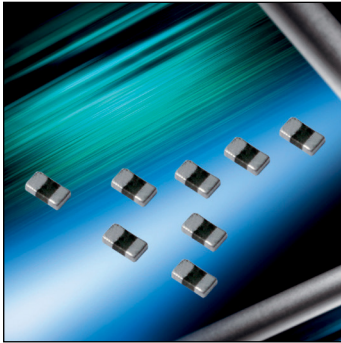


Antenna PowerGuard

AVX Low Capacitance Varistors

ESD Protection for Circuits Sensitive to Capacitance



GENERAL DESCRIPTION

AVX Antenna PowerGuard products are an ultra low capacitance extension of reliable AntennaGuard range with new voltage, capacitance and energy ratings. Designed for use in RF circuits, sensors, high-speed lines, optic circuits and capacitance sensitive applications.

The ability to handle larger transients makes the Antenna PowerGuard series useful in applications where capacitance sensitive circuit needs to be protected against higher energy and AEC-Q200 qualification allows for use in automotive applications.

These low capacitance values have low insertion loss, low leakage current and unsurpassed reliability compared to diode options. These advantages combined with size advantages and bi-directional protection make the Antenna PowerGuard the right choice for automotive and general applications, that are sensitive to capacitance.

GENERAL CHARACTERISTICS

- Operating Temperature: -55°C to +125°C
- Case Size: 0402, 0603
- Working Voltage: 18 - 70Vdc
- Capacitance: 1.5 - 3.3pF
- Energy: 0.02 - 0.04J
- Peak Current: 1 - 3A

FEATURES

- AEC-Q200 Qualified
- 25kV ESD rating
- Meet 48Vdc Jump Start requirements
- Multi-strike capability
- Sub 1nS response to ESD strike

APPLICATIONS

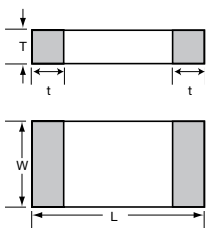
- RF Circuit
- Sensors
- Antennas
- Data lines
- Radars
- Bluetooth
- Ethernet (IEEE 802.3bw and IEEE 802.3bp)
- VCAS06AP303R3LAT

HOW TO ORDER

| VC | AS | 06 | AP | 18 | 1R5 | D | A | T | 1 | A |
|----------------------|----------------------------------|--|-------------|--|--|--|------------|--|--|---|
| Varistor Chip | Series AS = Automotive | Case Size 04 = 0402 06 = 0603 | Type | Working Voltage 18 = 18Vdc 24 = 24Vdc 30 = 30Vdc 60 = 60Vdc 70 = 70Vdc | Capacitance 2R0 = 2pF 3R0 = 3pF 120 = 12pF | Non-Std' Cap Tol D = ±0.5pF L = ±1.0pF K = ±0.15pF | N/A | Termination T = Ni/Sn Plated | Reel Size 0 = 7" reel* 3 = 13" reel* W = 7" reel** | Reel Quantity A = 4K or 10K pcs (i.e.: 1A = 4,000 3A = 10,000 WA = 10,000) |

* for 0603
** for 0402

PHYSICAL DIMENSIONS: MM (INCHES)



| Size (EIA) | Length (L) | Width (W) | Max Thickness (T) | Land Length (t) |
|------------|----------------------------|----------------------------|-------------------|----------------------------|
| 0402 | 1.00±0.10 (0.040±0.004) | 0.50±0.10 (0.020±0.004) | 0.60 (0.024) | 0.25±0.15 (0.010±0.006) |
| 0603 | 1.60±0.15 (0.063±0.006) | 0.80±0.15 (0.031±0.006) | 0.90 (0.035) | 0.35±0.15 (0.014±0.006) |



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ESD Protection for Circuits Sensitive to Capacitance



