

Parameter	Rating	Units
Load Voltage	60	V
Load Current	1	$A_{rms} / A_{DC}$
On-Resistance (max)	0.4	$\Omega$

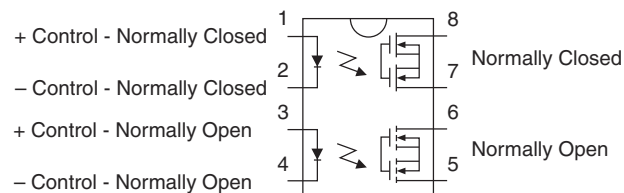
### Features

- 3750V<sub>rms</sub> Input/Output Isolation
- Low Drive Power Requirements (TTL/CMOS Compatible)
- Arc-Free With No Snubbing Circuits
- No EMI/RFI Generation
- Small 8-Pin Package
- Machine Insertable, Wave Solderable
- Surface Mount Version
- Tape & Reel available

### Applications

- Telecommunications
- Instrumentation
  - Multiplexers
  - Data Acquisition
  - Electronic Switching
  - I/O Subsystems
- Utility Meters (gas, oil, electric and water)
- Medical Equipment-Patient/Equipment Isolation
- Security
- Aerospace
- Industrial Controls

### Pin Configuration



### Description

LBA716 is a 60V, 1A, 0.4 $\Omega$  dual Solid State Relay integrating independent normally open (1-Form-A) and normally closed (1-Form-B) relays into a single package. It features a superior combination of low on-resistance and enhanced peak load current (5A max.) handling capability.

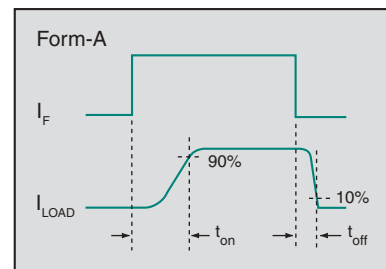
### Approvals

- UL Recognized Component: File # E76270
- CSA Certified Component: Certificate # 1175739
- EN/IEC 60950-1 Certified Component  
TUV Certificate B 09 07 49410 004

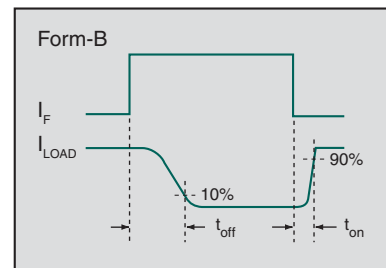
### Ordering Information

Part #	Description
LBA716	8-Pin DIP (50/Tube)
LBA716S	8-Pin Surface Mount (50/Tube)
LBA716STR	8-Pin Surface Mount (1000/Reel)

**Switching Characteristics of  
Normally Open Devices**



**Switching Characteristics of  
Normally Closed Devices**



### Absolute Maximum Ratings @ 25°C

Parameter	Ratings	Units
Blocking Voltage	60	V <sub>P</sub>
Reverse Input Voltage	5	V
Input Control Current	50	mA
Peak (10ms)	1	A
Input Power Dissipation <sup>1</sup>	150	mW
Total Power Dissipation <sup>2</sup>	800	mW
Isolation Voltage, Input to Output	3750	V <sub>rms</sub>
Operational Temperature	-40 to +85	°C
Storage Temperature	-40 to +125	°C

