

# Programmable - High Performance SMD Crystal Oscillator

## ASG-C Series

Moisture Sensitivity Level (MSL) - This product is Hermetically Sealed and not Moisture Sensitive; therefore MSL = N/A (Not Applicable)



RoHS  
Compliant



7.0 x 5.0 x 2.0mm

### FEATURES:

- ASG series is a High Performance crystal based oscillator; available either as an XO or a VCXO
- Frequency range from 10MHz to 250MHz with LVCMOS output
- Available from 10MHz to 1.50GHz with LVDS or LVPECL output
- Offered with either 2.50V or 3.30V bias voltage
- Quick turn, 1~5 business days for small quantity orders

### APPLICATIONS:

- Networking, SONET/SDH
- WiMax / WLAN
- Computing
- Phase Locked Loops
- Direct Digital Synthesis (DDS)
- DSL/ADSL
- Base Terminal Stations

### STANDARD SPECIFICATIONS:

Parameters	Minimum	Typical	Maximum	Units	Notes	
Frequency Range:	V <sub>dd</sub> = 3.3V	10	250	MHz		
	V <sub>dd</sub> = 2.5V	10	250	MHz		
Operating Temperature:	-40		+85	°C		
Storage Temperature:	-55		+125	°C		
Overall Frequency Stability:	-50		+50	ppm	<i>See Note # 1</i>	
Initial Set Tolerance	-5.00	≤ ±1.00	+5.00	ppm		
Stability over operating temperature	-35.00	≤ ±20.00	+35.00	ppm		
Aging @ 25°C over 10-years	-7.00		+7.00	ppm		
Frequency variation over supply voltage change (±5%)	-2.00		+2.00	ppm		
Frequency variation over load variation (15pF ± 5%)	-1.00		+1.00	ppm		
Supply Voltage (V <sub>dd</sub> ):	V <sub>dd</sub> = 3.3V	3.135	3.300	3.465	V	
	V <sub>dd</sub> = 2.5V	2.375	2.500	2.625	V	
Input Current:	V <sub>dd</sub> = 3.3V		45	mA	Frequency dependent	
	V <sub>dd</sub> = 2.5V		35	mA	Frequency dependent	
Symmetry:	48	50	52	%	@ 1/2V <sub>dd</sub>	
Rise and Fall Time (Tr/Tf):		≤ 450	1000	ps		
Output Load:			15	pF	CMOS	
Output Voltage:	VOH	V <sub>dd</sub> * 0.90		V		
	VOL		V <sub>dd</sub> * 0.10	V		
Start-up Time:		≤ 2.0	3.0	ms		
Enable/Disable Function :	"1" (V <sub>IH</sub> ≥ 0.7*V <sub>dd</sub> ) or Open: Oscillation "0" (V <sub>IL</sub> < 0.3*V <sub>dd</sub> ) : High Z					
Vcontrol Range	0.00		V <sub>dd</sub>	Volts		
Frequency Pull	±50			ppm		
Control Port Bandwidth	10			kHz		
Phase jitter RMS [ t <sub>jitt(φ)</sub> ] <i>See Note #2</i>	Integer Mode		< 0.60	1.60	ps	12kHz to 20MHz
	Fractional Mode		< 0.90	1.60	ps	12kHz to 20MHz

**Note #1:** Inclusive of initial tolerance at 25°C±3°C, operating temperature range, input voltage variation, load variation & aging.

**Note #2:** The rms jitter over 12kHz to 20MHz Bandwidth is dependent on the carrier and whether or not the final frequency is achieved without engaging the Fractional Mode

ABRACON IS  
ISO9001:2008  
CERTIFIED



**ABRACON**  
CORPORATION

Visit [www.abracon.com](http://www.abracon.com) for Terms & Conditions of Sale **Revised: 04.27.12**  
30332 Esperanza, Rancho Santa Margarita, California 92688  
tel 949-546-8000 | fax 949-546-8001 | [www.abracon.com](http://www.abracon.com)

