

DP802518

DP802518 TROPIC Tsunami(TM) TROPIC II(TM) Microcode ROM



Literature Number: SNOS698A

DP802518 TROPIC Tsunami™ TROPIC II™ Microcode ROM

General Description

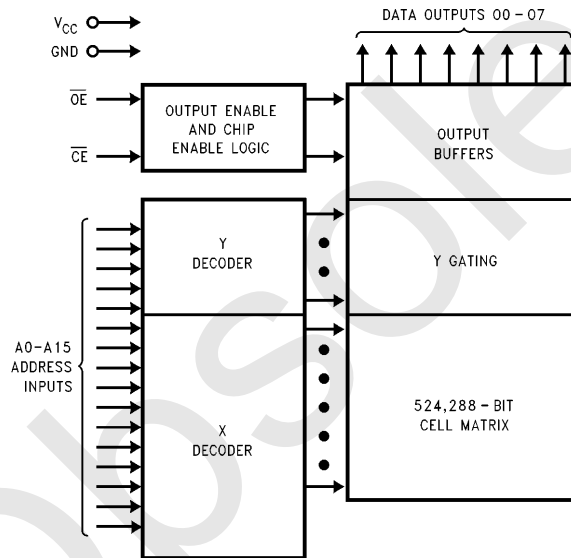
The DP802518 Tsunami is the microcode device for the high performance Token Ring Protocol Interface Controller—TROPIC II Token Ring chipset. This device features an interface compatible to the DP80253 controller, which allows direct connection without the use of glue logic.

The DP802518 Tsunami is implemented using National Semiconductor's Advanced CMOS process, and operates from a single $5V \pm 10\%$ power supply. The Tsunami is available in either a 28-pin DIP or 32-pin PLCC package.

Features

- TROPIC II compatible
 - Glueless interface
- High performance CMOS
- Surface Mount and DIP Packages
 - 28-pin molded plastic DIP
 - 32-pin PLCC

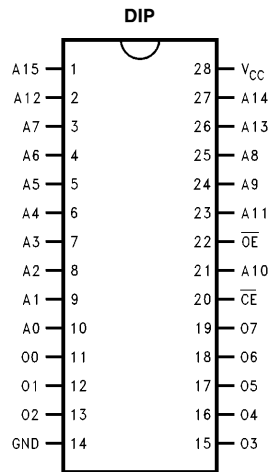
Block Diagram



TL/F/11914-1

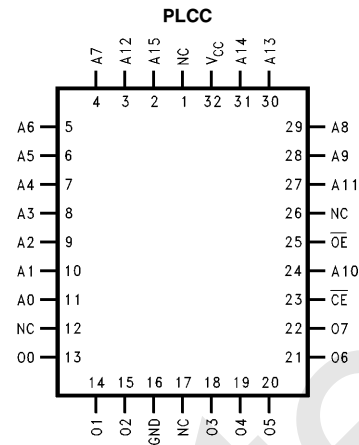
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Connection Diagrams



Order Number DP802518N
See NS Package Number N28B

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TL/F/11914-3

Order Number DP802518V
See NS Package Number VA32A

Commercial Temperature Range (0°C to +70°C)
V_{CC} = 5V ± 10%

Parameter/Order Number	Check Sum
DP802518 N, V	xxxx

Pin Names

A0–A15	Addresses
$\overline{CE}$	Chip Enable
$\overline{OE}$	Output Enable
O0–O7	Outputs
NC	No Connect

Absolute Maximum Ratings (Note 1)

If Military/Aerospace specified devices are required, please contact the National Semiconductor Sales Office/Distributors for availability and specifications.

Storage Temperature -65°C to $+150^{\circ}\text{C}$

All Input Voltages with Respect to Ground -0.6V to $+7\text{V}$

V_{CC} Supply Voltage with Respect to Ground -0.6V to $+7\text{V}$

ESD Protection $>2000\text{V}$

All Output Voltages with Respect to Ground $V_{\text{CC}} + 1.0\text{V}$ to GND -0.6V

Operating Range

Range	Temperature	V_{CC}
Commercial	0°C to $+70^{\circ}\text{C}$	$5\text{V} \pm 10\%$

Read Operation

DC Electrical Characteristics Over operating range

Symbol	Parameter	Test Conditions	Min	Max	Units
V_{IL}	Input Low Level		-0.5	0.8	V
V_{IH}	Input High Level		2.0	$V_{\text{CC}} + 1$	V
V_{OL}	Output Low Voltage	$I_{\text{OL}} = 2.1\text{ mA}$		0.4	V
V_{OH}	Output High Voltage	$I_{\text{OH}} = -400\text{ }\mu\text{A}$	3.5		V
I_{SB1}	V_{CC} Standby Current (CMOS)	$\overline{\text{CE}} = V_{\text{CC}} \pm 0.3\text{V}$		100	μA
I_{SB2}	V_{CC} Standby Current	$\overline{\text{CE}} = V_{\text{H}}$		1	mA
I_{CC}	V_{CC} Active Current	$\overline{\text{CE}} = \overline{\text{OE}} = V_{\text{IL}}, I/\text{O} = 0\text{ mA}$		40	mA
I_{LI}	Input Load Current	$V_{\text{IN}} = 5.5\text{V}$ or GND	-1	1	μA
I_{LO}	Output Leakage Current	$V_{\text{OUT}} = 5.5\text{V}$, OR GND	-10	10	μA