<sup>1</sup> Derate linearly 1.33 mW / °C

<sup>2</sup> Derate linearly 6.67 mW / °C

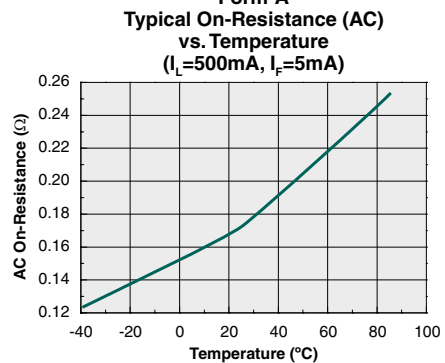
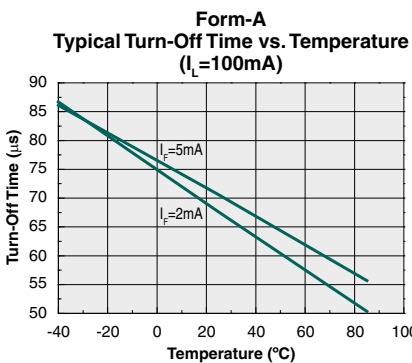
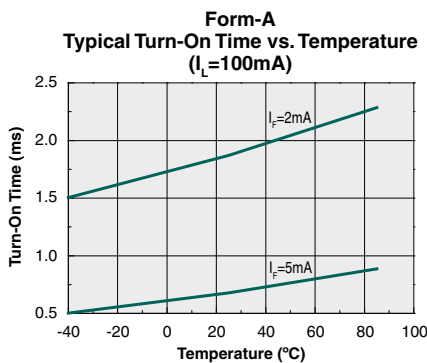
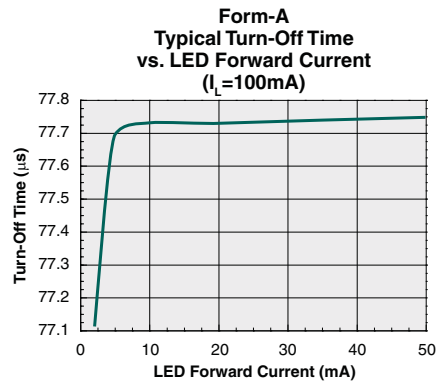
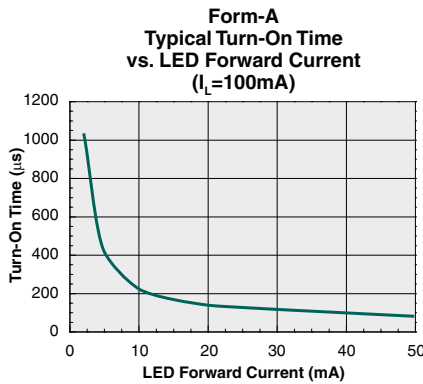
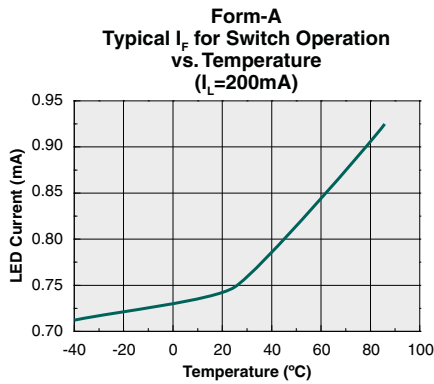
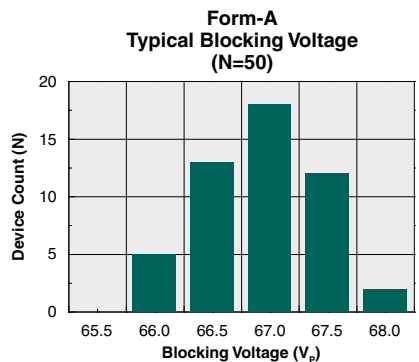
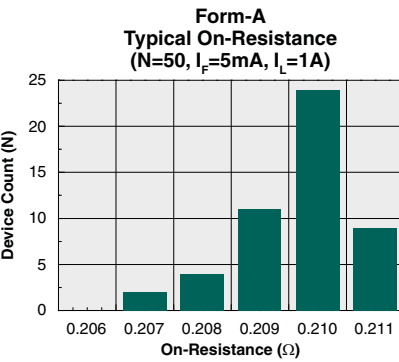
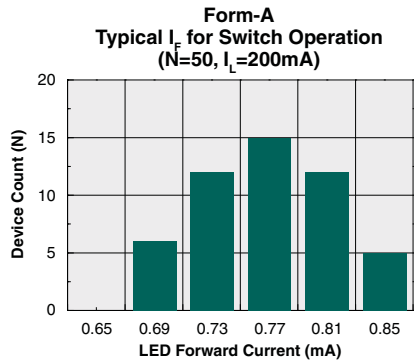
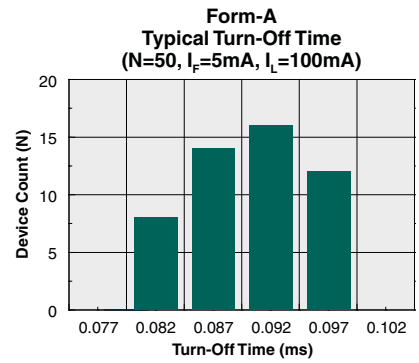
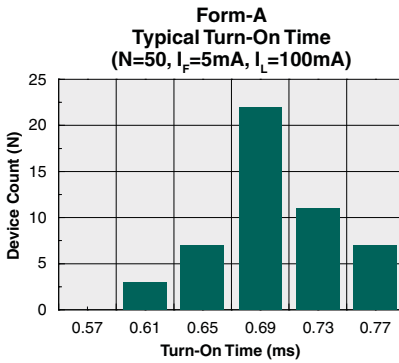
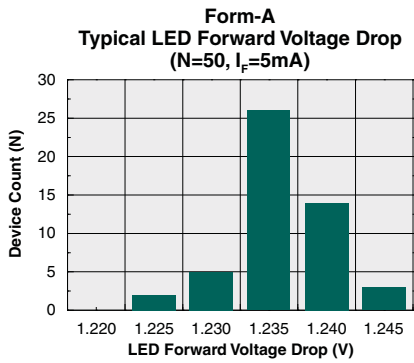
Absolute Maximum Ratings are stress ratings. Stresses in excess of these ratings can cause permanent damage to the device. Functional operation of the device at conditions beyond those indicated in the operational sections of this data sheet is not implied.

