

Delphi Input/Output Device

▶ Description

The Delphi Input/Output Device (IOD) is intended for use with systems employing a 6800-style microprocessor. The purpose of this part is to add expansion capability for additional I/O control. The IOD performs this through three banks of 8-bit wide programmable port pins directly controlled by the host processor. In addition, the IOD contains four separate PWM channels individually controlled by the host which can be programmed for varying frequency and duty cycle. The IOD also contains special reset logic to allow multiprocessor applications. The IOD contains two open drain outputs that can be used to control external PNP switches. The reset logic also has a separate "Keep Alive" power supply which allows for a "shutdown" mode on the IC.

▶ Features

- Three I/O ports (8 bits wide)
- Four configurable PWMs
- Multi-Processor reset capability
- "Keep Alive" mode

▶ Packaging

- Available in QFP or PLCC
- Available in Flip Chip

▶ Typical Applications

- Automotive Electronics
- Control Systems with Embedded Processors

Delphi Input/Output Device

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 7.0	V
Input Voltage	Vin	-0.5 to Vdd +.05	V
Storage Temp. Range	Tstg	-65 to 150	°C
Max. Junction Temp.		150	°C

Electrical Performance Characteristics - IOD						
Characteristics	Symbol	Condition	Min	Max	Typ	Unit
Output Voltage Low	Vol					
SOD Pin		Iol=2.0 mA (open drain)		0.5	0.25	V
CNOP*, RST 1/2*				0.4	0.25	V
Data, Ports, PWM		Iol=1.6 mA		0.4	0.25	V
Output Voltage High	Voh					
Data, Ports, PWM		Ioh=-0.8 mA	Vdd -0.8		Vdd -0.2	V
CNOP*		Ioh=-1.0 mA	Vdd -0.8		Vdd -0.2	V
Input Voltage Low	Vil					
Ports				.055 Vdd	0.6 Vdd	V
CS*, Data, E, R/W, RS				.03 Vdd	0.45 Vdd	V
MRST*, RST 1/2*				.03 Vkam	0.45 Vkam	V
Input Voltage High	Vih					
Ports			0.65 Vdd		0.6 Vdd	V
CS*, Data, E, R/W, RS			0.7 Vdd		0.5 Vdd	V
MRST*, RST 1/2			0.7 Vkam		0.5 Vkam	V
Operating Supply Current	Idd	MRST* & CS* = 0 V, E running		25	15	mA
"Keep Alive" Current	Ikam	Vdd=0 V, Vkam=5.25 V		5	0.5	µA
Operating Frequency	F		0.5	4	3.15	MHz
Data Access Time	Tacc	Output Mode, Load=100 pF		108	70	ns