

# Delphi Input/Output Device with RAM

## ▶ Description

The Delphi Input/Output Device with RAM (IOR) is intended for use within systems employing a 6800-style microprocessor. This part adds expansion capability for additional I/O control and a 2K x 8 static RAM. The IOR contains three (3) banks of 8-bit wide programmable port pins directly controlled by the host processor. The RAM is directly accessible through the data pins and addressable via the address lines. In addition, the IOR contains four (4) separate PWM channels individually controlled by the host which can be programmed for varying frequency and duty cycle. The IOR contains special reset logic to allow multiprocessor applications. The IOR contains four open drain outputs that can be used to control external PNP switches. The logic also has a separate "Keep Alive" power supply which allows for a "shutdown" mode on the IC while retaining data stored in RAM.

## ▶ Features

- Three (3) I/O ports (8 bits wide)
- Four (4) configurable PWMs
- Multi-processor reset capability
- "Keep Alive" mode
- 2K x 8 static RAM

## ▶ Packaging

- Available in 68-pin PLCC

## ▶ Typical Applications

- Automotive Electronics
- Control Systems with Embedded Processor

# Delphi Input/Output Device with RAM

Recommended Operating Conditions			
Characteristic	Symbol	Value	Unit
Supply Voltage	Vdd	4.75 to 5.25	V
Operating Temp. Range, Ambient	Ta	-40 to +125	°C

Absolute Maximum Ratings			
Characteristic	Symbol	Value	Unit
Supply Voltage	Vdd	-0.5 to 6.0	V
Input Voltage	Vin	-0.5 to Vdd+0.5	V
Storage Temp. Range	Tstg	-65 to 150	°C
Max. Junction Temp.		150	°C

Electrical Performance Characteristics						
Characteristics	Symbol	Condition	Min	Max	Typ	Unit
<b>Output Voltage Low</b>	Vol					
SOD, CNOP*, RST1/2*		Iol = 2.0mA		0.4	0.25	V
Data, Ports, PWM		Iol = 1.6mA		0.4	0.25	V
<b>Output Voltage High</b>	Voh					
Data, Ports, PWM		Ioh = -0.8mA	Vdd-0.8		Vdd-0.2	V
CNOP*		Ioh = -1.0mA	Vdd-0.8		Vdd-0.2	V
<b>Input Voltage Low</b>	Vil					
Ports				.55Vdd	.6Vdd	V
CS*, RST1/2*, A0-A10, Data, E, MRST*, RW*				.3Vdd	.45Vdd	V
<b>Input Voltage High</b>	Vih					
Ports			.65Vdd	.6Vdd		V
CS*, RST1/2*, A0-A10, Data, E, MRST*, RW*			.7Vdd		.5Vdd	V
<b>Operating Supply Current</b>	Idd	MRST* & CS* = OV, E running		40	23	mA
<b>"Keep Alive" Current</b>	Ikam	Vdd = OV, VKAM = 5.25V		10	1	µA
<b>Operating Frequency</b>	F		.5	5	4.2	MHz
<b>Data Access Time</b>	Tacc	Output Mode, Load = 100pF		75	15	ns