

EDU1000 Datasheet

CMOS MOSFET ARRAY (Revised: March 28, 2022)

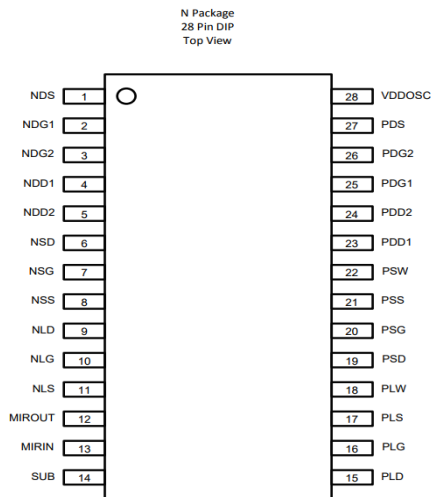
(Acknowledgement: Special thanks to Texas Instruments for their generous support for providing these MOS array chips)

RECOMMENDED OPERATING CONDITIONS:

Nominal operating conditions should be selected so that the operation is always within the following ranges:

CHARACTERISTIC / PARAMETER	TYPICAL	UNITS
V_{in}	0 to 5	V
$V_{dd,max}$	5	V
μC_{ox}	80	$\mu A / V^2$
V_{tn}	0.7	V
λ	.015	V^{-1}
γ	0.45	$V^{0.5}$

PIN CONFIGURATION:

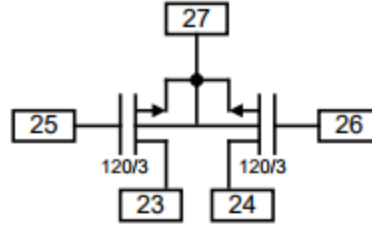
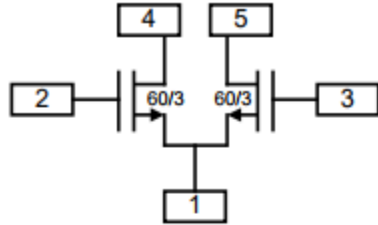


PIN FUNCTIONS:

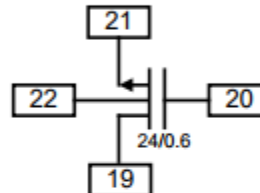
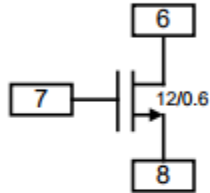
No.	Pin		Description
	No.	Name	
1	NDS	NMOS Differential Pair Shared Source	
2	NDG1	NMOS Differential Pair Gate 1	
3	NDG2	NMOS Differential Pair Gate 2	
4	NDD1	NMOS Differential Pair Drain 1	
5	NDD2	NMOS Differential Pair Drain 2	
6	NSD	NMOS Short Channel Drain	
7	NSG	NMOS Short Channel Gate	
8	NSS	NMOS Short Channel Source	
9	NLD	NMOS Long Channel Drain	
10	NLG	NMOS Long Channel Gate	
11	NLS	NMOS Long Channel Source	
12	MIROUT	NMOS Mirror Output (Drain)	
13	MIRIN	NMOS Mirror In (Gate + Drain)	
14	SUB	Chip Substrate (P type)	
15	PLD	PMOS Long Channel Drain	
16	PLG	PMOS Long Channel Gate	
17	PLS	PMOS Long Channel Source	
18	PLW	PMOS Long Channel Well (Bulk)	
19	PSD	PMOS Short Channel Drain	
20	PSG	PMOS Short Channel Gate	
21	PSS	PMOS Short Channel Source	
22	PSW	PMOS Short Channel Well (Bulk)	
23	PDD1	PMOS Differential Pair Drain 1	
24	PDD2	PMOS Differential Pair Drain 2	
25	PDG1	PMOS Differential Pair Gate 1	
26	PDG2	PMOS Differential Pair Gate 2	
27	PDS	PMOS Differential Pair Shared Source	
28	VDDOSC	Positive Supply for Ring Oscillator	

MOS CONFIGURATIONS: W/L values indicated

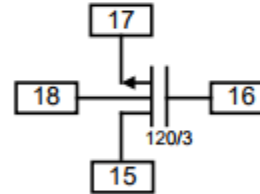
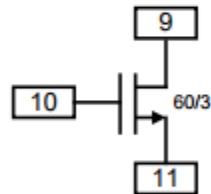
Differential Pairs



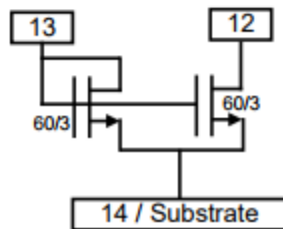
Short Channel Transistors



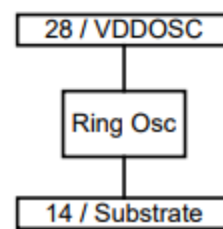
Long Channel Transistors



Current Mirror

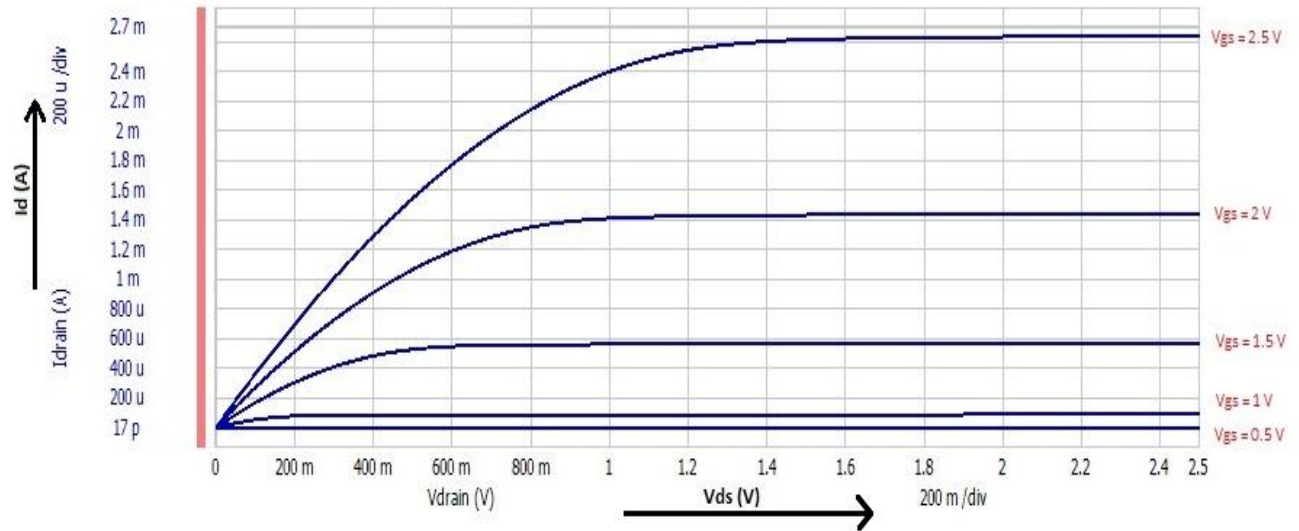


Ring Oscillator



I-V CHARACTERISTICS:

NMOS Long Channel:



NMOS Short Channel:

