



Control over power

# DC Output Buffered Modules

- **Compatible with 5 & 15 Volt Logic Systems**
- **Buffered Inverting and Non-Inverting Modules**

Buffered output modules contain additional internal amplification to reduce drive requirements to a level suitable for the MOS devices used in many micro-processor systems. To further reduce the need for additional interface components, they are available with both inverting and non-inverting inputs, for 5 volt or 15 volt logic.

## INPUT SPECIFICATIONS

(All voltages referenced to pin 5)

|                                                  | 6311          | 6321      | 6341          | 6351      |
|--------------------------------------------------|---------------|-----------|---------------|-----------|
| Nominal Input Voltage [Vdc]                      | 5             | 5         | 15            | 15        |
| Output Module Type                               | Non-Inverting | Inverting | Non-Inverting | Inverting |
| Must Turn On Voltage Range @pin 4 [Vdc]          | 0.0 - 0.8     | 2.4 - 6.0 | 0.0 - 2.0     | 8.0 - 18  |
| Must Turn Off Voltage Range @pin 4 [Vdc]         | 2.4 - 6.0     | 0.0 - 0.8 | 8.0 - 18      | 0.0 - 2.0 |
| Max. Input On-Current (Sink) @pin 4 [μA]         | 75 @0.8V      | —         | 175 @2.0V     | —         |
|                                                  | 100 @0.0V     | —         | 250 @0.0V     | —         |
| Max. Input On-Current (Source) @pin 4 [μA]       | —             | 75 @2.4V  | —             | 75 @8.0V  |
|                                                  | —             | 250 @6.0V | —             | 200 @18V  |
| Max. Input Current For Output (Sink)             | 10            | 10        | 10            | 10        |
| Off-State @pin 4 [μA] ② (Source)                 | 10            | 10        | 10            | 10        |
| Logic Supply Voltage Range [Vdc]                 | 3.5 - 6.0     | 3.5 - 6.0 | 10 - 18       | 10 - 18   |
| Max. Logic Supply Current (w/o LED) @5Vdc [mA] ① | 20            | 20        | 25            | 25        |
| Max. Logic Supply Current (w/ LED) @5Vdc [mA] ①  | 15            | 15        | 22            | 22        |

## OUTPUT SPECIFICATIONS

|                               |            |            |            |            |
|-------------------------------|------------|------------|------------|------------|
| Load Current Range @45° C [A] | 0.02 - 3.5 | 0.02 - 3.5 | 0.02 - 3.5 | 0.02 - 3.5 |
| Load Voltage Range [Vdc]      | 3.0 - 60   | 3.0 - 60   | 3.0 - 60   | 3.0 - 60   |
| Max. Surge Current [A]        | 5.0        | 5.0        | 5.0        | 5.0        |
| Max. On-State Voltage [Vdc]   | 1.5        | 1.5        | 1.5        | 1.5        |
| Max. Off-State Leakage [mA]   | 1.0        | 1.0        | 1.0        | 1.0        |
| Max. Turn On Time [μS]        | 100        | 100        | 100        | 100        |
| Max. Turn Off Time [μS]       | 100        | 100        | 100        | 100        |
| Transient Overvoltage [Vdc]   | 60         | 60         | 60         | 60         |

## GENERAL NOTES

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① LED optional. Placed in series with pin 3 for status indication.

② Max. allowable leakage current from driver maintain output off-state.

③ Inductive loads must be diode suppressed.

For recommended applications and more information contact:

USA: (800) 8 CRYDOM • (800) 827-9366 • (619) 715-7200 • fax (619) 715-7280

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WEB SITE: <http://www.crydom.com> FASTFAX Product Information: (888) 267-9191

UK: (44)1202 812300 • fax (44)1202 812340 Crydom International Ltd., 85, Condor Close, Woolsbridge Industrial Estate, Three-Legged Cross, Wimborne, Dorset, England BH21 6SJ

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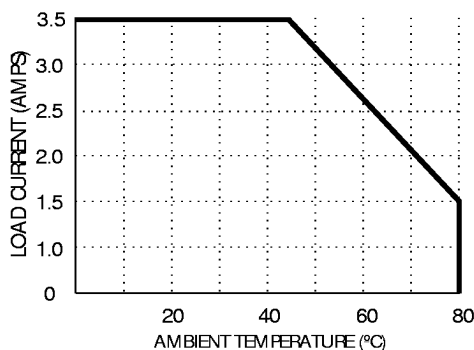
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## GENERAL SPECIFICATIONS

|                                                |                       |
|------------------------------------------------|-----------------------|
| Min. Dielectric Input/Output (1 minute)        | 4,000 VRMS            |
| Min. Isolation Resistance Input/Output (@500V) | 10 <sup>10</sup> Ohms |
| Capacitance input to output                    | 8 pF                  |
| Temperature Range — Operating                  | -40° C to 80° C       |
| Temperature Range — Storage                    | -40° C to 125° C      |

## CURRENT DERATING CURVE



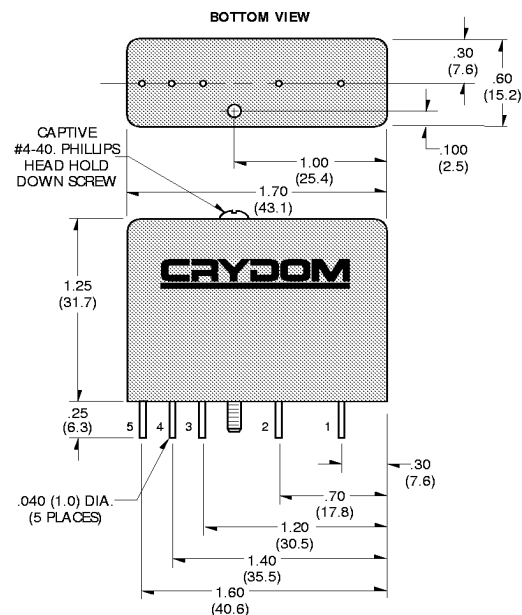
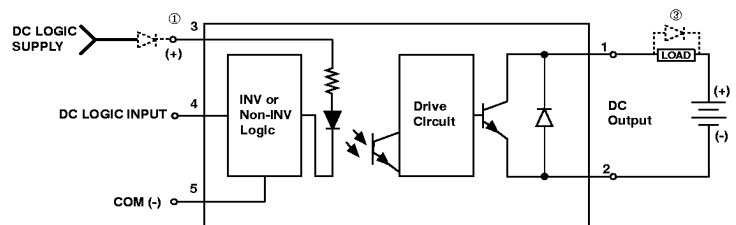
Max. Load Current vs. Temp.

## BUFFERED OUTPUT MODULES

A buffered non-inverting module turns on when pin 4 is held in the low state (logic 0), the same as standard modules driven in the sink mode. A buffered inverting module conversely turns on when pin 4 is held high (logic 1). In the absence of an input signal and/or logic supply (open circuit), all models will be in the off-state.

Buffered modules may be used with standard 5 pin PB or MS mounting boards. However, the 3.3K pull-up resistor will add to the logic drive current of a non-inverting module and may be removed. For an inverting module, the resistor must be removed to avoid a false "on" command, unless a "normally closed" condition is desirable for use with a ground seeking (logic 0) signal source.

## WIRING & MECHANICAL DIAGRAMS



All dimensions are in inches (millimeters)

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