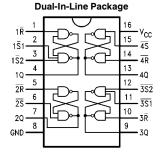


# 54279/DM74279 Quad Set-Reset Latch

## **General Description**

This device contains four independent set-reset type flipflops with one Q output each.

## **Connection Diagram**



TL/F/9785-1 Order Number 54279DMQB, 54279FMQB or DM74279N NS Package Number J16A, N16E or W16A

Pin Names	Description		
R <sub>n</sub>	Reset Inputs (Active Low)		
Sn	Set Inputs (Active Low)		
Q	Outputs		

## **Truth Table**

<u></u> \$1	Inputs S2	Output Q	
L	L	L	h
L	Х	н	н
Х	L	н	н
Н	н	L	L
Н	Н	н	No Change

H = HIGH Voltage Level

L = LOW Voltage Level

X = Immaterial

h= The output is HIGH as long as  $\overline{S}1$  or  $\overline{S}2$  is LOW. If all inputs go HIGH simultaneously, the output state is indeterminate; otherwise, it follows the Truth Table.

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54279/DM74279 Quad Set-Reset Latch

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#### Absolute Maximum Ratings (Note)

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

Supply Voltage	7V
Input Voltage	5.5V
Operating Free Air Temperature Range	
54	-55°C to +125°C
DM74	$0^{\circ}C$ to $+70^{\circ}C$
Storage Temperature Range	$-65^{\circ}$ C to $+150^{\circ}$ C

Note: The "Absolute Maximum Ratings" are those values beyond which the safety of the device cannot be guaranteed. The device should not be operated at these limits. The parametric values defined in the "Electrical Characteristics" table are not guaranteed at the absolute maximum ratings. The "Recommended Operating Conditions" table will define the conditions for actual device operation.

# **Recommended Operating Conditions**

Symbol	Parameter	54279			DM74279			Units	
	i arameter	Min	Nom	Max	Min	Nom	Max		
V <sub>CC</sub>	Supply Voltage	4.5	5	5.5	4.75	5	5.25	V	
VIH	High Level Input Voltage	2			2			V	
V <sub>IL</sub>	Low Level Input Voltage			0.8			0.8	V	
I <sub>OH</sub>	High Level Output Current			-0.8			-0.8	mA	
I <sub>OL</sub>	Low Level Output Current			16			16	mA	
T <sub>A</sub>	Free Air Operating Temperature	-55		125	0		70	°C	

#### **Electrical Characteristics**

over Recommended Operating Free Air Temperature Range (Unless Otherwise Noted)

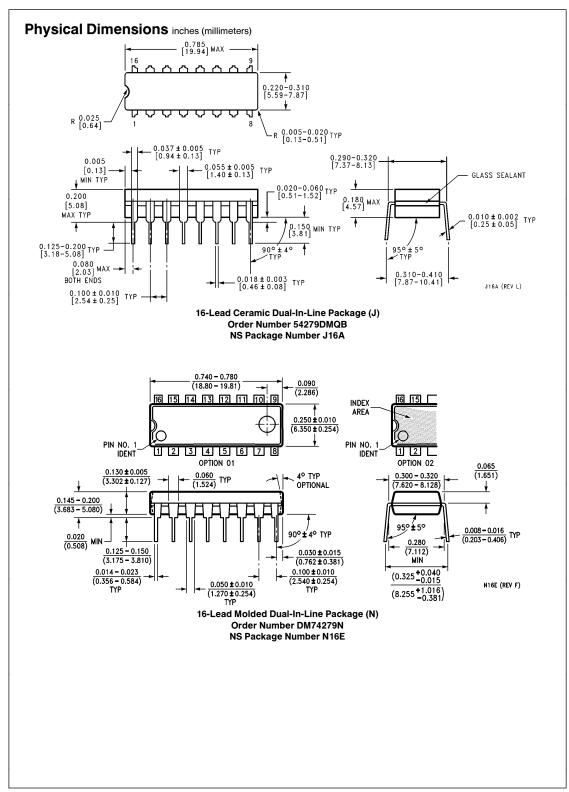
Symbol	Parameter	Con	Min	Typ (Note 1)	Max	Units	
VI	Input Clamp Voltage	$V_{CC} = Min, I_I = -12$	mA			-1.5	V
V <sub>OH</sub>	High Level Output Voltage	$V_{CC} = Min, I_{OH} = Max,$ $V_{IL} = Max$		2.4	3.4		v
V <sub>OL</sub>	Low Level Output Voltage	$V_{CC} = Min, I_{OL} = Ma$ $V_{IH} = Min$		0.2	0.4	V	
Ιį	Input Current @ Max Input Voltage	$V_{CC} = Max, V_I = 5.5V$				1	mA
IIH	High Level Input Current	$V_{CC} = Max, V_I = 2.4V$				40	μΑ
IIL	Low Level Input Current	$V_{CC} = Max, V_I = 0.4V$				-1.6	mA
los	Short Circuit	V <sub>CC</sub> = Max	54	-20		-55	mA
	Output Current	(Note 2) DM74	DM74	-18		-57	
ICC	Supply Current	$V_{CC} = Max, \overline{R} = 0V$				30	mA

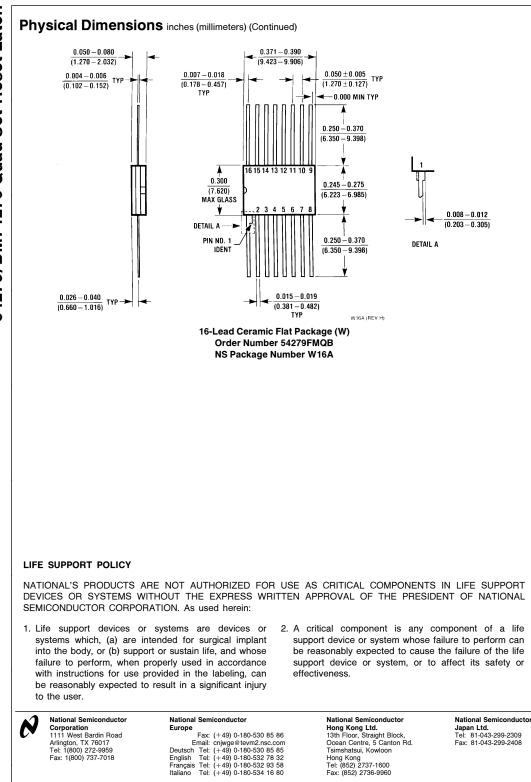
# **Switching Characteristics**

Symbol	Parameter	54/	Units	
oymbol		Min	Max	- Onits
tplh tphl	Propagation Delay $\overline{S}$ to Q		22 15	ns
t <sub>PHL</sub> Propagation Delay R to Q			27	ns

Note 1: All typicals are at V\_{CC}\,=\, 5V, T\_A  $=\,$  25°C.

Note 2: Not more than one output should be shorted at a time.





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