

GENERAL DESCRIPTION

The RM55325/RC75325 are monolithic integrated circuit memory drivers with logic inputs designed for use with magnetic memories.

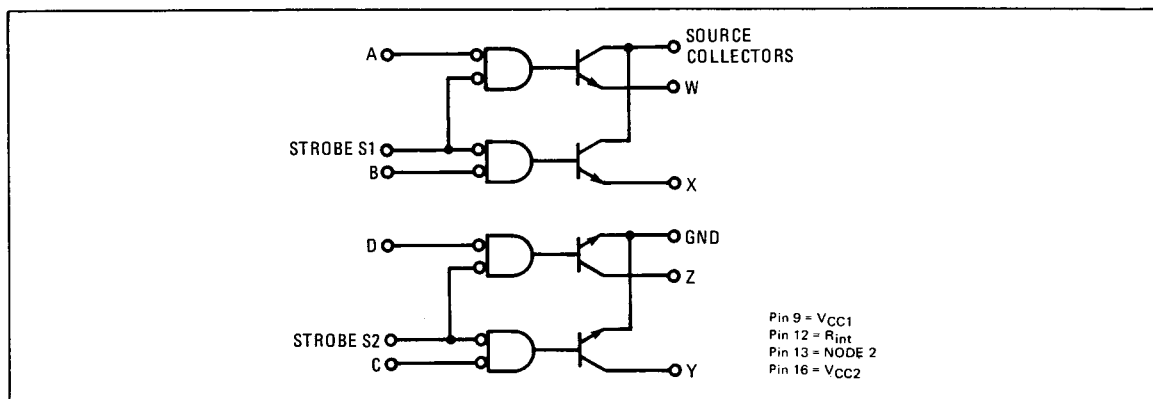
The devices contain two 600mA source switch pairs and two 600mA sink-switch pairs. Source selection is determined by one of two logic inputs, and source turn-on is determined by the source strobe. Likewise, sink selection is determined by one of two logic inputs, and sink turn-on is determined by the sink strobe. This arrangement allows selection of one of the four switches and its subsequent turn-on with minimum time skew of the output current rise.

The RM55325 will operate over a temperature range of -55°C to $+125^{\circ}\text{C}$. The RC75325 operates from 0°C to $+70^{\circ}\text{C}$.

DESIGN FEATURES

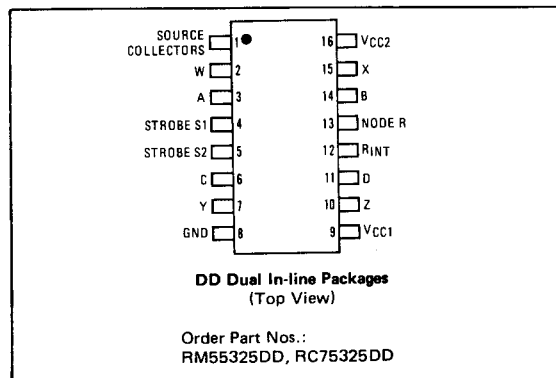
- 600mA Output Capability
- Fast Switching Times
- Output Short-Circuit Protection
- Dual Sink and Dual Source Outputs
- Minimum Time Skew Between Address and Output Current Rise
- 24V Output Capability
- Source Base Drive Externally Adjustable
- TTL or DTL Compatibility
- Input Clamping Diodes
- Transformer Coupling Eliminated
- Reliability Increased
- Drive Line Lengths Reduced
- Use of External Components Minimized

LOGIC DIAGRAM



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CONNECTION INFORMATION



TRUTH TABLE

Address Inputs				Strobe Inputs		Outputs			
Source	Sink	Source	Sink	Source	Sink	Source	Sink	Source	Sink
A	B	C	D	S1	S2	W	X	Y	Z
L	H	X	X	L	H	ON	OFF	OFF	OFF
H	L	X	X	L	H	OFF	ON	OFF	OFF
X	X	L	H	H	L	OFF	OFF	ON	OFF
X	X	H	L	H	L	OFF	OFF	OFF	ON
X	X	X	X	H	H	OFF	OFF	OFF	OFF
H	H	H	H	X	X	OFF	OFF	OFF	OFF

H = high level, L = low level, X = irrelevant
NOTE: Not more than one output is to be on at any one time.



