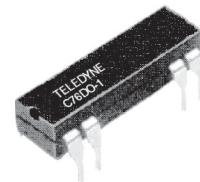
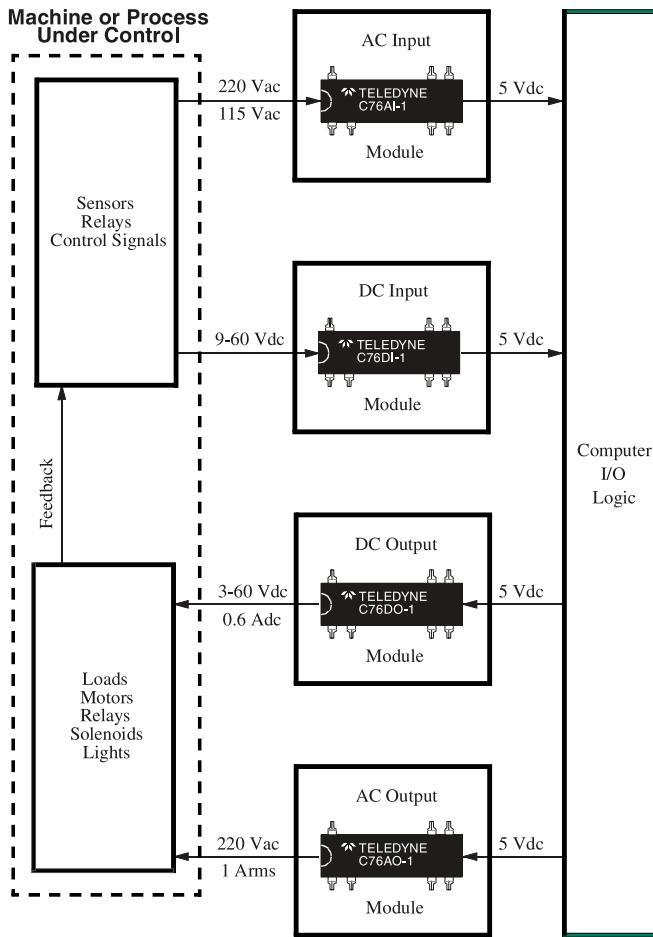


C76 I/O INTERFACE SYSTEM



APPLICATIONS

- Robotics
- Programmable Controllers
- Process Control
- Machine Tool Control
- Energy Management
- Automatic Test Equipment

FEATURES/BENEFITS

- Input Enable Function: For computer timing function control.
- Floating Outputs: Eliminates ground loops and signal noise. Protects computer I/O and logic circuits.
- Low Off-State Leakage: High off-state impedance.
- Switches/Controls High Voltages: To 250 Vrms
- Switches/Controls High Currents: To 1.0 Arms
- High Noise Immunity: Control signals isolated from switching noise
- High Dielectric Strength: Safety and protection of control and signal level circuits

DESCRIPTION

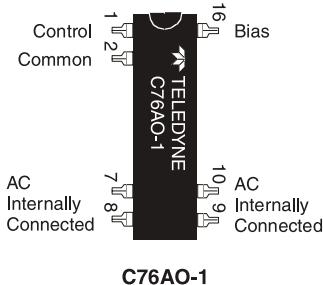
The Series C76 solid-state computer input/output modules are designed expressly for application in computerized control systems where reliable noise-free interface of switching is required to isolate computer logic elements from high conducted noise encountered in industrial environments. Sensitive logic circuitry is kept noise-free by means of optical isolation between logic and power lines.

Output modules allow either TTL or CMOS level signals to control the switching of power to high voltage and high current loads. Hysteresis at the input significantly increases the noise margin when used in the CMOS input mode, preventing false triggering in noisy environments.