### Electrical Characteristics @ 25°C

Parameter	Conditions	Symbol	Min	Typ	Max	Units
<b>Characteristics: Form-A (Normally Open)</b>						
Load Current						
Continuous	-	I <sub>L</sub>	-	-	1	A <sub>rms</sub> / A <sub>DC</sub>
Peak	t ≤ 10ms	I <sub>LPK</sub>	-	-	±5	A <sub>P</sub>
On-Resistance	I <sub>L</sub> =1A	R <sub>ON</sub>	-	0.21	0.4	Ω
Off-State Leakage Current	V <sub>L</sub> =60V	I <sub>LEAK</sub>	-	-	1	μA
Output Capacitance	50V, f=1MHz	C <sub>OUT</sub>	-	105	-	pF
Switching Speeds						
Turn-On	I <sub>F</sub> =5mA, V <sub>L</sub> =10V	t <sub>on</sub>	-	0.7	5	ms
Turn-Off		t <sub>off</sub>	-	0.09	5	
Input Control Current to Activate	I <sub>L</sub> =1A	I <sub>F</sub>	-	-	2	mA
Input Control Current to Deactivate	-	I <sub>F</sub>	0.1	-	-	mA
<b>Characteristics: Form-B (Normally Closed)</b>						
Load Current						
Continuous	-	I <sub>L</sub>	-	-	0.5	A <sub>rms</sub> / A <sub>DC</sub>
Peak	t ≤ 10ms	I <sub>LPK</sub>	-	-	±1.2	A <sub>P</sub>
On-Resistance	I <sub>L</sub> =0.5A	R <sub>ON</sub>	-	1.63	2	Ω
Off-State Leakage Current	V <sub>L</sub> =60V, I <sub>F</sub> =5mA	I <sub>LEAK</sub>	-	-	1	μA
Output Capacitance	I <sub>F</sub> =5mA, 50V, f=1MHz	C <sub>OUT</sub>	-	280	-	pF
Switching Speeds						
Turn-On	I <sub>F</sub> =5mA, V <sub>L</sub> =10V	t <sub>on</sub>	-	0.58	5	ms
Turn-Off		t <sub>off</sub>	-	0.76	5	
Input Control Current to Activate	-	I <sub>F</sub>	-	-	2	mA
Input Control Current to Deactivate	I <sub>L</sub> =0.5A	I <sub>F</sub>	0.1	-	-	mA
<b>Common Characteristics: Form-A and Form-B</b>						
Input Voltage Drop	I <sub>F</sub> =5mA	V <sub>F</sub>	0.9	1.2	1.4	V
Reverse Input Current	V <sub>R</sub> =5V	I <sub>R</sub>	-	-	10	μA
Capacitance, Input to Output	-	C <sub>I/O</sub>	-	3	-	pF

