

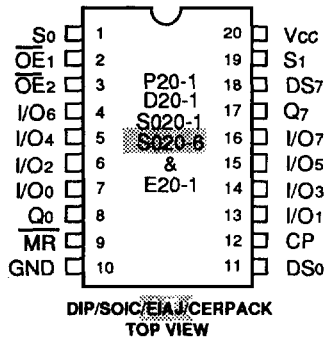
**FEATURES:**

- IDT54/74FCT299T equivalent to FAST™ speed
- IDT54/74FCT299AT 25% faster than FAST™
- IDT54/74FCT299CT 35% faster than FAST™

**DESCRIPTION:**

The IDT54/74FCT299T and IDT54/74FCT299AT/CT are built using advanced CEMOS™, a dual-metal CMOS technology.

**PIN CONFIGURATIONS**



**SWITCHING CHARACTERISTICS OVER OPERATING RANGE**

Symbol	Parameter	Condition <sup>(1)</sup>	IDT54/74FCT299T				IDT54/74FCT299AT				IDT54/74FCT299CT				Unit
			Com'l.		Mil.		Com'l.		Mil.		Com'l.		Mil.		
			Min. <sup>(2)</sup>	Max.	Min. <sup>(2)</sup>	Max.	Min. <sup>(2)</sup>	Max.	Min. <sup>(2)</sup>	Max.	Min. <sup>(2)</sup>	Max.	Min. <sup>(2)</sup>	Max.	
tPLH tPHL	Propagation Delay CP to Q0 or Q7	CL = 50pF RL = 500Ω	2.0	10.0	2.0	14.0	2.0	7.2	2.0	9.5	2.0	6.5	2.0	7.5	ns
tPLH tPHL	Propagation Delay CP to I/On		2.0	12.0	2.0	12.0	2.0	7.2	2.0	9.5	2.0	6.5	2.0	7.5	ns
tPHL	Propagation Delay MR to Q0 or Q7		2.0	10.0	2.0	10.5	2.0	7.2	2.0	9.5	2.0	6.5	2.0	7.5	ns
tPHL	Propagation Delay MR to I/On		2.0	15.0	2.0	15.0	2.0	8.7	2.0	11.5	2.0	6.5	2.0	7.5	ns
tPZH tPZL	Output Enable Time OEn to I/On		1.5	11.0	1.5	15.0	1.5	6.5	1.5	7.5	1.5	6.5	1.5	7.5	ns
tPHZ tPLZ	Output Disable Time OEn to I/On		1.5	7.0	1.5	9.0	1.5	6.0	1.5	6.5	1.5	6.0	1.5	6.5	ns
tsu	Set-up Time HIGH or LOW S0 or S1 to CP		7.5	—	7.5	—	3.5	—	4.0	—	3.5	—	4.0	—	ns
tsu	Set-up Time HIGH or LOW I/On, DS0 or DS7 to CP		5.5	—	5.5	—	4.0	—	4.5	—	4.0	—	4.5	—	ns
tH	Hold Time HIGH or LOW S0 or S1 to CP		1.0	—	1.0	—	1.0	—	1.0	—	1.0	—	1.0	—	ns
tH	Hold Time HIGH or LOW I/On, DS0 or DS7 to CP		1.5	—	1.5	—	1.5	—	1.5	—	1.5	—	1.5	—	ns
tw	CP Pulse Width HIGH or LOW		7.0	—	7.0	—	5.0	—	6.0	—	6.0	—	6.0	—	ns
tw	MR Pulse Width LOW		7.0	—	7.0	—	5.0	—	6.0	—	6.0	—	6.0	—	ns
tREM	Recovery Time MR to I/On		7.0	—	7.0	—	5.0	—	6.0	—	5.0	—	6.0	—	ns

**ORDERING INFORMATION**

X      X  
Device Type    Package

- P    Plastic DIP
- D    CERDIP
- SO   Small Outline IC
- L    Leadless Chip Carrier
- E    CERPACK
- PX   EIAJ

- 299T    8-Input Universal Shift Register
- 299AT    Fast 8-Input Universal Shift Register
- 299CT    Super Fast 8-Input Universal Shift Register