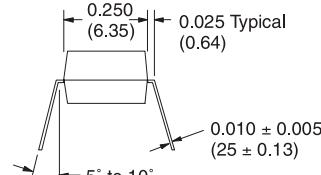
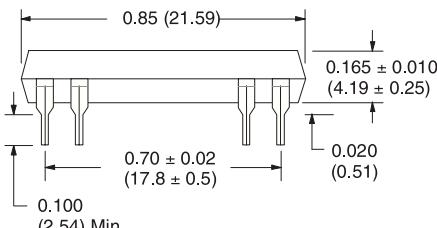
Input modules convert the presence or absence of load level voltages from pressure, flow, temperature and other transducers, limit switches, solenoids or relays to "clean" low level logic signals for computer input. An ENABLE function maintains the module's output in an "open" state until the ENABLE terminal is brought up to the bias supply level.

| Part Number | Type | Characteristics |
|-------------|-----------|--|
| C76AO-1 | AC Output | 3.8 to 16 Vdc Input 5 to 250 Vrms, 1 A Output |
| C76AI-1 | AC Input | 90 to 250 Vrms Input 0 to 60 Vdc, 100 mA Output |
| C76DO-1 | DC Output | 3.8 to 16 Vdc Input 3 to 60 Vdc, 0.6 A Output |
| C76DI-1 | DC Input | 9 to 60 Vdc Input 0 to 60 Vdc, 100 mA Output |

PIN CONFIGURATIONS

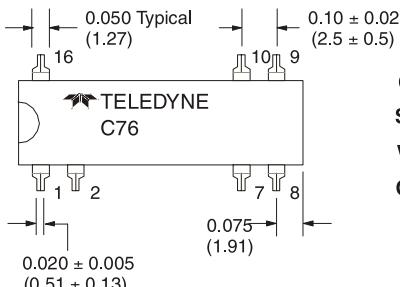
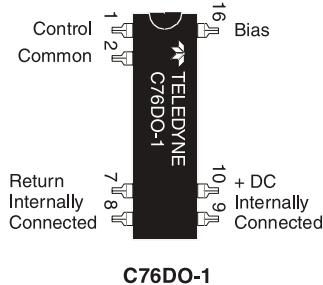


MECHANICAL SPECIFICATION



DIMENSIONS ARE SHOWN IN INCHES (MILLIMETERS)

Tolerances (unless otherwise specified) \pm 0.015 (0.38)

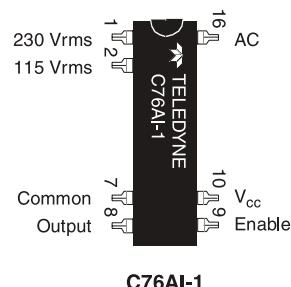


Operating Temperature Range: -40°C to 85°C

Storage Temperature Range: -40°C to 100°C

Weight: 2.0 gm. maximum

Case: Special 16 pin dual In line, filled epoxy.



TRUTH TABLE FOR ENABLE FUNCTION

| V_{IN} ¹ | ENABLE ² | OUTPUT ³ |
|-----------------------|---------------------|---------------------|
| 0 | 0 | 0 |
| 1 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 1 | 1 |

1. For C76AI-1:

When using 115 Vrms input, V_{IN} is a "1" when the voltage is ≥ 90 Vrms
When using 220 Vrms input, V_{IN} is a "1" when the voltage is ≥ 180 Vrms

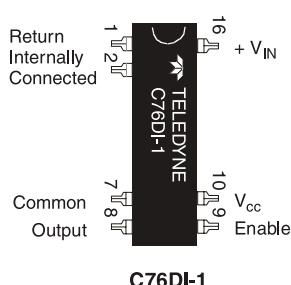
2. For C76AI-1 and C76DI-1:

The Enable input is a "1" when the Enable voltage V_E is ≥ 2.0 Vdc.
The Enable input is a "0" when the Enable voltage V_E is ≤ 0.4 Vdc.