ELECTRIAL CHARACTERISTICS

| AVX Part Number | V _w (DC) | V _w (AC) | V _B | V _C | I _L | E _T | I _p | Cap | Cap Tolerance | V _{Jump} | Case Size |
|------------------|---------------------|---------------------|----------------|----------------|----------------|----------------|----------------|-----|---------------|-------------------|-----------|
| VCAS04AP181R5DAT | 18 | 13 | 150-210 | 350 | 0.1 | 0.02 | 1 | 1.5 | ±0.5pF | 48 | 0402 |
| VCAS04AP182R0LAT | 18 | 13 | 80-140 | 300 | 0.1 | 0.02 | 1 | 2.0 | ±1.0pF | 48 | 0402 |
| VCAS06AP181R5DAT | 18 | 13 | 150-200 | 375 | 0.1 | 0.02 | 1 | 1.5 | ±0.5pF | 48 | 0603 |
| VCAS06AP182R0LAT | 18 | 13 | 150-200 | 350 | 0.1 | 0.03 | 2 | 2.0 | ±1.0pF | 48 | 0603 |
| VCAS06AP243R3LAT | 24 | 17 | 90-150 | 240 | 0.1 | 0.04 | 3 | 3.3 | ±1.0pF | 48 | 0603 |
| VCAS04AP301R5KAT | 30 | 21 | 150-210 | 350 | 0.1 | 0.02 | 1 | 1.5 | ±0.15pF | 48 | 0402 |
| VCAS04AP301R5DAT | 30 | 21 | 150-210 | 350 | 0.1 | 0.02 | 1 | 1.5 | ±0.5pF | 48 | 0402 |
| VCAS06AP302R0LAT | 30 | 21 | 150-200 | 350 | 0.1 | 0.03 | 2 | 2.0 | ±1.0pF | 48 | 0603 |
| VCAS06AP303R3LAT | 30 | 21 | 90-150 | 240 | 0.1 | 0.04 | 3 | 3.3 | ±1.0pF | 48 | 0603 |
| VCAS04AP601R5DAT | 60 | 42 | 150-210 | 350 | 0.1 | 0.02 | 1 | 1.5 | ±0.5pF | 48 | 0402 |
| VCAS06AP602R0LAT | 60 | 42 | 150-200 | 350 | 0.1 | 0.03 | 2 | 2.0 | ±1.0pF | 48 | 0603 |
| VCAS04AP701R5DAT | 70 | 52 | 150-210 | 350 | 0.1 | 0.02 | 1 | 1.5 | ±0.5pF | 48 | 0402 |

V_w (DC) DC Working Voltage [V] VB

V_w (AC) AC Working Voltage [V]

V_B Breakdown Voltage [V @ 1mA_{DC}]

V_C Clamping Voltage [V @ 1A]

I_L Maximum leakage current at the working voltage [μA]

E_T Transient Energy Rating [J, 10x1000μS]

I_p Peak Current Rating [A, 8x20μS]