# Programmable - High Performance SMD Crystal Oscillator

ASG-C Series

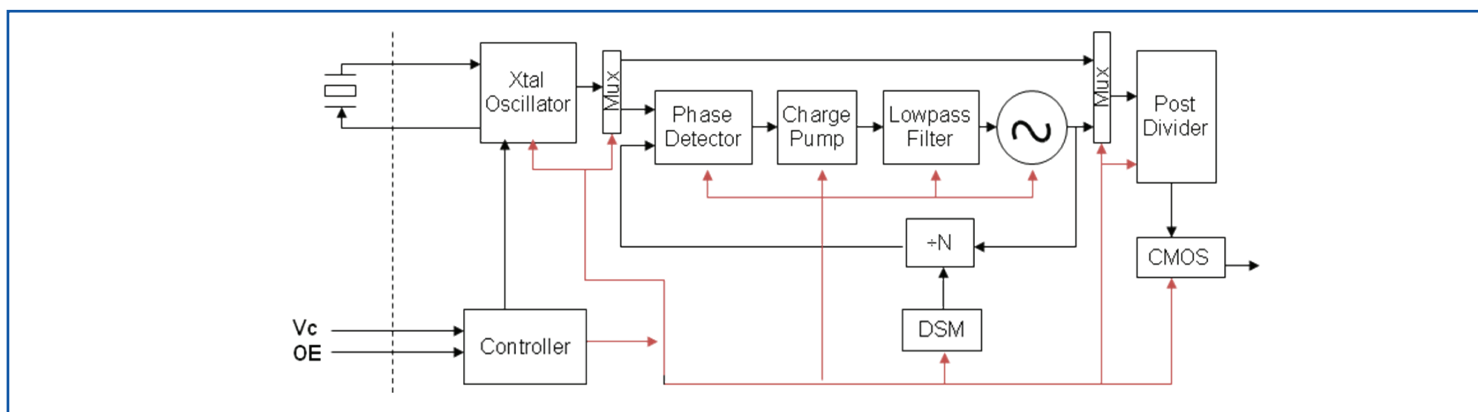


RoHS  
Compliant



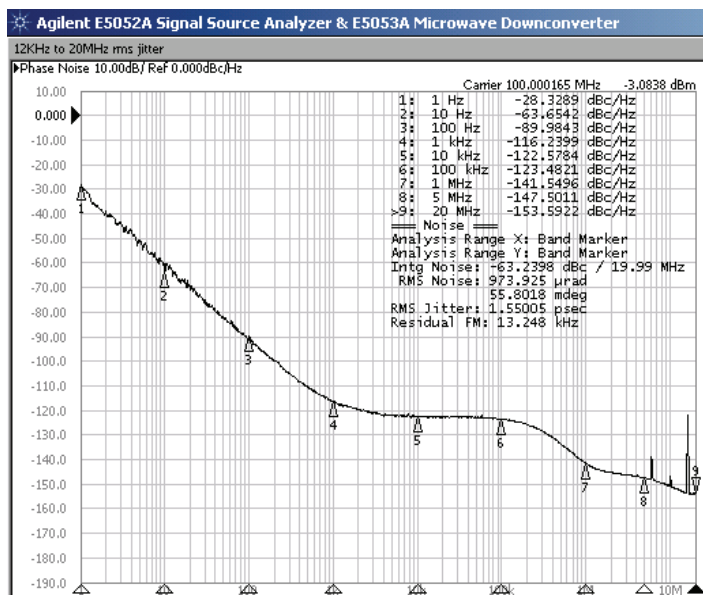
7.0 x 5.0 x 2.0mm

## OVERALL SYSTEM BLOCK DIAGRAM

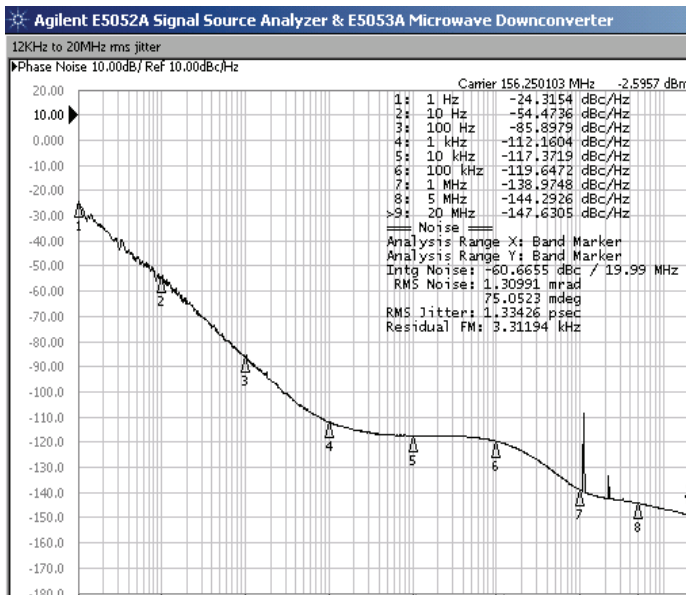