3. A "0" represents an open output switch.
A "1" represents a closed output switch.

NOTE:

When used in the CMOS input configuration, the C76AO-1 and the C76DO-1 provide inversion. When the input voltage is 0.5 Vdc or less the output will be guaranteed "On". When the input voltage is 2.8 Vdc or more the output will be guaranteed "Off".



(TOP VIEW)

Series C76 / C76AO-1 Input Modules

ELECTRICAL SPECIFICATIONS (25°C UNLESS OTHERWISE SPECIFIED)

TTL INPUT (BIAS) SPECIFICATIONS (See Figure 4)

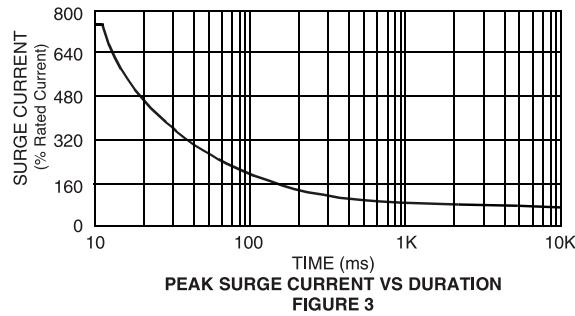
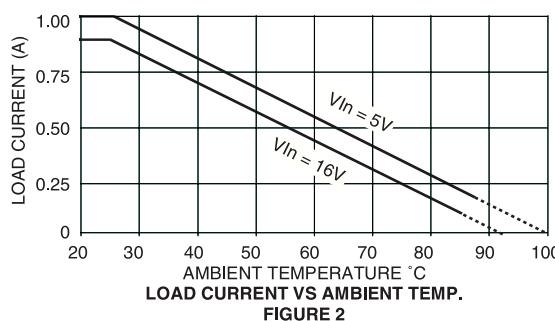
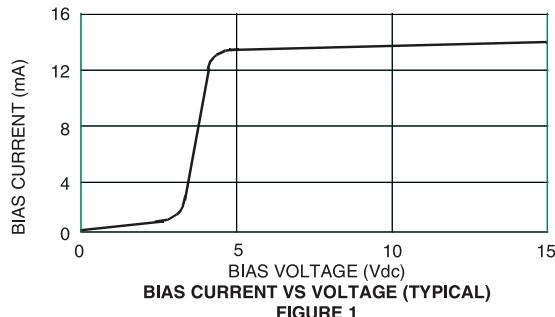
| Parameter | Min | Max | Units |
|---------------------------------|-------|------|-------|
| Bias Voltage Range (See Fig. 1) | 3.8 | 16.0 | Vdc |
| Bias Current @ 5 Vdc | 16.0 | | mA |
| Must Turn-On Voltage | 3.8 | | Vdc |
| Must Turn-Off Voltage | 1.5 | | Vdc |
| Reverse Voltage Protection | -32.0 | | Vdc |

CMOS INPUT (CONTROL) SPECIFICATIONS (See Figure 4)

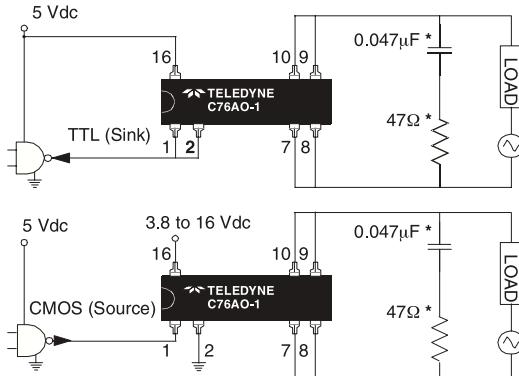
| Parameter | Min | Max | Units |
|--------------------------|------|-----|-------|
| Control Voltage Range | 16.0 | | Vdc |
| Control Current at 5 Vdc | 250 | | Adc |
| Must Turn-On Voltage | 0.5 | | Vdc |
| Must Turn-Off Voltage | 2.8 | | Vdc |
| Bias Voltage Range | 3.8 | 16 | Vdc |