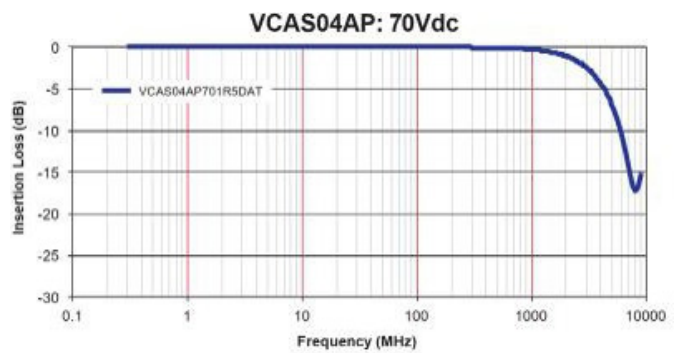
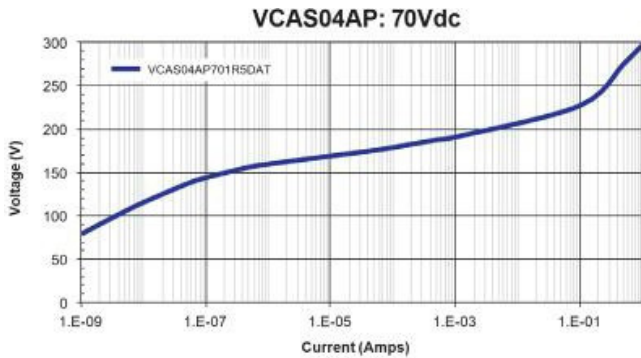
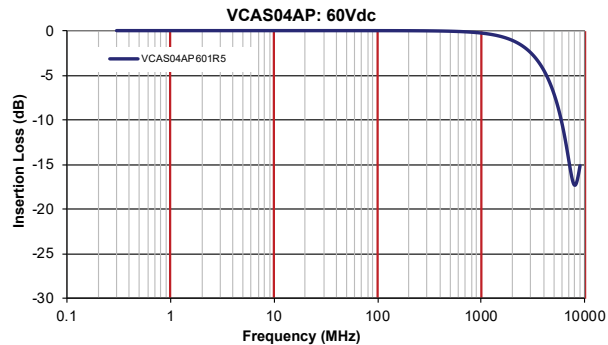
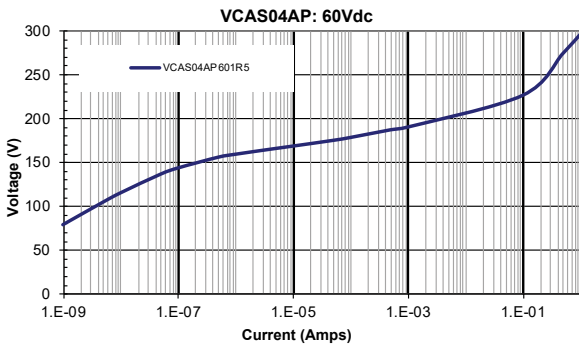
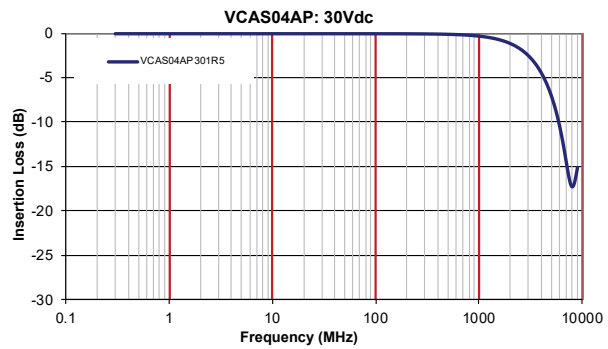
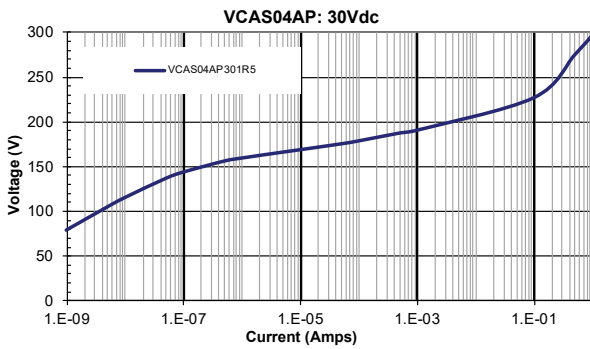
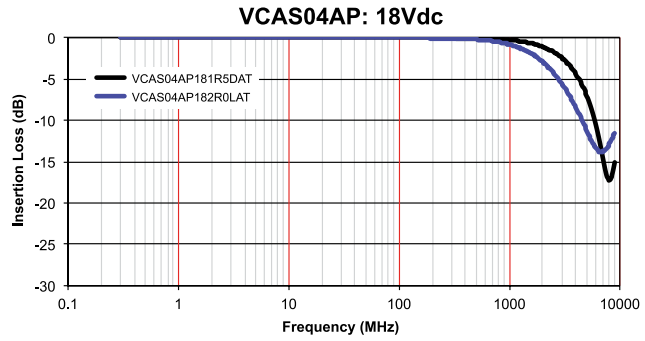
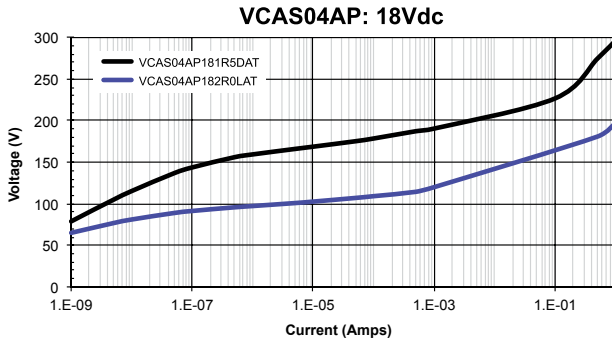
Cap Capacitance [pF] @ 1MHz specified and 0.5VRMS