ABSOLUTE MAXIMUM RATINGS

Supply Voltage		Operating Temperature	
VCC1 (Note 1)	7.0V	RM55325	-55°C to +125°C
VCC2 (Note 1)	25V	RC75325	0°C to +70°C
Input Voltage (any address or strobe input)	5.5V	Storage Temperature	-65°C to +150°C
Continuous Total Dissipation (at or below +70°C)	800mW	Lead Temperature (Soldering, 10s)	+300°C

ELECTRICAL CHARACTERISTICS

SYMBOL	PARAMETER		CONDITIONS	55325			75325			UNITS	
				MIN	TYP (Note 3)	MAX	MIN	TYP (Note 3)	MAX		
V _{IH}	High Level Input Voltage			2.0			2.0			V	
V _{IL}	Low Level Input Voltage					0.8			0.8	V	
V _I	Input Clamp Voltage		VCC1=4.5V, I _I =-10mA VCC2=24V, T _A = 25°C		-1.3	-1.7		-1.3	-1.7	V	
I _(off)	Source-collectors Terminal Off-state Current		VCC1=4.5V, VCC2=24V Full range T _A = 25°C			500			200	μA	
V _{OH}	High Level Sink Output Voltage		VCC1=4.5V, I _O = 0 VCC2=24V	19	23		19	23		V	
V _(sat)	Saturation Voltage (Note 5)	source outputs	VCC1=4.5V, VCC2=15V, R _L =24Ω, I _(source) ≈-600mA (Note 2)	Full range		0.9			0.9	V	
			T _A = 25°C		0.43	0.7		0.43	0.75		
		sink outputs	VCC1=4.5V, VCC2=15V, R _L =24Ω, I _(sink) ≈600mA (Note 2)	Full range			0.9				0.9
			T _A =25°C		0.43	0.7		0.43	0.75		
I _I	Input Current at maximum Input Voltage	address inputs	VCC1=5.5V, VCC2=24V, V _I =5.5V			1.0			1.0	mA	
strobe inputs					2.0			2.0			
I _{IH}	High Level Input Current	address inputs	VCC1=5.5V, VCC2=24V, V _I =2.4V		3.0	40		3.0	40	μA	
strobe inputs					6.0	80		6.0	80		
I _{IL}	Low Level Input Current	address inputs	VCC1=5.5V, VCC2=24V, V _I =0.4V		-1.0	-1.6		-1.0	-1.6	mA	
		strobe inputs			-2.0	-3.2		-2.0	-3.2		
I _{CC(off)}	Supply Current, All Sources and Sinks Off	from VCC1	VCC1=5.5V, VCC2=24V, T _A = 25°C		14	22		14	22	mA	
		from VCC2			7.5	20		7.5	20		
I _{CC1}	Supply Current from VCC1, Either Sink On		VCC1=5.5V, I _(sink) =50mA, VCC2=24V, T _A = 25°C		55	70		55	70	mA	
I _{CC2}	Supply Current from VCC2, Either Source On		VCC1=5.5V, I _(source) =-50mA, VCC2=24V, T _A = 25°C		32	50		32	50	mA	

SWITCHING CHARACTERISTICS (VCC1 = 5V, T_A = 25°C)

PARAMETER	TO (OUTPUT)	CONDITIONS	MIN	TYP	MAX	UNITS
t _{PLH}	Source Collectors	VCC2 = 15V, R _L = 24Ω, C _L = 25pF		25	50	ns
t _{PHL}				25	50	
t _{TLH}	Source Outputs	VCC2 = 20V, R _L = 1kΩ, C _L = 25pF		55		ns
t _{THL}				7.0		
t _{PLH}	Sink Outputs	VCC2 = 15V, R _L = 24Ω, C _L = 25pF		20	45	ns
t _{PHL}				20	45	
t _{TLH}	Sink Outputs	VCC2 = 15V, R _L = 24Ω, C _L = 25pF		7.0	15	ns
t _{THL}				9.0	20	
t _S	Sink Outputs	VCC2 = 15V, R _L = 24Ω, C _L = 25pF		15	30	ns

NOTES:

1. Voltage values are with respect to network ground terminal.
2. These parameters must be measured using pulse techniques tw = 200μs, duty cycle ≤ 2%.
3. All typical values are at T_A = 25°C.
4. Not more than one output is to be on at any one time.

