

PART NUMBER

74S472AN-ROCS

Rochester Electronics

Manufactured Components

Rochester branded components are manufactured using either die/wafers purchased from the original suppliers or Rochester wafers recreated from the original IP. All re-creations are done with the approval of the Original Component Manufacturer. (OCM)

Parts are tested using original factory test programs or Rochester developed test solutions to guarantee product meets or exceeds the OCM data sheet.

Quality Overview

- ISO-9001
- AS9120 certification
- Qualified Manufacturers List (QML) MIL-PRF-38535
 - Class Q Military
 - Class V Space Level

Qualified Suppliers List of Distributors (QSLD)

- Rochester is a critical supplier to DLA and meets all industry and DLA standards.

Rochester Electronics, LLC is committed to supplying products that satisfy customer expectations for quality and are equal to those originally supplied by industry manufacturers.

The original manufacturer's datasheet accompanying this document reflects the performance and specifications of the Rochester manufactured version of this device. Rochester Electronics guarantees the performance of its semiconductor products to the original OCM specifications. 'Typical' values are for reference purposes only. Certain minimum or maximum ratings may be based on product characterization, design, simulation, or sample testing.

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DM54/74S472 (512 x 8) 4096-Bit TTL PROM

General Description

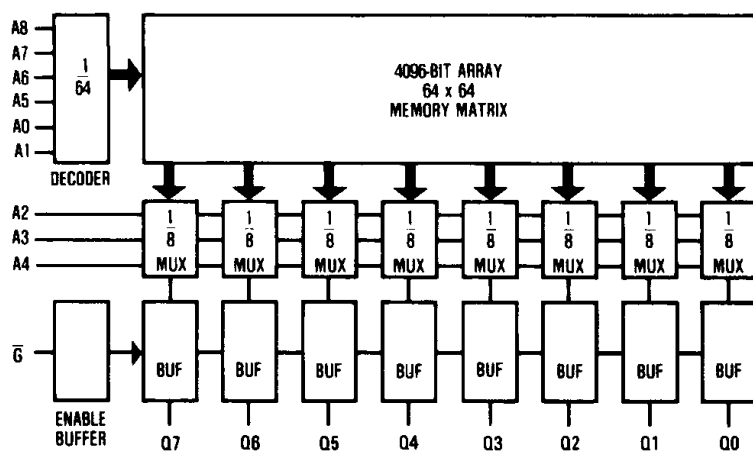
This Schottky memory is organized in the popular 512 words by 8 bits configuration. A memory enable input is provided to control the output states. When the device is enabled, the outputs represent the contents of the selected word. When disabled, the 8 outputs go to the "OFF" or high impedance state.

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 down to—35 ns max
 - Enable access—25 ns max
 - Enable recovery—25 ns max
- PNP inputs for reduced input loading
- All DC and AC parameters guaranteed over temperature
- Low voltage TRI-SAFE™ programming
- TRI-STATE® outputs

Block Diagram



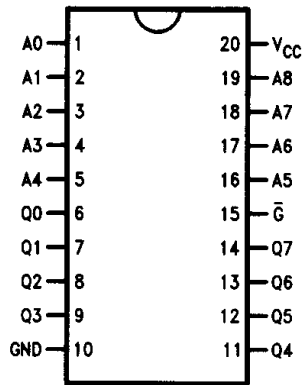
TL/D/9191-1

Pin Names

A0-A8	Addresses
\bar{G}	Output Enable
GND	Ground
Q0-Q7	Outputs
V _{CC}	Power Supply

Connection Diagrams

Dual-In-Line Package

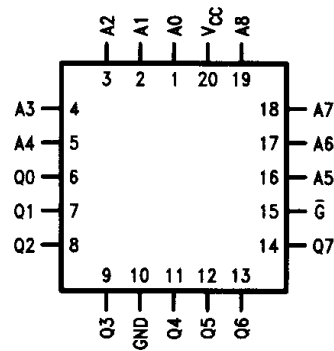


Top View

Order Number DM54/74S472J, 472AJ, 472BJ
DM74S472N, 472AN, 472BN
See NS Package Number J20A or N20A