Cap Tol Capacitance tolerance (pF) from Typ value

V_{Jump} Jump Start (V, 5min)

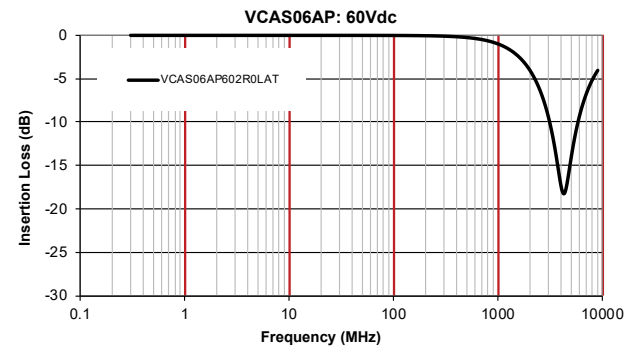
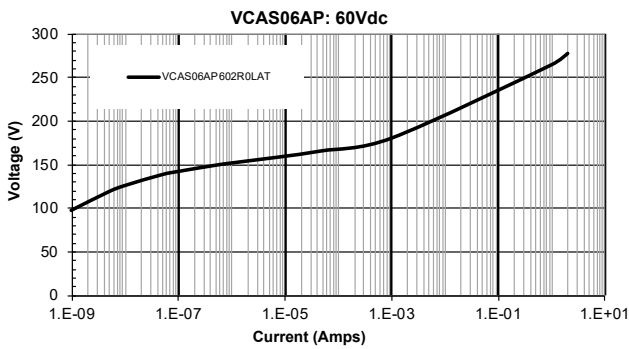
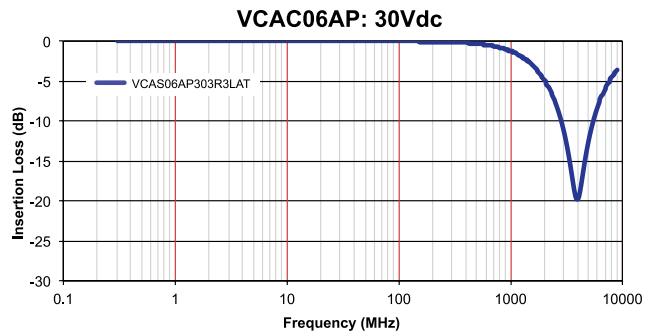
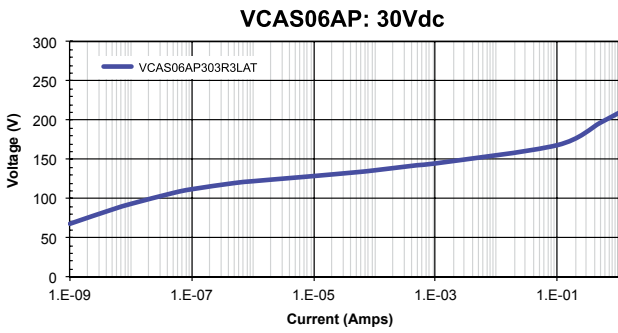
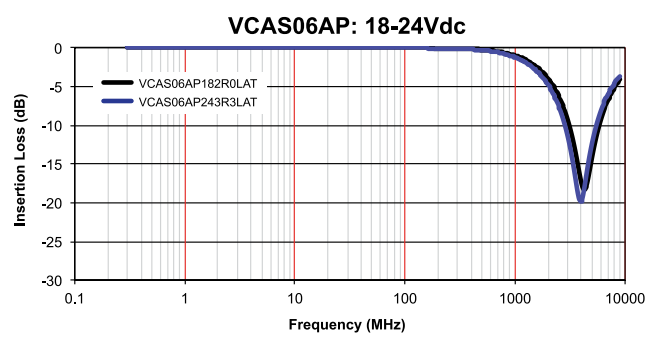
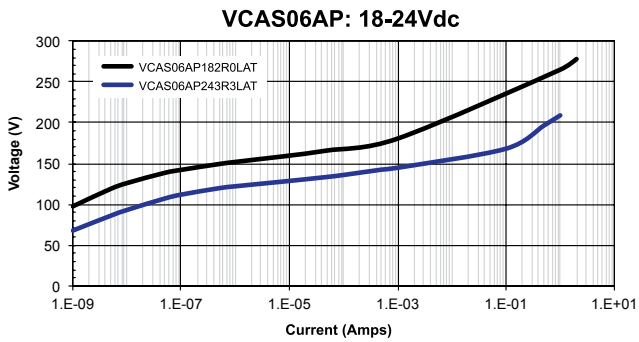
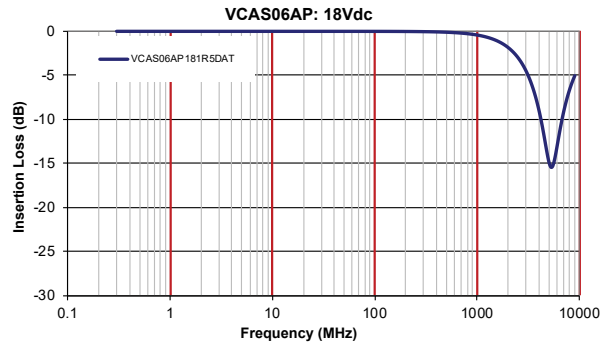
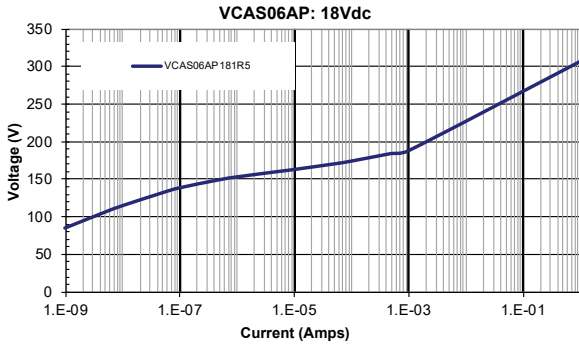
V/I CHARACTERISTICS