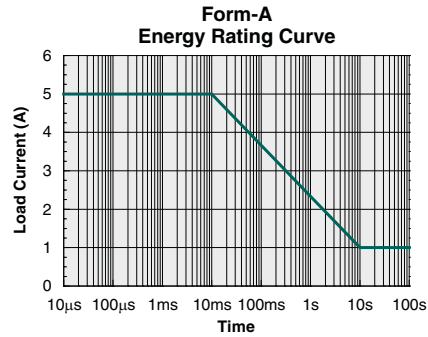
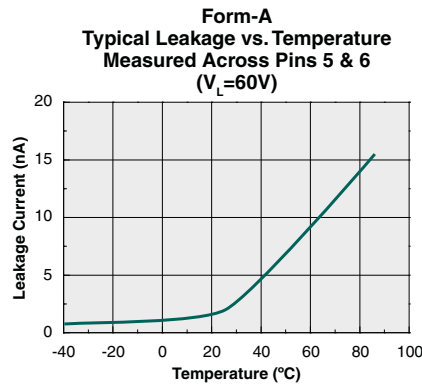
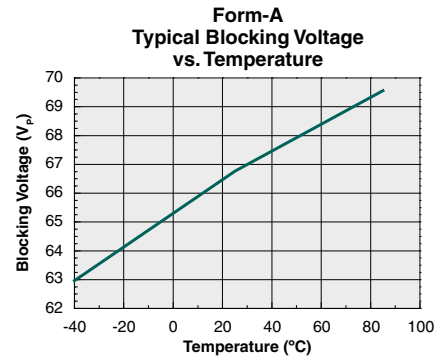
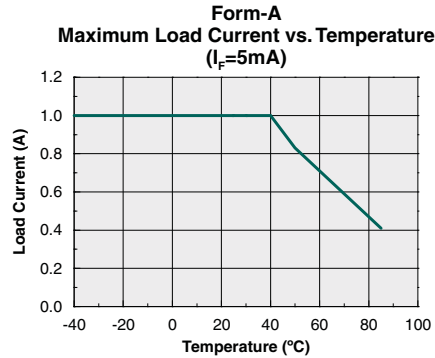
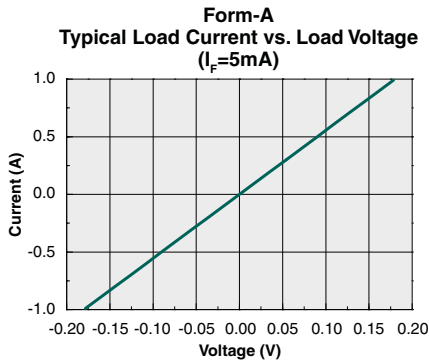
\*NOTE: If both poles operate simultaneously, then load current must be derated so as not to exceed the package power dissipation value.

**Form-A RELAY PERFORMANCE DATA @25°C (Unless Otherwise Noted)\***

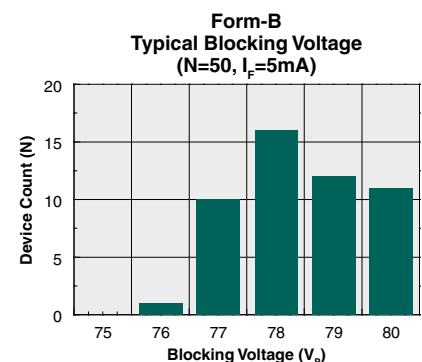
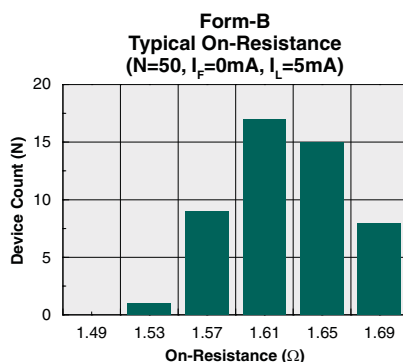
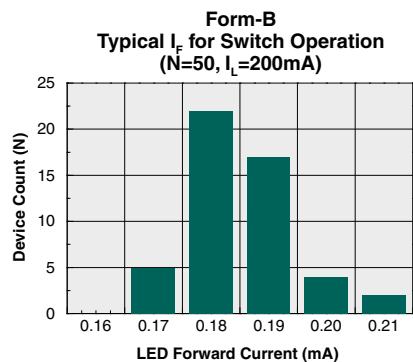
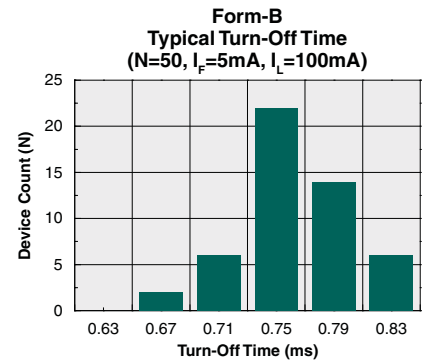
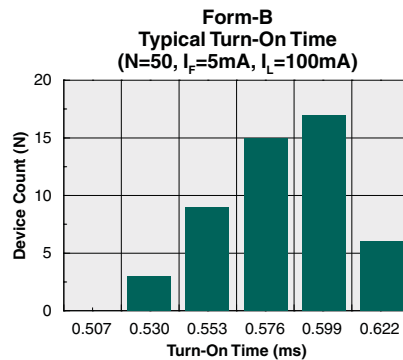
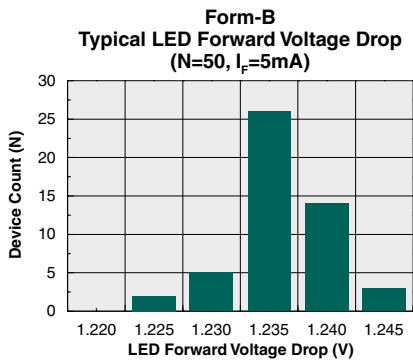


\*The Performance data shown in the graphs above is typical of device performance. For guaranteed parameters not indicated in the written specifications, please contact our application department.