OUTPUT (LOAD) SPECIFICATIONS

| Parameter | Min | Max | Units |
|---|-----------------|-----|-------|
| Load Voltage Range | 5.0 | 250 | Vrms |
| Output Current Rating (See Fig. 2) | 0.01 | 1.0 | Arms |
| Frequency Range | 40 | 80 | Hz |
| Over Voltage Rating (25°C) | ±500 | | Vpeak |
| On-State Voltage Drop @ 1 Arms | 1.5 | | Vrms |
| Zero Voltage Turn-On | ±17.0 | | Vpeak |
| Surge Current Rating (See Fig. 3) 16 msec, 25°C | 8.0 | | Apeak |
| Turn-On Time | 1/2 | | Cycle |
| Turn-Off Time | 1 | | Cycle |
| Leakage Current (Off-State) @ 230 Vrms | 1.0 | | mA |
| Off-State dV/dt w/o Snubber | 200 | | V/μs |
| Isolation (Input to Output) | 10 ⁹ | | Ohms |
| Dielectric Strength (Input to Output) | 3750 | | Vac |
| Capacitance (Input to Output) | 5.0 | | pF |
| Junction Temperature (T _J) | 150 | | °C |



TYPICAL INTERFACE TO TTL AND CMOS LOGIC



* RC snubber network is optional for protecting switching system from high voltage transients

FIGURE 4

Series C76 / C76AI-1 Input Modules

| INPUT (CONTROL) SPECIFICATIONS | | | | |
|---|---------------------|-----|-----------|---------|
| Parameter | | Min | Max | Units |
| Control Voltage Range | $V_{IN} = 115$ Vrms | 90 | 135 | Vrms |
| | $V_{IN} = 220$ Vrms | 180 | 250 | Vrms |
| Input Current | $V_{IN} = 115$ Vrms | | 3.5 | mA |
| | $V_{IN} = 220$ Vrms | | 3.0 | mA |
| Must Turn-Off Voltage | 115 Vrms; V_{IN} | 20 | | Vrms |
| | 230 Vrms; V_{IN} | 50 | | Vrms |
| Input Transient (≤ 1 ms) | | | ± 600 | Vpeak |
| INPUT (ENABLE) SPECIFICATIONS | | | | |
| Parameter | | Min | Max | Units |
| Enable Voltage | | 2.0 | 15.0 | Vdc |
| Enable Current | | | 10.0 | μ A |
| OUTPUT SPECIFICATIONS | | | | |
| Parameter | | Min | Max | Units |
| Logic Supply Voltage (V_{cc}) | | 4.0 | 16.0 | Vdc |
| Breakdown Output Voltage Rating (V_o) | | | 60 | Vdc |
| Output Current Rating (See Figure 3) | | | 100 | mA |
| On Resistance | | | 6.0 | Ohms |
| Output Leakage Current @ 15 Vdc | | | 10 | μ A |
| Turn-On Time | | | 40 | ms |
| Turn-Off Time | | | 40 | ms |
| Insulation Resistance (Input to Output) | 10^9 | | | Ohms |
| Dielectric Strength (Input to Output) | 3750 | | | Vac |
| Capacitance (Input to Output) | | 5.0 | | pF |
| Junction Temperature (T_J) | | 125 | | °C |
| Output Voltage Drop | | | 0.5 | Vdc |