TL/D/9191-2

Plastic Leaded Chip Carrier (PLCC)



Top View

Order Number DM74S472V, 472AV, 472BV
See NS Package Number V20A

TL/D/9191-3

Ordering Information

Commercial Temp Range (0°C to +70°C)

Parameter/Order Number	Max Access Time (ns)
DM74S472AN	45
DM74S472BN	35
DM74S472N	60
DM74S472AJ	45
DM74S472BJ	35
DM74S472J	60
DM74S472AV	45
DM74S472BV	35
DM74S472V	60

Military Temp Range (-55°C to +125°C)

Parameter/Order Number	Max Access Time (ns)
DM54S472AJ	60
DM54S472BJ	50
DM54S472J	75

Absolute Maximum Ratings (Note 1)

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

Supply Voltage (Note 2)	−0.5V to +7.0V
Input Voltage (Note 2)	−1.2V to +5.5V
Output Voltage (Note 2)	−0.5V to +5.5V
Storage Temperature	−65°C to +150°C
Lead Temp. (Soldering, 10 seconds)	300°C
ESD to be determined	

Note 1: Absolute maximum ratings are those values beyond which the device may be permanently damaged. They do not mean that the device may be operated at these values.

Note 2: These limits do not apply during programming. For the programming ratings, refer to the programming instructions.

Operating Conditions

	Min	Max	Units
Supply Voltage (V_{CC})			
Military	4.50	5.50	V
Commercial	4.75	5.25	V
Ambient Temperature (T_A)			
Military	−55	+125	°C
Commercial	0	+70	°C
Logical "0" Input Voltage	0	0.8	V
Logical "1" Input Voltage	2.0	5.5	V

DC Electrical Characteristics (Note 1)

Symbol	Parameter	Conditions	DM54S472			DM74S472			Units
			Min	Typ	Max	Min	Typ	Max	
I_{IL}	Input Load Current	$V_{CC} = \text{Max}, V_{IN} = 0.45V$		−80	−250		−80	−250	μA
I_{IH}	Input Leakage Current	$V_{CC} = \text{Max}, V_{IN} = 2.7V$			25			25	μA
		$V_{CC} = \text{Max}, V_{IN} = 5.5V$			1.0			1.0	mA
V_{OL}	Low Level Output Voltage	$V_{CC} = \text{Min}, I_{OL} = 16 \text{ mA}$		0.35	0.50		0.35	0.45	V
V_{IL}	Low Level Input Voltage				0.80			0.80	V
V_{IH}	High Level Input Voltage		2.0			2.0			V
V_C	Input Clamp Voltage	$V_{CC} = \text{Min}, I_{IN} = -18 \text{ mA}$		−0.8	−1.2		−0.8	−1.2	V
C_I	Input Capacitance	$V_{CC} = 5.0V, V_{IN} = 2.0V$ $T_A = 25^\circ C, 1 \text{ MHz}$		4.0			4.0		pF
C_O	Output Capacitance	$V_{CC} = 5.0V, V_O = 2.0V$ $T_A = 25^\circ C, 1 \text{ MHz}, \text{Outputs Off}$		6.0			6.0		pF
I_{CC}	Power Supply Current	$V_{CC} = \text{Max}, \text{Input Grounded}$ All Outputs Open		110	155		110	155	mA
I_{OS}	Short Circuit Output Current	$V_O = 0V, V_{CC} = \text{Max}$ (Note 2)	−20		−70	−20		−70	mA
I_{OZ}	Output Leakage (TRI-STATE)	$V_{CC} = \text{Max}, V_O = 0.45V \text{ to } 2.4V$ Chip Disabled			+50			+50	μA
					−50			−50	μA
V_{OH}	Output Voltage High	$I_{OH} = -2.0 \text{ mA}$	2.4	3.2					V
		$I_{OH} = -6.5 \text{ mA}$				2.4	3.2		V

Note 1: These limits apply over the entire operating range unless stated otherwise. All typical values are for $V_{CC} = 5.0V$ and $T_A = 25^\circ C$.

Note 2: During I_{OS} measurement, only one output at a time should be grounded. Permanent damage may otherwise result.