S21 CHARACTERISTICS



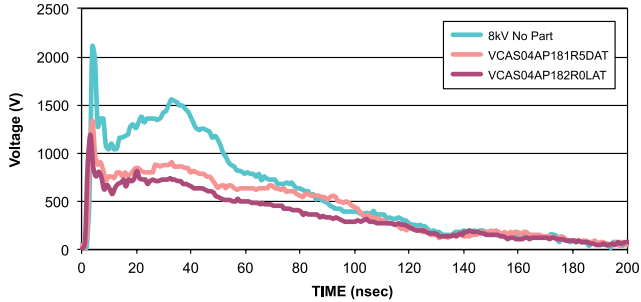
V/I CHARACTERISTICS

S21 CHARACTERISTICS

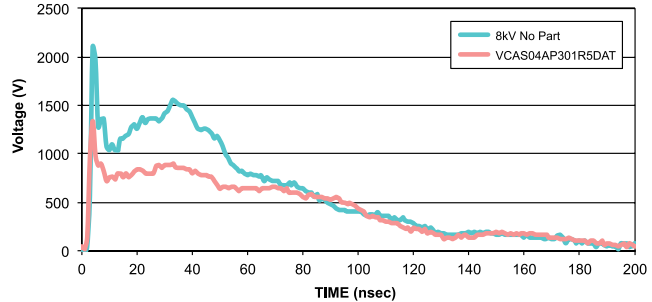


ESD CHARACTERISTIC

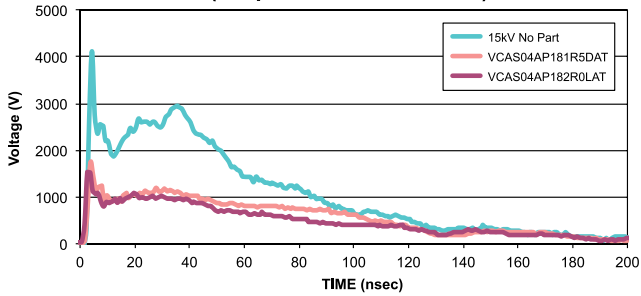
**8kV ESD Vc Wave Capture
 (150pF/330ohm Network)**