## PHASE NOISE & JITTER CHARACTERISTICS

### 100MHz Carrier



### 156.25MHz Carrier



# Programmable - High Performance SMD Crystal Oscillator

ASG-C Series

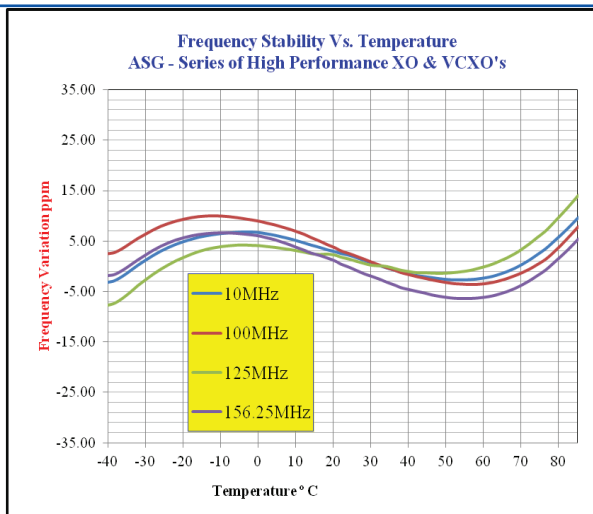


RoHS  
Compliant

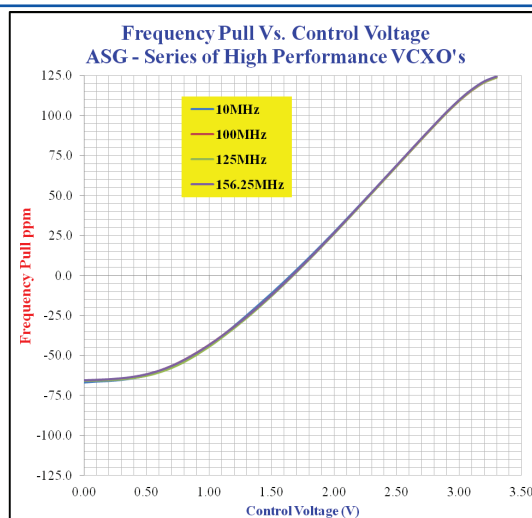


7.0 x 5.0 x 2.0mm

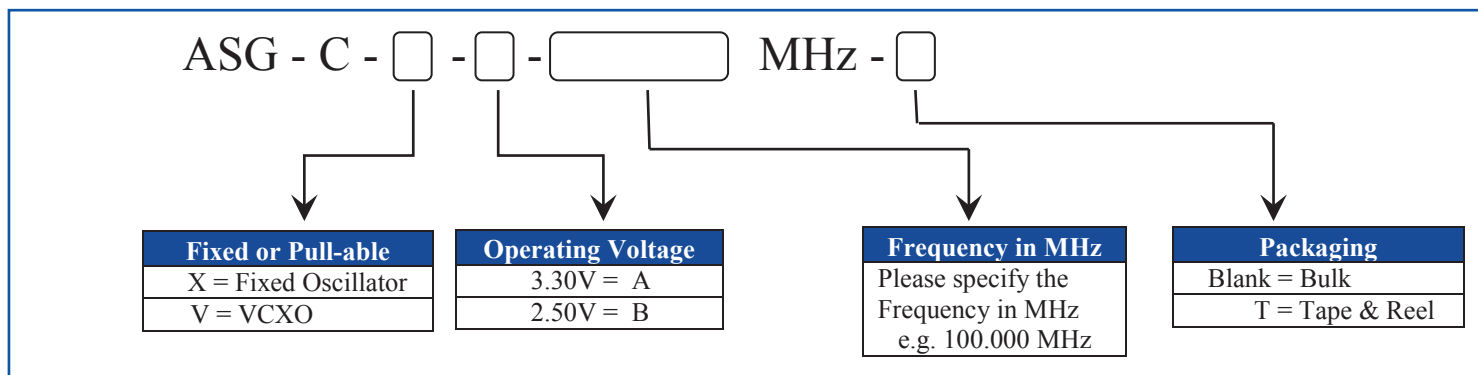
## FREQUENCY STABILITY VS. TEMPERATURE



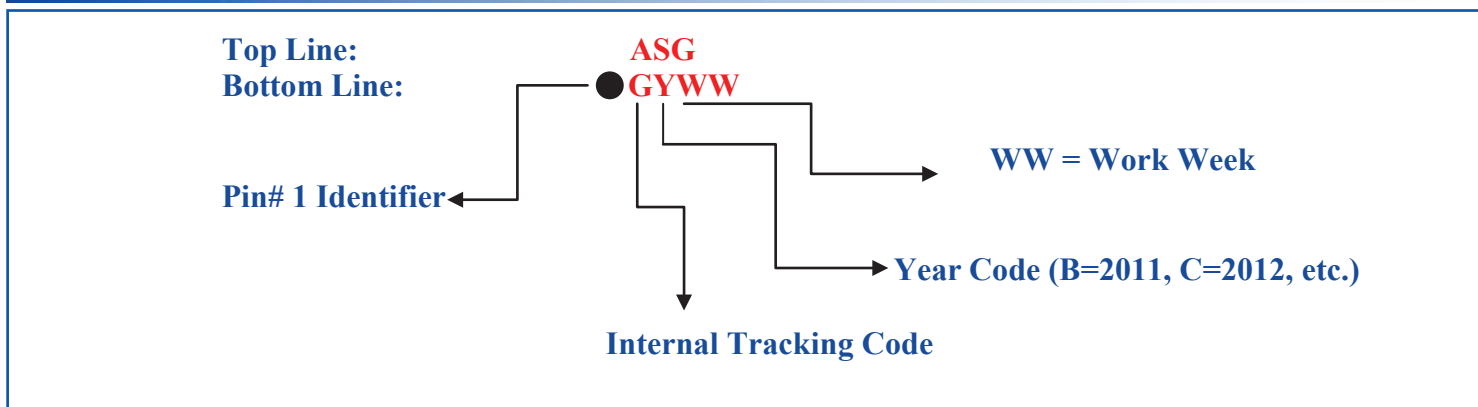
## FREQUENCY PULLING VS. CONTROL VOLTAGE (VCXO MODE)



