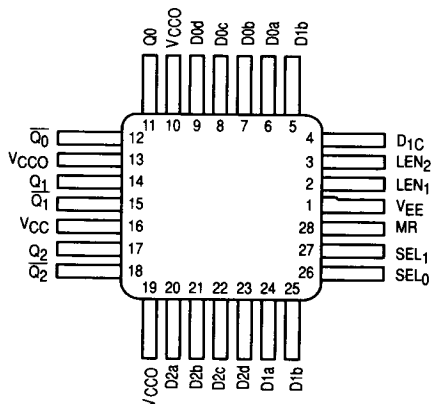




The 10E556 contains three 4:1 multiplexers followed by transparent latches with differential outputs. When both latch Enables (LEN1, LEN2) are Low, the latch is transparent, and output data is controlled by the multiplexer select controls (SEL0, SEL1). A logic High on either LEN1 or LEN2 (or both) latches the outputs. The Master Reset (MR) overrides all other controls to set the Q outputs Low.

- 950 ps Max. D to Output
- 850 ps Max. LEN to Output
- Differential Outputs
- Asynchronous Master Slave
- Dual Latch-Enable
- 75 k Ω Input Pulldown Resistors

Pin	Function
D _{0x} - D _{3x}	Input Data
SEL ₀ , SEL ₁	Select Inputs
LEN ₁ , LEN ₂	Latch Enable
MR	Master Reset
Q ₀ - Q ₅	True Outputs
$\overline{Q}_0$ - $\overline{Q}_5$	Inverted Outputs



1) JAN: N/A
2) SMD: N/A
3) 883: Planned
X = CASE OUTLINE AS FOLLOWS:

PACKAGE: NON-Compliant
QFP: X

MOTOROLA MILITARY MECL DATA
5-30

10E556

10E Series DC CHARACTERISTICS: $V_{EE} = -5.2 \text{ V} \pm 5\%$; $V_{CC} = V_{CCO} = \text{GND}$ ¹

Symbol	Parameter	Limits						Units
		+ 25° C		+ 125° C		– 55° C		
		Min	Max	Min	Max	Min	Max	
V _{OH}	Output HIGH Voltage	-980	-810	TBA		TBA		mV
V _{OL}	Output LOW Voltage	-1950	-1630	TBA		TBA		mV
V _{IH}	Input HIGH Voltage	-1130	-810	TBA		TBA		mV
V _{IL}	Input LOW Voltage	-1950	-1480	TBA		TBA		mV
I _{IL}	Input LOW Current	0.5		TBA		TBA		μA

1. 10E series circuits are designed to meet the dc specifications shown in the table, after thermal equilibrium has been established. The circuit is in a test socket or mounted on a printed circuit board and transverse air flow greater than 500 lfpm is maintained. Outputs are terminated through a 50 Ω resistor to -2.0 volts, except bus outputs where specified, are terminated into 25 Ω .

DC CHARACTERISTICS: $V_{EE} = V_{EE}(\text{min})$ to $V_{EE}(\text{max})$, $V_{CC} = V_{CCO} = \text{GND}$

Symbol	Parameter	Limits						Units	TEST CONDITION APPLIED:
	Functional Parameters:	+ 25° C		+ 125° C		– 55° C			
		Min	Max	Min	Max	Min	Max		
I _{IH}	Input Current High		150		150		150	μA	V _{IL} = – 1.810 V, V _{IH} = – 0.880 V, R _L = 50Ω to – 2.0 V.
I _{EE}	Power Supply Current		90		90		90	mA	V _{EE} (MAX), V _{IL} = – 1.810 V, V _{IH} = – 0.880 V, R _L = 50Ω to – 2.0 V.

FUNCTION TABLE		
SEL0	SEL1	Data
L	L	a
H	L	b
L	H	c
H	H	d

FUNCTION TABLE		
LEN1	LEN2	Latch
L	L	Transp.
H	X	Latch
X	H	Latch

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AC CHARACTERISTICS: $V_{EE} = V_{EE(min)}$ to $V_{EE(max)}$, $V_{CC} = V_{CCO} = GND$

Symbol	Parameter	Limits						Units	TEST CONDITION APPLIED:
	Functional Parameters:	+ 25° C		+ 125° C		– 55° C			
		Min	Max	Min	Max	Min	Max		
t_{PLH} t_{PHL}	Propagation Delay to Output								$V_{IL} = 0.295\text{ V}$, $V_{IH} = 1.045\text{ V}$, $R_L = 50\Omega$ to Gnd.
	D	400	900	400	900	400	900	ps	
	SEL0	550	1050	550	1050	550	1050	ps	
	SEL1	450	900	450	900	450	900	ps	
	LEN	350	800	350	900	350	800	ps	
	MR	350	825	350	825	350	825	ps	
t_S	Setup Time								$V_{IL} = 0.295\text{ V}$, $V_{IH} = 1.045\text{ V}$, $R_L = 50\Omega$ to Gnd.
	D	400		400		400		ps	
	SEL0	700		700		700		ps	
	SEL1	600		600		600		ps	
t_H	Hold Time								$V_{IL} = 0.295\text{ V}$, $V_{IH} = 1.045\text{ V}$, $R_L = 50\Omega$ to Gnd.
	D	300		300		300		ps	
	SEL0	100		100		100		ps	
	SEL1	200		200		200		ps	
t_{RR}	Reset Recovery Time	800		800		800		ps	
t_{PW}	Minimum Pulse Width MR	400		400		400		ps	
t_{Skew}	Within-device Skew	50		50		50		ps	(Note 1)
t_r t_f	Rise/Fall Times 20 - 80%	275	700	275	700	275	700	ps	

1. Within-device skew is defined as identical transitions on similar paths through a device.