**Form-A RELAY PERFORMANCE DATA @25°C (Unless Otherwise Noted)\***

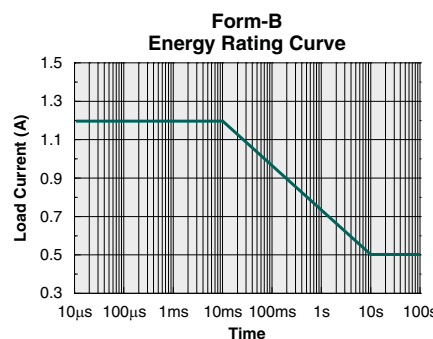
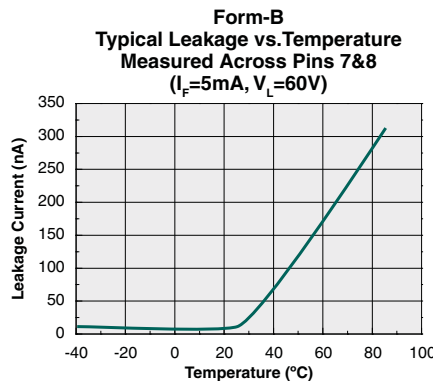
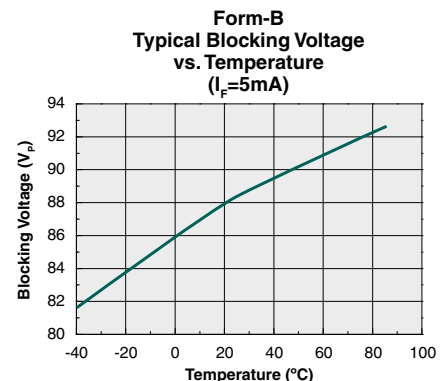
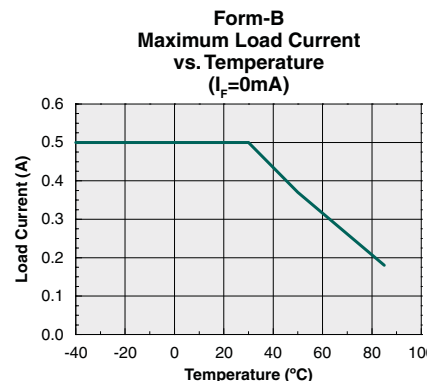
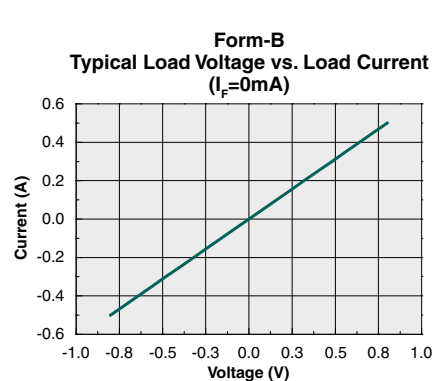
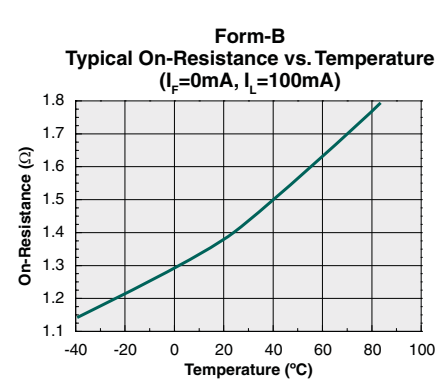
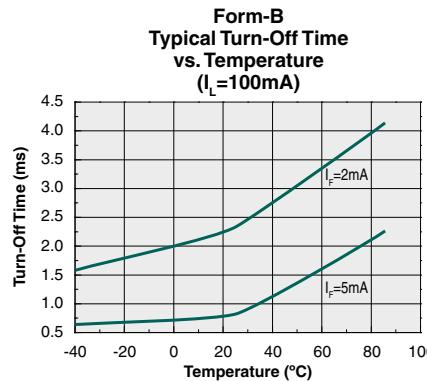
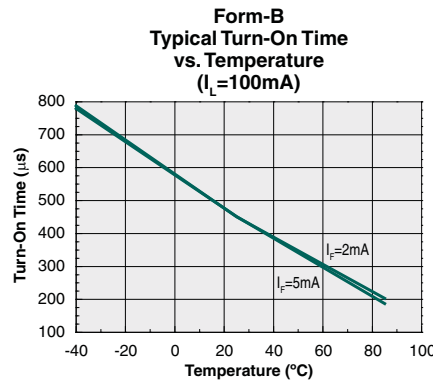
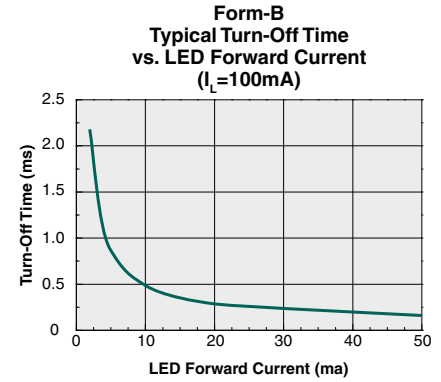
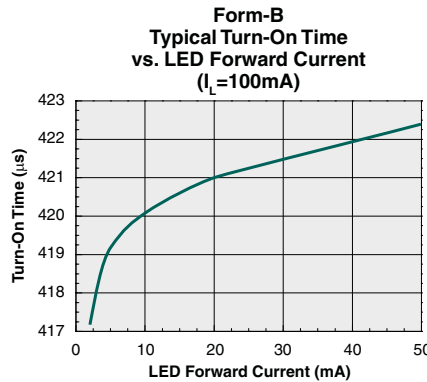
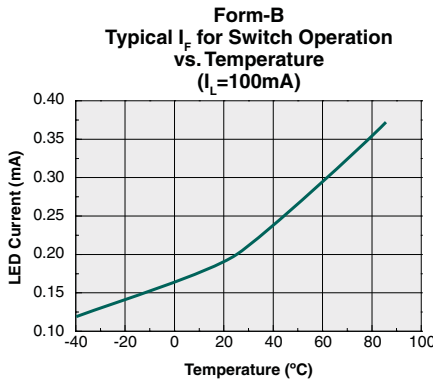


