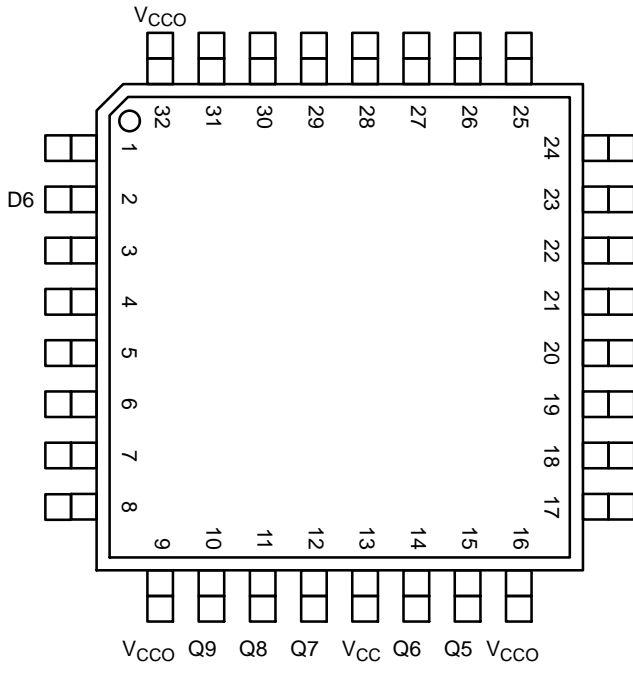




# MC100EPT622



# MC100EPT622

**Table 2. ATTRIBUTES**

Characteristics	Value
Internal Input Pulldown Resistor	N/A
Internal Input Pullup Resistor	N/A
ESD Protection Human Body Model Machine Model Charged Device Model	> 2 kV > 150 V > 2 kV
Moisture Sensitivity, Indefinite Time Out of Drypack	Pb-Free Pkg
LQFP-32 QFN-32	Level 2 Level 1
Flammability Rating Oxygen Index: 28 to 34	UL 94 V-0 @ 0.125 in
Transistor Count	596 Devices
Meets or exceeds JEDEC Spec EIA/JESD78 IC Latchup Test	

**Table 3. MAXIMUM RATINGS**

Symbol	Parameter	Condition 1	Condition 2	Rating	Unit
$V_{CC}$	Power Supply	$V_{EE} = 0\text{ V}$		5	V
$V_I$	Input Voltage	$V_{EE} = 0\text{ V}$			

# MC100EPT622

**Table 5. PECL INPUT DC CHARACTERISTICS**  $V_{CC} = 3.3\text{ V}$ ,  $GND = 0.0\text{ V}$ ,  $T_A = -40^\circ\text{C}$  to  $85^\circ\text{C}$

Symbol	Characteristic	Condition	Min	Typ	Max	Unit
$I_{IH}$	Input HIGH Current	$V_{IN} = 2420\text{ mV}$			150	$\mu\text{A}$
$I_{IL}$	Input LOW Current	$V_{IN} = 1490\text{ mV}$			200	$\mu\text{A}$
$V_{IH}$	Input HIGH Voltage		2075		2420	mV
$V_{IL}$	Input LOW Voltage		1490		1675	mV

NOTE: Device will meet the specifications after thermal equilibrium has been established when mounted in a test socket or printed circuit board with maintained transverse airflow greater than 500 lpm.

**Table 6. PECL OUTPUT DC CHARACTERISTICS**  $V_{CC} = 3.3\text{ V}$ ,  $GND = 0.0\text{ V}$  (Note 1)

Symbol	Characteristic	$-40^\circ\text{C}$			$25^\circ\text{C}$			$85^\circ\text{C}$			Unit
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
$I_{EE}$	Power Supply Current	85	115	145	90	120	155	95	130	155	mA
$V_{OH}$	Output High Voltage (Note 2)	2155	2280	2405	2155	2280	2405	2155	2280	2405	mV
$V_{OL}$	Output Low Voltage (Note 2)	1355	1520	1700	1355	1520	1700	1355	1520	1700	mV

NOTE: Device will meet the specifications after thermal equilibrium has been established when mounted in a test socket or printed circuit board with maintained transverse airflow greater than 500 lpm.

