

## DM54/74LS471 (256 x 8) 2048-Bit TTL PROMs

### General Description

These Schottky memories are organized in the popular 256 words by 8 bits configuration. Memory enable inputs are provided to control the output states. When the device is enabled, the outputs represent the contents of the selected word. When disabled, the 8 outputs go to the "OFF" or high impedance state.

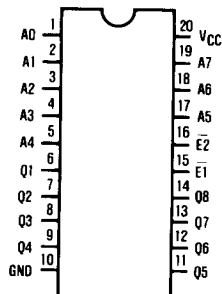
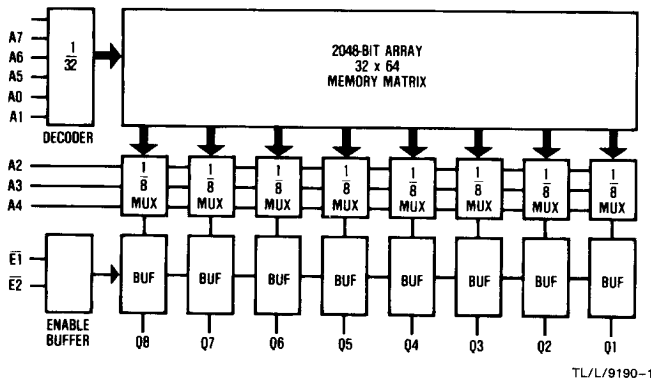
PROMs are shipped from the factory with lows in all locations. A high may be programmed into any selected location by following the programming instructions.

### Features

- Advanced titanium-tungsten (Ti-W) fuses
- Schottky-clamped for high speed
  - Address access—40 ns typ
  - Enable access—15 ns typ
  - Enable recovery—15 ns typ
- PNP inputs for reduced input loading
- All DC and AC parameters guaranteed over temperature
- Low voltage TRI-SAFE™ programming

	Military	Commercial	Open-Collector	TRI-STATE®	Package
DM74LS471		X		X	N, J, V
DM54LS471	X			X	J

### Block and Connection Diagrams



TL/L/9190-2

**Order Number DM54LS471J,  
DM74LS471J, DM74LS471N  
or DM74LS471V  
See NS Package Number  
J20A, N20A or V20A**

## DC Electrical Characteristics (Note 1)

Symbol	Parameter	Conditions	DM54LS471			DM74LS471			Units
			Min	Typ	Max	Min	Typ	Max	
I <sub>IL</sub>	Input Load Current	V <sub>CC</sub> = Max, V <sub>IN</sub> = 0.45V		-80	-250		-80	-250	μA
I <sub>IH</sub>	Input Leakage Current	V <sub>CC</sub> = Max, V <sub>IN</sub> = 2.7V			25			25	μA
		V <sub>CC</sub> = Max, V <sub>IN</sub> = 5.5V			1.0			1.0	mA
V <sub>OL</sub>	Low Level Output Voltage	V <sub>CC</sub> = Min, I <sub>OL</sub> = 16 mA		0.35	0.50		0.35	0.45	V
V <sub>IL</sub>	Low Level Input Voltage				0.80			0.80	V
V <sub>IH</sub>	High Level Input Voltage		2.0			2.0			V
V <sub>C</sub>	Input Clamp Voltage	V <sub>CC</sub> = Min, I <sub>IN</sub> = -18 mA		-0.8	-1.2		-0.8	-1.2	V
C <sub>I</sub>	Input Capacitance	V <sub>CC</sub> = 5.0, V <sub>IN</sub> = 2.0V T <sub>A</sub> = 25°C, 1 MHz		4.0			4.0		pF
C <sub>O</sub>	Output Capacitance	V <sub>CC</sub> = 5.0V, V <sub>O</sub> = 2.0V T <sub>A</sub> = 25°C, 1 MHz, Outputs Off		6.0			6.0		pF
I <sub>CC</sub>	Power Supply Current	V <sub>CC</sub> = Max, Inputs Grounded All Outputs Open		75	100		75	100	mA

### TRI-STATE Parameters

I <sub>OS</sub>	Short Circuit Output Current	V <sub>O</sub> = 0V, V <sub>CC</sub> = Max (Note 2)	-20		-70	-20		-70	mA
I <sub>OZ</sub>	Output Leakage (TRI-STATE)	V <sub>CC</sub> = Max, V <sub>O</sub> = 0.45V to 2.4V Chip Disabled			+50			+50	μA
					-50			-50	μA
V <sub>OH</sub>	Output Voltage High	I <sub>OH</sub> = -2.0 mA	2.4	3.2					V
		I <sub>OH</sub> = -6.5 mA				2.4	3.2		V

## AC Electrical Characteristics (With Standard Load and Operating Conditions)

Symbol	JEDEC Symbol	Parameter	DM54LS471			DM74LS471			Units
			Min	Typ	Max	Min	Typ	Max	
TAA	TAVQV	Address Access Time		45	70		40	60	ns
TEA	TEVQV	Enable Access Time		15	35		15	30	ns
TER	TEXQX	Enable Recovery Time		15	35		15	30	ns
TZX	TEVQX	Output Enable Time		15	35		15	30	ns
TXZ	TEXQZ	Output Disable Time		15	35		15	30	ns

**Note 1:** These limits apply over the entire operating range unless stated otherwise. All typical values are for V<sub>CC</sub> = 5.0V and T<sub>A</sub> = 25°C.

**Note 2:** During I<sub>OS</sub> measurement, only one output at a time should be grounded. Permanent damage may otherwise result.