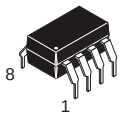
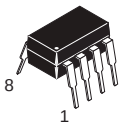
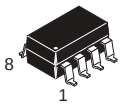


PDIP8 6.6x3.81, 2.54P
CASE 646BW



PDIP8 9.655x6.6, 2.54P
CASE 646CQ

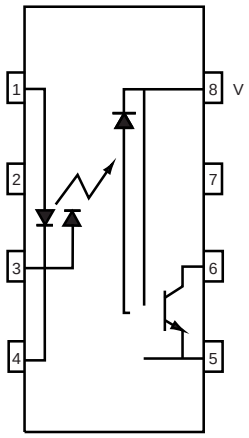


PDIP8 GW
CASE 709AC

MARKING DIAGRAM

MID400	= Specific Device Code
V	= DIN EN/IEC60747−5−5 Option (only appears on component ordered with this option)
XX	= Two−Digit Year Code, e.g., “06”
YY	= Digit Work Week, Ranging from “01” to “53”
T1	= Assembly Package Code

FUNCTIONAL SCHEMATIC



Applications

- Monitoring of the AC/DC “Line−down” Condition
- “Closed−loop” Interface between Electromechanical Elements such as Solenoids, Relay Contacts, Small Motors, and Microprocessors
- Time Delay Isolation Switch

ORDERING INFORMATION

See detailed ordering and shipping information on page 8 of this data sheet.

SAFETY AND INSULATION RATINGS (As per DIN EN/IEC 60747−5−5, this optocoupler is suitable for “safe electrical insulation”

APPLICATION INFORMATION

The input of the MID400 consists of two back−to−back LED diodes which will accept and convert alternating currents into light energy. An integrated photo diode−detector amplifier forms the output network. Optical coupling between input and output provides 2500 VAC_{RMS} voltage isolation. A very high current transfer ratio (defined as the ratio of the DC output current and the DC input current) is achieved through the use of high gain amplifier. The detector amplifier circuitry operates from a 5 V DC supply and drives an open collector transistor output. The switching times are intentionally designed to be slow in order to enable the MID400, when used as an AC line monitor, to respond only to changes in input voltage exceeding many milliseconds. The short period of time during zero−crossing which occurs once every half cycle of the power line is completely ignored. To operate the MID400, always add a resistor, R_{IN}, in series with the input (as shown in figure 2) to limit the current to the required value. The value of the resistor can be determined by the following equation:

$$R_{IN} = \frac{V_{IN} - V_F}{I_{IN}} \qquad \text{(eq. 1)}$$

Where,

V_{IN} (RMS) is the input voltage.

V_F is the forward voltage drop across the LED.

I_{IN} (RMS) is the desired input current required to sustain a logic “O” on the output.

PIN DESCRIPTION

Pin Number	Pin Name	Description
1, 3	V	

I_{OL}
Low−Level Output Current

The current flowing into an output with input conditions applied according to the product specification will establish low−level at the output.

I_{CCL}
Supply Current, Output LOW

The current flowing into the V_{CC} supply terminal of a circuit when the output is at a low−level voltage.

I_{CCH}
Supply Current, Output HIGH

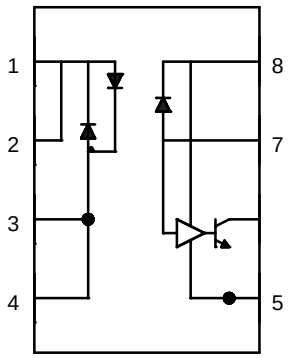
The current flowing into the V_{CC} supply terminal of a circuit when the output is at a high−level voltage.

Dynamic Characteristics

t_{ON}
Turn−On Time

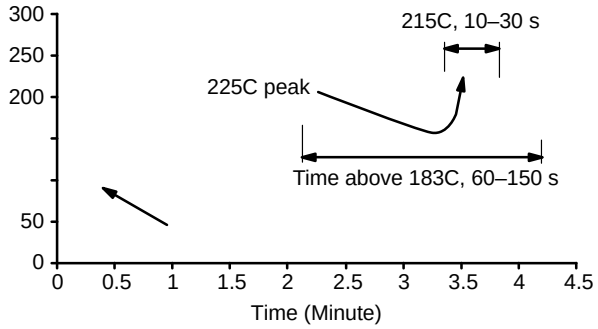
The time between the specified reference points on the input and the output voltage waveforms with the output changing from the defined high−level to the defined low−

TEST CIRCUITS

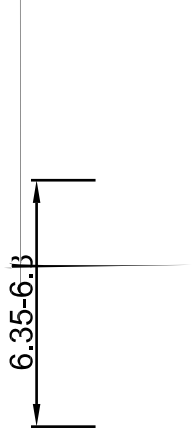


1	8
2	7
3	6
4	5

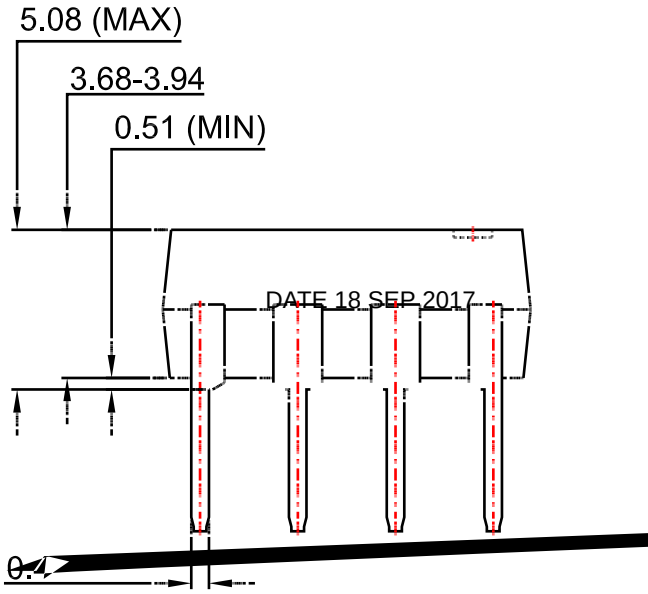
REFLOW PROFILE



PDIP8 6.6x3.81, 2.54P



PDIP8 9.655x6.6, 2.54P
CASE 646CQ
ISSUE O



PDIP8 GW
CASE 709AC
ISSUE O

LAN

TO THIS PACKAGE

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