1. Input and output parameters vary 1:1 with  $V_{CC}$ .
2. All loading with  $50\ \Omega$  to  $V_{CC}-2.0\text{ V}$ .

**Table 7. AC CHARACTERISTICS**  $V_{CC} = 3.0\text{ V}$  to  $3.8\text{ V}$  (Note 3)

Symbol	Characteristic	$-40^\circ\text{C}$			$25^\circ\text{C}$			$85^\circ\text{C}$			Unit
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
$f_{max}$	Maximum Frequency (See Figure 4)	1.0	1.5		1.0	1.5		1.0	1.5		GHz
$t_{PLH}$ , $t_{PHL}$	Propagation Delay to Output (Figure 5, Note 4) D to Q ENPECL to Q ENTTL to Q	100 150 300	450 500 450	800 875 800	100 150 300	500 500 500	875 875 800	100 200 300	500 550 500	800 925 800	ps
$t_{JITTER}$	Random Clock Jitter (RMS) (See Figure 4)		0.7	3.0		0.7	3.0		0.7	3.0	ps
$t_r / t_f$	Output Rise/Fall Times (20% – 80%)	100	200	450	100	200	250	100	200	300	ps
$T_{SKEW}$	Duty Cycle Skew (Note 5) D to Q Channel 0–7 Channel 8–9 ENPECL to Q ENTTL to Q		120 200 120 100	375 775 400 275		120 200 120 100	375 775 400 275		120 200 120 100	375 775 400 275	ps

NOTE: Device will meet the specifications after thermal equilibrium has been established when mounted in a test socket or printed circuit board with maintained transverse airflow greater than 500 lpm.

3. Measured using a 2.4 V source, 50% duty cycle clock source. All loading with  $50\ \Omega$  to  $V_{CC}-2.0\text{ V}$ .
4. 1.5 V to 50% point of the output.
5. Duty cycle skew  $|t_{PLH} - t_{PHL}|$  on the specific path.



# MC100EPT622

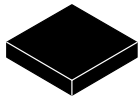
## ORDERING INFORMATION

Device	Package	Shipping
MC100EPT622FAG	LQFP-32 (Pb-Free)	250 Units / Tray
MC100EPT622MNG	QFN32 (Pb-Free)	74 Units / Rail

### Resource Reference of Application Notes

- AN1405/D** – ECL Clock Distribution Techniques
- AN1406/D** – Designing with PECL (ECL at +5.0 V)
- AN1503/D** – ECLinPS™ I/O SPiCE Modeling Kit
- AN1504/D** – Metastability and the ECLinPS Family
- AN1568/D** – Interfacing Between LVDS and ECL
- AN1672/D** – The ECL Translator Guide
- AND8001/D** – Odd Number Counters Design
- AND8002/D** – Marking and Date Codes
- AND8020/D** – Termination of ECL Logic Devices
- AND8066/D** – Interfacing with ECLinPS
- AND8090/D** – AC Characteristics of ECL Devices

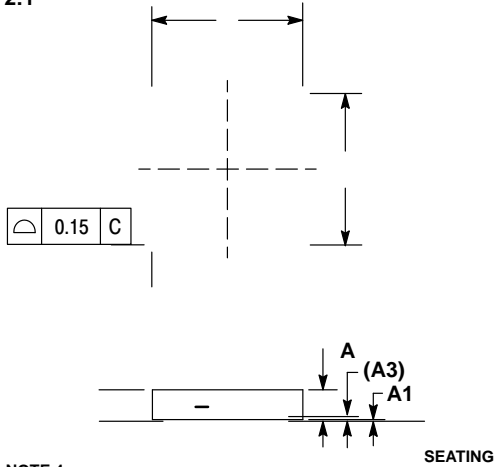
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**QFN32 5x5, 0.5P**  
CASE 488AM  
ISSUE A

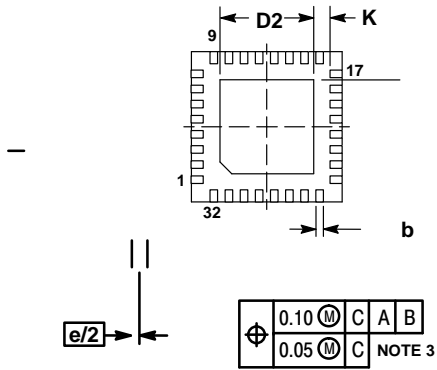
DATE 23 OCT 2013

SCALE 2:1



NOTE 4

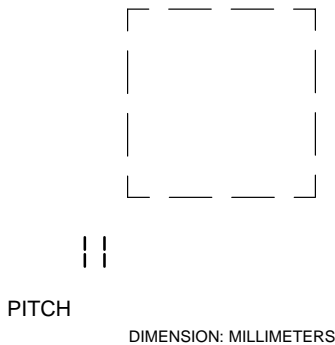
	MAX
A1	0.80 1.00
A3	0.20 REF 0.05
b	0.18 0.30
D	5.00 BSC
D2	2.95 3.25
E	5.00 BSC
E2	2.95 3.25
e	0.50 BSC
K	0.20
L	0.30 0.50
L1	0.15



XXXXXXXXXX  
XXXXXXXXXX  
AWLYYYWW■

■Free indicator, "G" or

**RECOMMENDED**



PITCH

DIMENSION: MILLIMETERS

<b>DOCUMENT NUMBER:</b>	<b>98AON20032D</b>	

**LQFP-32, 7x7**  
CASE 561AB  
ISSUE O

DATE 19 JUN 200



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