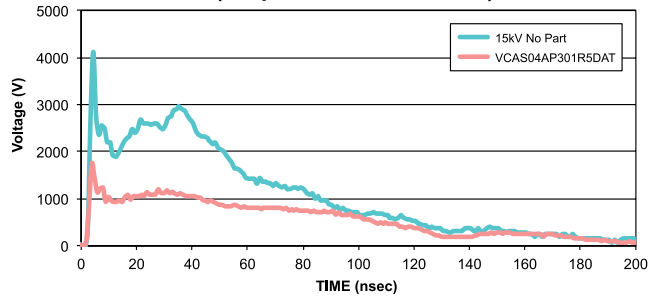
**8kV ESD Vc Wave Capture
 (150pF/330ohm Network)**



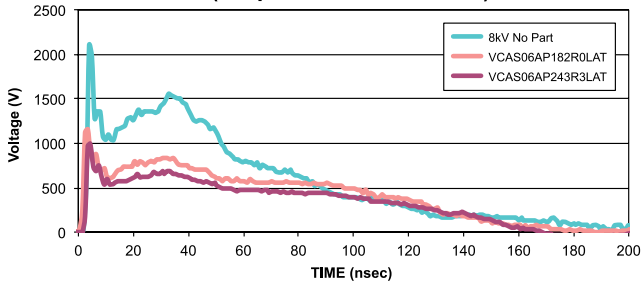
**15kV ESD Vc Wave Capture
 (150pF/330ohm Network)**



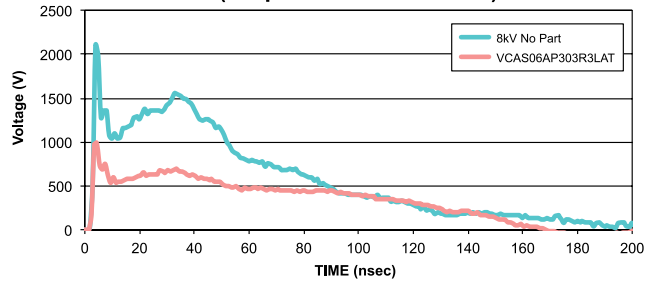
**15kV ESD Vc Wave Capture
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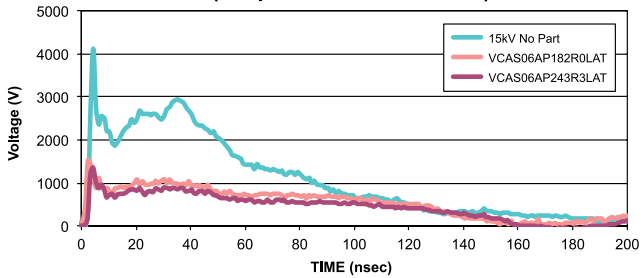
**8kV ESD Vc Wave Capture
 (150pF/330ohm Network)**



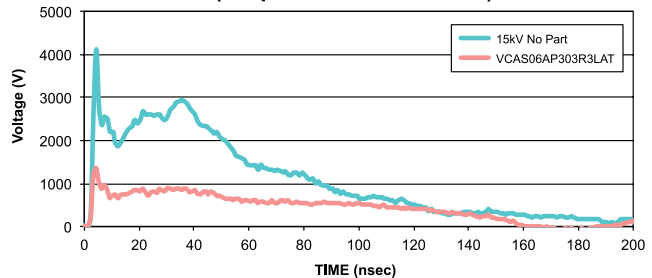
**8kV ESD Vc Wave Capture
 (150pF/330ohm Network)**



**15kV ESD Vc Wave Capture
 (150pF/330ohm Network)**



**15kV ESD Vc Wave Capture
 (150pF/330ohm Network)**





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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Факс: 8 (812) 320-02-42

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