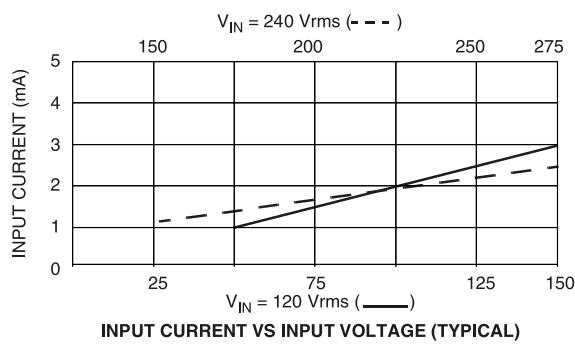


FIGURE 1

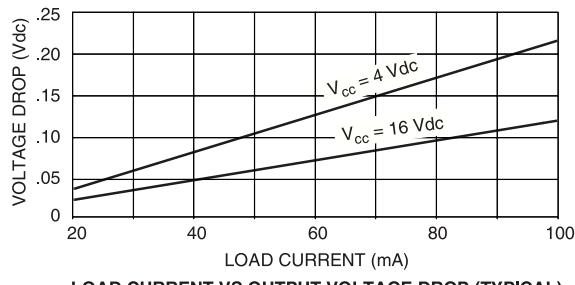


FIGURE 2

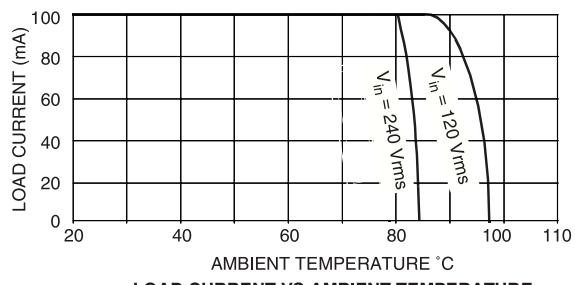
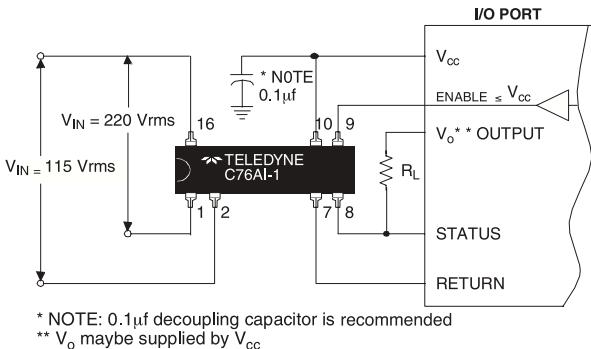


FIGURE 3

TYPICAL INTERFACE TO I/O PORT



Series C76 / C76D1-1 Output Modules

ELECTRICAL SPECIFICATIONS (25°C UNLESS OTHERWISE SPECIFIED)

INPUT (CONTROL) SPECIFICATIONS

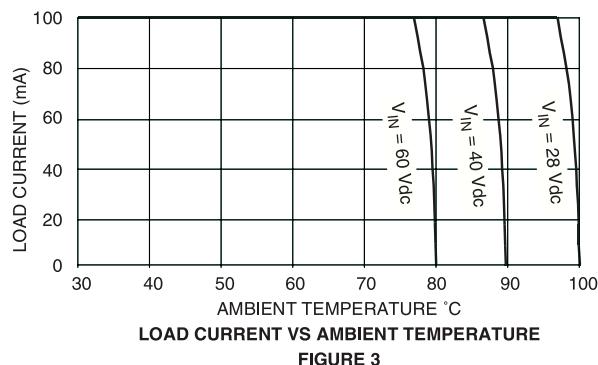
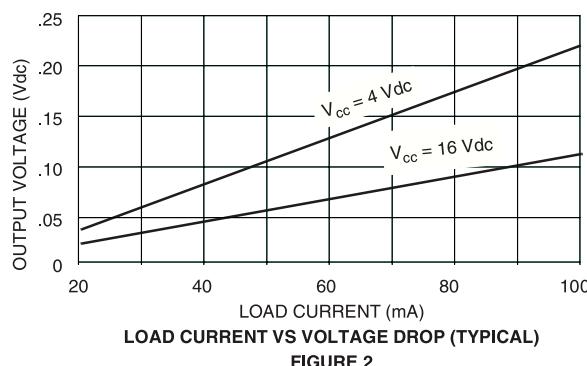
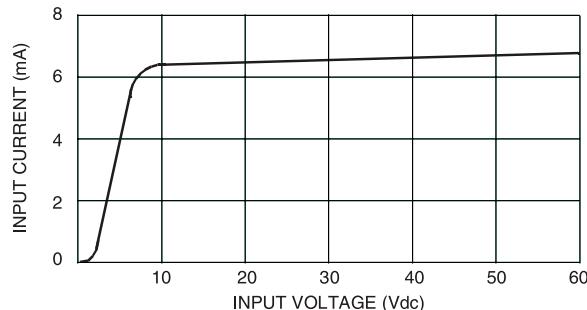
| Parameter | Min | Max | Units |
|---------------------------------------|------|------|-------|
| Control Voltage Range | 9.0 | 60.0 | Vdc |
| Control Current @ 55 Vdc | 10.0 | | mA |
| Must Turn-On Voltage | 9.0 | | Vdc |
| Must Turn-Off Voltage | | 1.5 | Vdc |
| Input Transient ($\leq 1\text{ms}$) | | 100 | Vdc |

