22.9) | .45 (11.4) | .018 | 418P183910L | 1.20 (30.5) | .58 (14.7) |
| .022 | 418P22396K | .90 (22.9) | .45 (11.4) | .022 | 418P223910L | 1.20 (30.5) | .58 (14.7) |
| .027 | 418P27396L | 1.20 (30.5) | .45 (11.4) | .027 | 418P273910L | 1.20 (30.5) | .65 (16.5) |
| .033 | 418P33396L | 1.20 (30.5) | .45 (11.4) | .033 | 418P333910L | 1.20 (30.5) | .65 (16.5) |
| .039 | 418P39396L | 1.20 (30.5) | .55 (14.0) | .039 | 418P393910M | 1.60 (40.6) | .65 (16.5) |
| .047 | 418P47396L | 1.20 (30.5) | .55 (14.0) | .047 | 418P473910M | 1.60 (40.6) | .65 (16.5) |
| .056 | 418P56396L | 1.20 (30.5) | .60 (15.2) | .056 | 418P563910M | 1.60 (40.6) | .75 (19.1) |
| .068 | 418P68396L | 1.20 (30.5) | .60 (15.2) | .068 | 418P683910M | 1.60 (40.6) | .75 (19.1) |
| .082 | 418P82396L | 1.20 (30.5) | .65 (16.5) | .082 | 418P823910M | 1.60 (40.6) | .85 (21.6) |
| .1 | 418P10496L | 1.20 (30.5) | .65 (16.5) | .1 | 418P104910M | 1.60 (40.6) | .85 (21.6) |
| .12 | 418P12496M | 1.60 (40.6) | .70 (17.8) | | | | |
| .15 | 418P15496M | 1.60 (40.6) | .70 (17.8) | | | | |
| .18 | 418P18496M | 1.60 (40.6) | .80 (20.3) | | | | |
| .22 | 418P22496M | 1.60 (40.6) | .80 (20.3) | | | | |
| .25 | 418P25496M | 1.60 (40.6) | .80 (20.3) | | | | |

¹ To complete part number for specific tolerance, terminal style and lead length please refer to Ordering/Part Number Information page.

² The 418P series is available through the CDE Distribution Network on special order.

Dimensions in inches, metric (mm) in parenthesis.

Type 418P, Orange Drop[®], Polyester Film/Foil Capacitors

dV/dt Specifications

Maximum Pulse Rise Time (dV/dt) in Volts/μsec

| Cap Value (μF) | 100V | 200V | 400V | 600V | 1000V |
|----------------|------|------|-------|-------|-------|
| .001 | | | | 22100 | 22700 |
| .0012 | | | | 20200 | 20800 |
| .0015 | | | | 18100 | 18600 |
| .0018 | | | | 16500 | 17000 |
| .0022 | | | | 14900 | 15300 |
| .0027 | | | | 13500 | 13800 |
| .0033 | | | 11000 | 12200 | 12500 |
| .0039 | | | 10100 | 11200 | 11500 |
| .0047 | | | 9200 | 10200 | 10500 |
| .0056 | | 5900 | 8400 | 9300 | 9000 |
| .0068 | | 5400 | 7600 | 8500 | 8200 |
| .0082 | | 4900 | 6900 | 7200 | 7400 |
| .01 | | 4500 | 6300 | 6600 | 6700 |
| .012 | | 4100 | 5700 | 6000 | 5700 |
| .015 | | 3600 | 5100 | 5400 | 5100 |
| .018 | | 3300 | 4400 | 4900 | 4700 |
| .022 | | 3000 | 4000 | 4400 | 4200 |
| .027 | 2000 | 2700 | 3600 | 3700 | 3800 |
| .033 | 1800 | 2400 | 3200 | 3300 | 3400 |
| .039 | 1700 | 2100 | 2800 | 3100 | 2900 |
| .047 | 1500 | 1900 | 2500 | 2800 | 2700 |
| .056 | 1400 | 1800 | 2300 | 2600 | 2400 |
| .068 | 1300 | 1500 | 2100 | 2300 | 2200 |
| .082 | 1100 | 1400 | 1900 | 2100 | 2000 |
| .1 | 1000 | 1200 | 1700 | 1900 | 1800 |
| .12 | 900 | 1100 | 1600 | 1600 | |
| .15 | 800 | 1000 | 1400 | 1500 | |
| .18 | 700 | 900 | 1200 | 1300 | |
| .22 | 600 | 800 | 1100 | 1200 | |
| .25 | 600 | 800 | 1000 | 1100 | |
| .27 | 600 | 700 | 1000 | 1100 | |
| .33 | 500 | 600 | 900 | | |
| .39 | 400 | 600 | 800 | | |
| .47 | 400 | 500 | 700 | | |
| .56 | 400 | | | | |
| .68 | 300 | | | | |
| .82 | 300 | | | | |
| 1.0 | 300 | | | | |

Note: dV/dt ratings based on measurements made at the junction of the wire leads and capacitor body

Dimensions in inches, metric (mm) in parenthesis.

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Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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