**Form-B RELAY PERFORMANCE DATA @25°C (Unless Otherwise Noted)\***



\*The Performance data shown in the graphs above is typical of device performance. For guaranteed parameters not indicated in the written specifications, please contact our application department.

**Form-B RELAY PERFORMANCE DATA @25°C (Unless Otherwise Noted)\***



\*The Performance data shown in the graphs above is typical of device performance. For guaranteed parameters not indicated in the written specifications, please contact our application department.

## Manufacturing Information

### Moisture Sensitivity



All plastic encapsulated semiconductor packages are susceptible to moisture ingress. IXYS Integrated Circuits Division classified all of its plastic encapsulated devices for moisture sensitivity according to the latest version of the joint industry standard, **IPC/JEDEC J-STD-020**, in force at the time of product evaluation. We test all of our products to the maximum conditions set forth in the standard, and guarantee proper operation of our devices when handled according to the limitations and information in that standard as well as to any limitations set forth in the information or standards referenced below.

Failure to adhere to the warnings or limitations as established by the listed specifications could result in reduced product performance, reduction of operable life, and/or reduction of overall reliability.

This product carries a **Moisture Sensitivity Level (MSL) rating** as shown below, and should be handled according to the requirements of the latest version of the joint industry standard **IPC/JEDEC J-STD-033**.

Device	Moisture Sensitivity Level (MSL) Rating
LBA716 / LBA716S	MSL 1

### ESD Sensitivity



This product is **ESD Sensitive**, and should be handled according to the industry standard **JESD-625**.

### Reflow Profile

This product has a maximum body temperature and time rating as shown below. All other guidelines of **J-STD-020** must be observed.

Device	Maximum Temperature x Time
LBA716 / LBA716S	250°C for 30 seconds

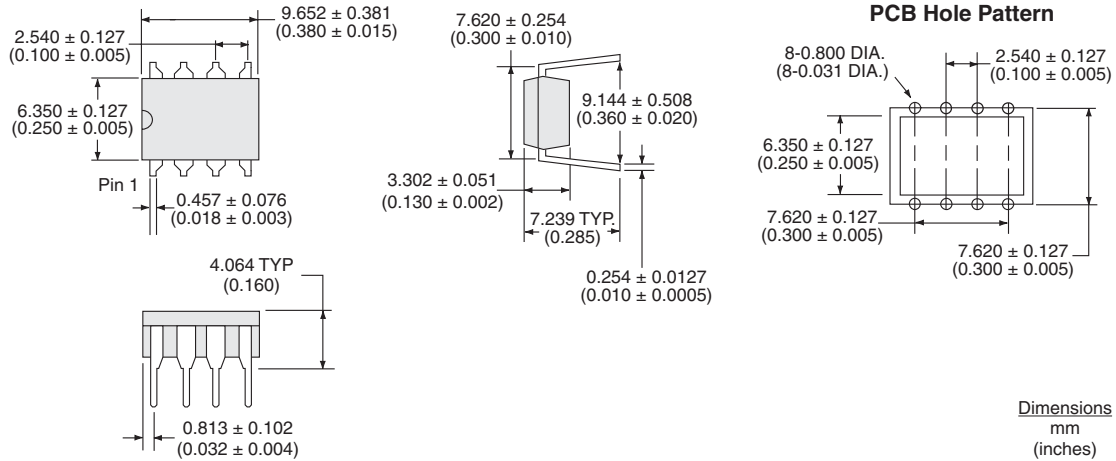
### Board Wash

IXYS Integrated Circuits Division recommends the use of no-clean flux formulations. However, board washing to remove flux residue is acceptable. Since IXYS Integrated Circuits Division employs the use of silicone coating as an optical waveguide in many of its optically isolated products, the use of a short drying bake could be necessary if a wash is used after solder reflow processes. Chlorine- or Fluorine-based solvents or fluxes should not be used. Cleaning methods that employ ultrasonic energy should not be used.