INPUT (ENABLE) SPECIFICATIONS

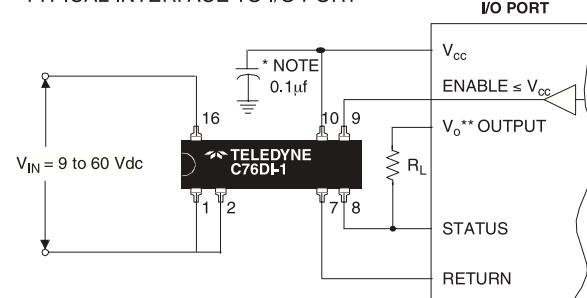
| Parameter | Min | Max | Units |
|----------------|-----|------|---------------|
| Enable Voltage | 2.0 | 15.0 | Vdc |
| Enable Current | | 10.0 | μA |

OUTPUT (LOAD) SPECIFICATIONS

| Parameter | Min | Max | Units |
|---|--------|------|---------------|
| Logic Supply Voltage (V_{cc}) | 4.0 | 16.0 | Vdc |
| Output Breakdown Voltage Rating (V_o) | | 60 | Vdc |
| Output Current Rating | | 100 | mA |
| Output Voltage Drop | | 0.5 | Vdc |
| Leakage Current (Off-State) @ 15 Vdc | | 10.0 | μA |
| Turn-On Time | | 3.0 | ms |
| Turn-Off Time | | 3.0 | ms |
| Isolation (Input to Output) | 10^9 | | Ohms |
| Dielectric Strength (Input to Output) | 3750 | | Vac |
| Capacitance (Input to Output) | | 5.0 | pF |
| Junction Temperature (T_J) | | 125 | °C |



TYPICAL INTERFACE TO I/O PORT



ELECTRICAL SPECIFICATIONS

(25°C UNLESS OTHERWISE SPECIFIED)

TTL INPUT (2 TERMINAL) SPECIFICATIONS (See Figure 4)

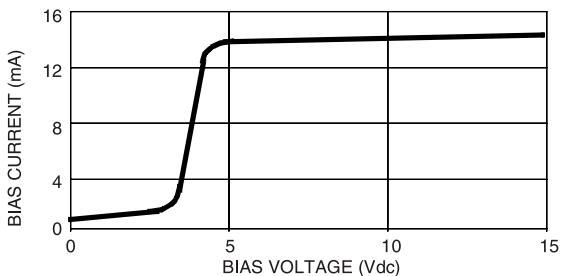
| Parameter | Min | Max | Units |
|----------------------------|-------|------|-------|
| Control Voltage Range | 3.8 | 16.0 | Vdc |
| Control Current @ 5.0 Vdc | 15.0 | | mA |
| Must Turn-On Voltage | 3.8 | | Vdc |
| Must Turn-Off Voltage | 1.5 | | Vdc |
| Reverse Voltage Protection | -32.0 | | Vdc |