## PART IDENTIFICATION:



## MARKING:



# Programmable - High Performance SMD Crystal Oscillator

ASG-C Series



RoHS  
Compliant

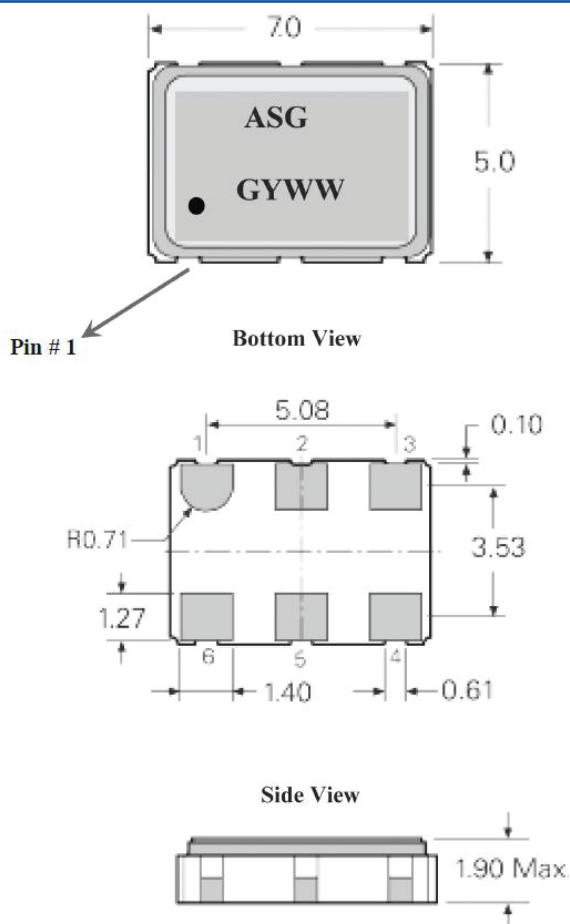


7.0 x 5.0 x 2.0mm

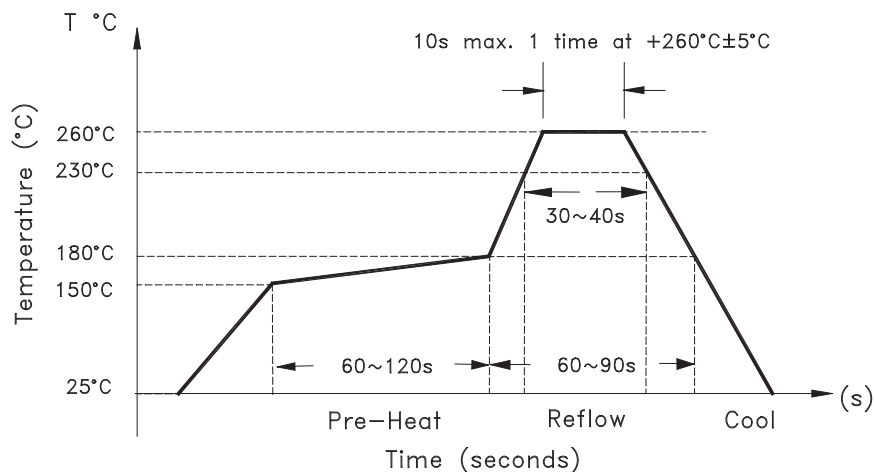
## OUTLINE DIMENSIONS:

Pin #	Pin Description For VCXO configuration
1	Voltage Control for VCXO
2	Output Enable (OE)
3	GND
4	RF Output
5	N/C
6	Vdd

Pin #	Pin Description For XO configuration
1	Output Enable (OE)
2	N/C for XO
3	GND
4	RF Output
5	N/C
6	Vdd



## REFLOW PROFILE:



ABRACON IS  
ISO9001:2008  
CERTIFIED



**ABRACON**  
CORPORATION

Visit [www.abracon.com](http://www.abracon.com) for Terms & Conditions of Sale **Revised: 04.27.12**  
30332 Esperanza, Rancho Santa Margarita, California 92688  
tel 949-546-8000 | fax 949-546-8001 | [www.abracon.com](http://www.abracon.com)