AC Electrical Characteristics Over operating range

Symbol	Parameter	Min	Max	Units
t_{ACC}	Address to Output Delay		120	ns
t_{CE}	$\overline{\text{CE}}$ to Output Delay		120	
t_{OE}	$\overline{\text{OE}}$ to Output Delay		50	
t_{DF} (Note 2)	Output Disable to Output Float		25	
t_{OH} (Note 2)	Output Hold From Addresses, $\overline{\text{CE}}$ or $\overline{\text{OE}}$, Whichever Occurred First	7		

Capacitance $T_{\text{A}} = +25^{\circ}\text{C}$, $f = 1\text{ MHz}$ (Note 2)

Symbol	Parameter	Conditions	Typ	Max	Units
C_{IN}	Input Capacitance	$V_{\text{IN}} = 0\text{V}$	13	20	pF
C_{OUT}	Output Capacitance	$V_{\text{OUT}} = 0\text{V}$	13	20	pF

AC Test Conditions

Output Load	1 TTL Gate and $C_{\text{L}} = 100\text{ pF}$ (Note 8)	Input Pulse Levels Timing Measurement Level (Note 8)	0.45V to 2.4V (Note 8)
Input Rise and Fall Time	$\leq 5\text{ ns}$	Inputs Outputs	0.8V and 2V 0.8V and 2V

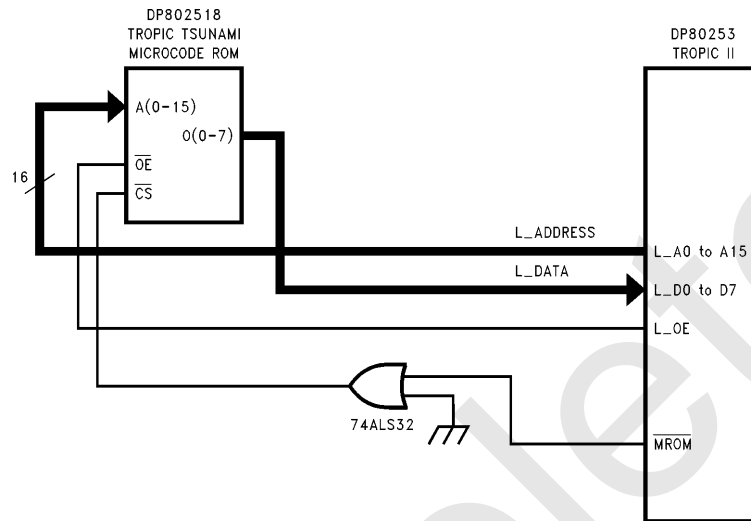
Mode Selection

The modes of operation for the Tsunami are listed in Table I. A single 5V power supply is required and all inputs are at TTL levels.

TABLE I. Mode Selection

Mode	$\overline{CE}$	$\overline{OE}$	V_{CC}	Outputs
Read	V_{IL}	V_{IL}	5.0V	D_{OUT}
Standby	V_{IH}	X	5.0V	High Z
Output Disable	X	V_{IH}	5.0V	High Z

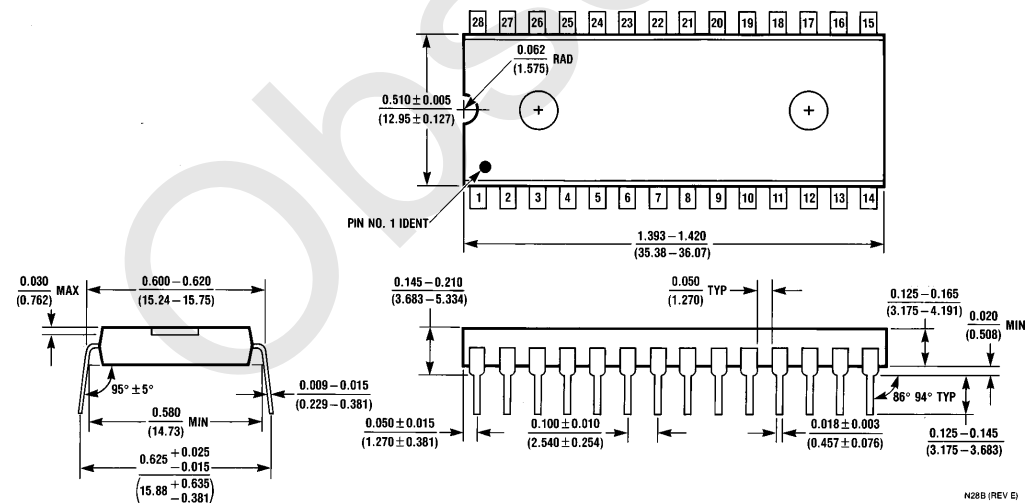
Note 1: X can be V_{IL} or V_{IH} .



TL/F/11914-5

FIGURE 1. Typical Interfacing of the TROPIC Tsunami Microcode ROM

Physical Dimensions inches (millimeters)



28-Lead (0.600" Wide) Molded Dual-In-Line Package
Order Number DP802518N
NS Package Number N28B

N28B (REV E)



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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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