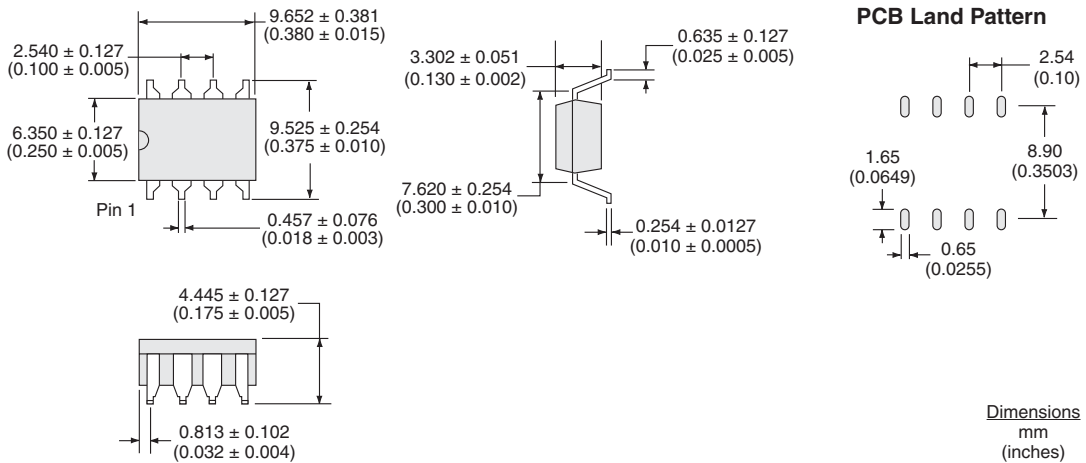


**Mechanical Dimensions**

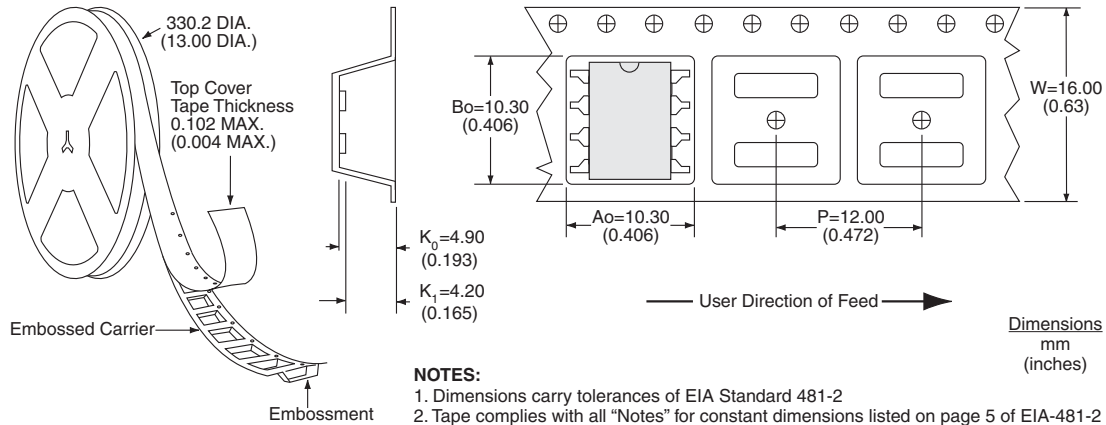
**LBA716**



**LBA716S**



**LBA716STR Tape & Reel**



**For additional information please visit our website at: [www.ixysic.com](http://www.ixysic.com)**

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Specification: DS-LBA716-R03  
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12/22/2012





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

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

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