CMOS INPUT (3 TERMINAL) SPECIFICATIONS (See Figure 4)

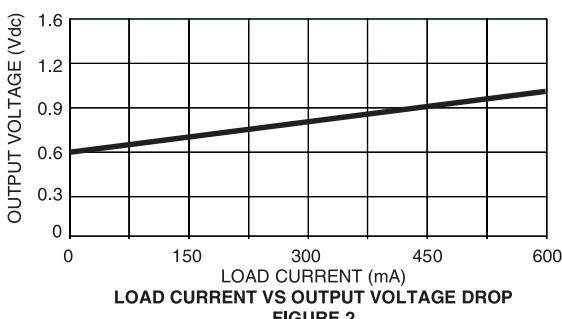
| Parameter | Min | Max | Units |
|-------------------------|------|-----|-------|
| Control Voltage | 16.0 | | Vdc |
| Control Current @ 5 Vdc | 250 | | µA |
| Must Turn-On Voltage | 0.5 | | Vdc |
| Must Turn-Off Voltage | 2.8 | | Vdc |
| Bias Supply Range | 3.8 | 16 | Vdc |
| Bias Current | 15 | | mAdc |

OUTPUT (LOAD) SPECIFICATIONS

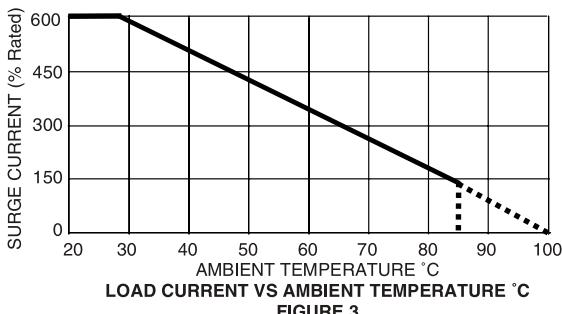
| Parameter | Min | Max | Units |
|--|-----------------|-----|-------|
| Load Voltage Range | 3.0 | 60 | Vdc |
| Output Current Rating | 600 | | mAdc |
| Output Voltage Drop @ 600 mA | 1.5 | | Vdc |
| Turn-On Time | 50 | | µs |
| Turn-Off Time | 180 | | µs |
| Leakage Current (Off-State) @ 50 Vdc | 20 | | µA |
| Isolation (Input to Output) | 10 ⁹ | | Ohms |
| Dielectric Strength (Input to Output) | 3750 | | Vac |
| Capacitance (Input to Output) | 5.0 | | pF |
| Junction Temperature (T _J) | 150 | | °C |



BIAS CURRENT VS VOLTAGE (TYPICAL)
FIGURE 1



LOAD CURRENT VS OUTPUT VOLTAGE DROP
FIGURE 2



LOAD CURRENT VS AMBIENT TEMPERATURE °C
FIGURE 3

TYPICAL INTERFACE TO TTL AND CMOS LOGIC

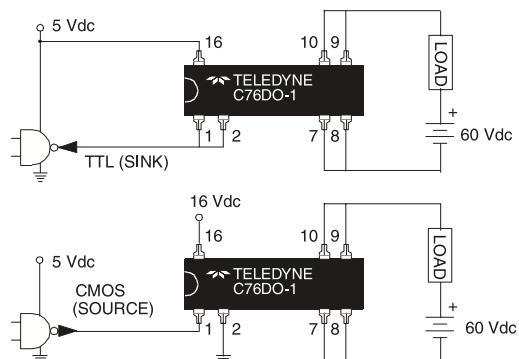


FIGURE 4

Данный компонент на территории Российской Федерации**Вы можете приобрести в компании MosChip.**

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибуторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ Р В 0015-002 и ЭС РД 009

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