# Programmable - High Performance SMD Crystal Oscillator

ASG-C Series



RoHS  
Compliant

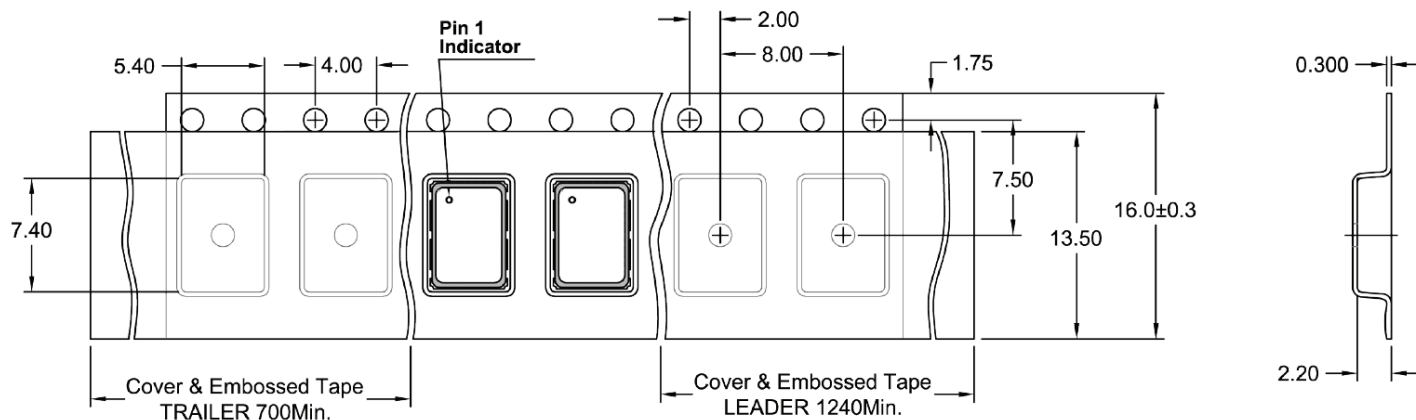


7.0 x 5.0 x 2.0mm

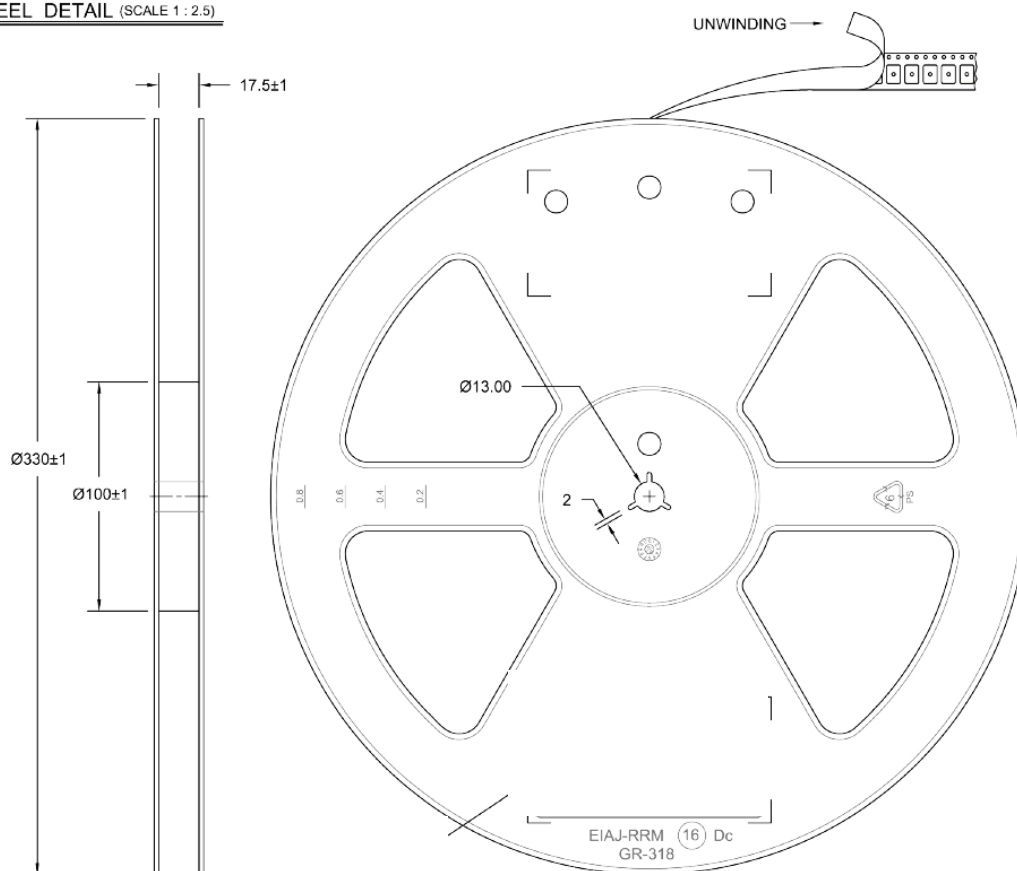
## TAPE & REEL:

T= Tape and reel (2,000pcs/reel)

### TAPE DETAIL (SCALE 2 : 1)



### REEL DETAIL (SCALE 1 : 2.5)



**ATTENTION:** Abracon Corporation's products are COTS – Commercial-Off-The-Shelf products; suitable for Commercial, Industrial and, where designated, Automotive Applications. Abracon's products are not specifically designed for Military, Aviation, Aerospace, Life-dependant Medical applications or any application requiring high reliability where component failure could result in loss of life and/or property. For applications requiring high reliability and/or presenting an extreme operating environment, written consent and authorization from Abracon Corporation is required. Please contact Abracon Corporation for more information.

ABRACON IS  
ISO9001:2008  
CERTIFIED

Visit [www.abracon.com](http://www.abracon.com) for Terms & Conditions of Sale **Revised: 04.27.12**  
30332 Esperanza, Rancho Santa Margarita, California 92688  
tel 949-546-8000 | fax 949-546-8001 | [www.abracon.com](http://www.abracon.com)



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

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.