What is "**Embedded - Microcontrollers**"?
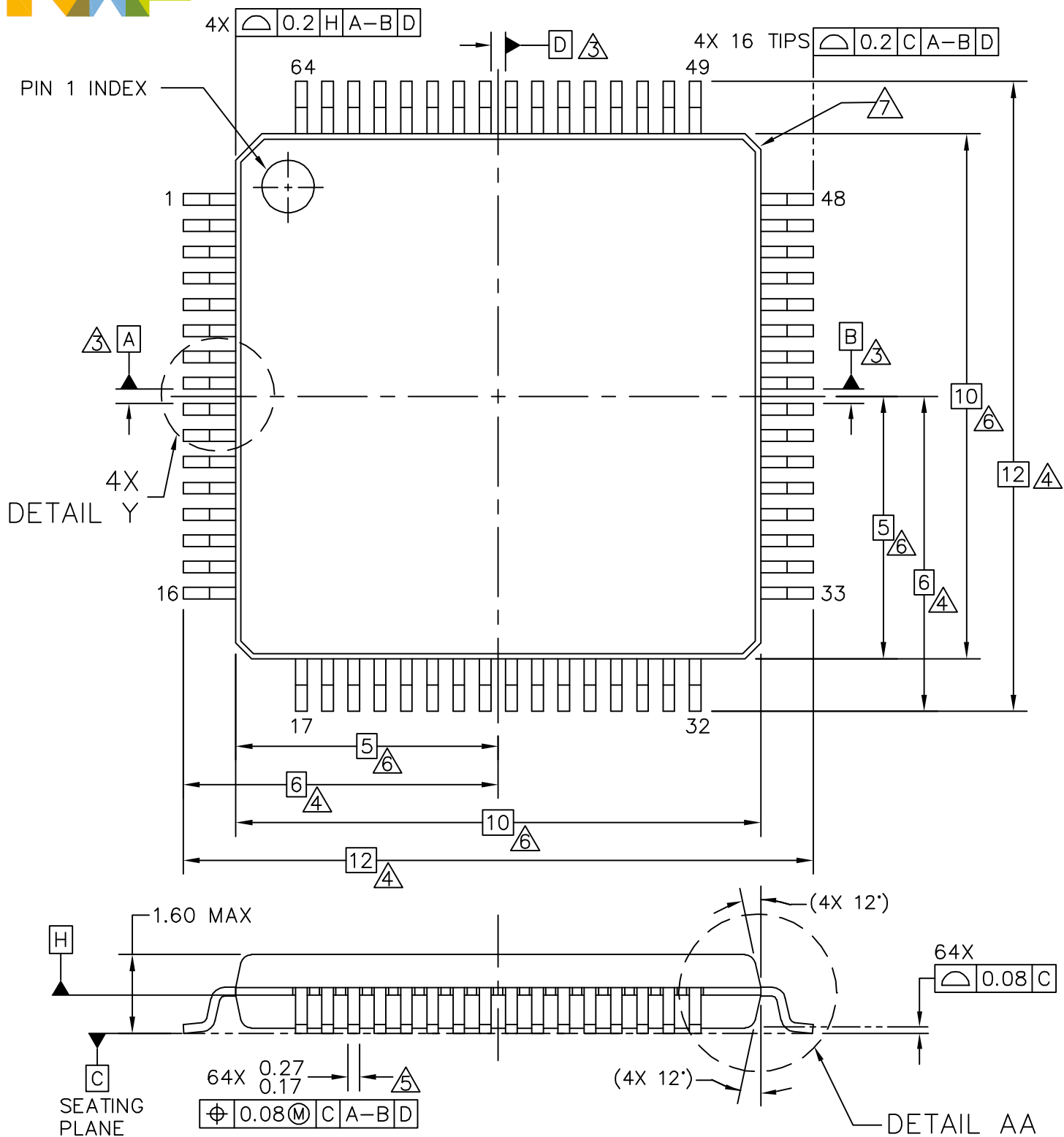
"**Embedded - Microcontrollers**" refer to small, integrated circuits designed to perform specific tasks within larger systems. These microcontrollers are essentially compact computers on a single chip, containing a processor core, memory, and programmable input/output peripherals. They are called "embedded" because they are embedded within electronic devices to control various functions, rather than serving as standalone computers. Microcontrollers are crucial in modern electronics, providing the intelligence and control needed for a wide range of applications.
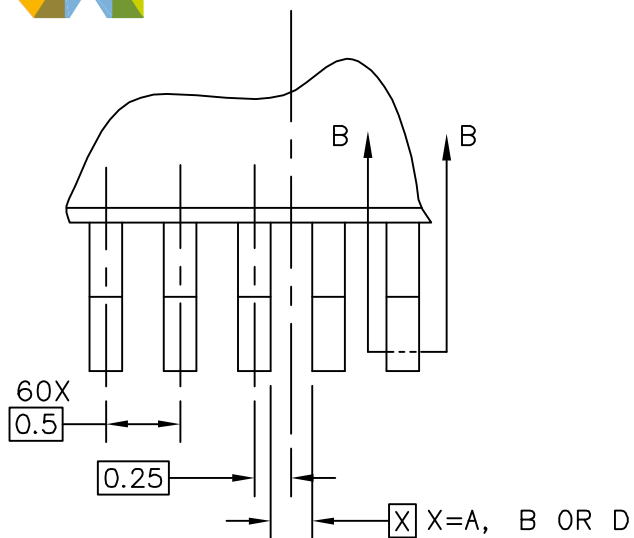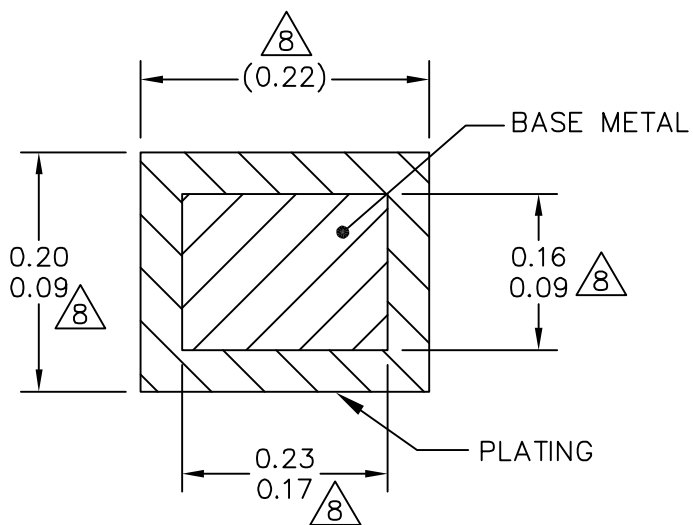
Applications of "**Embedded - Microcontrollers**"

Details

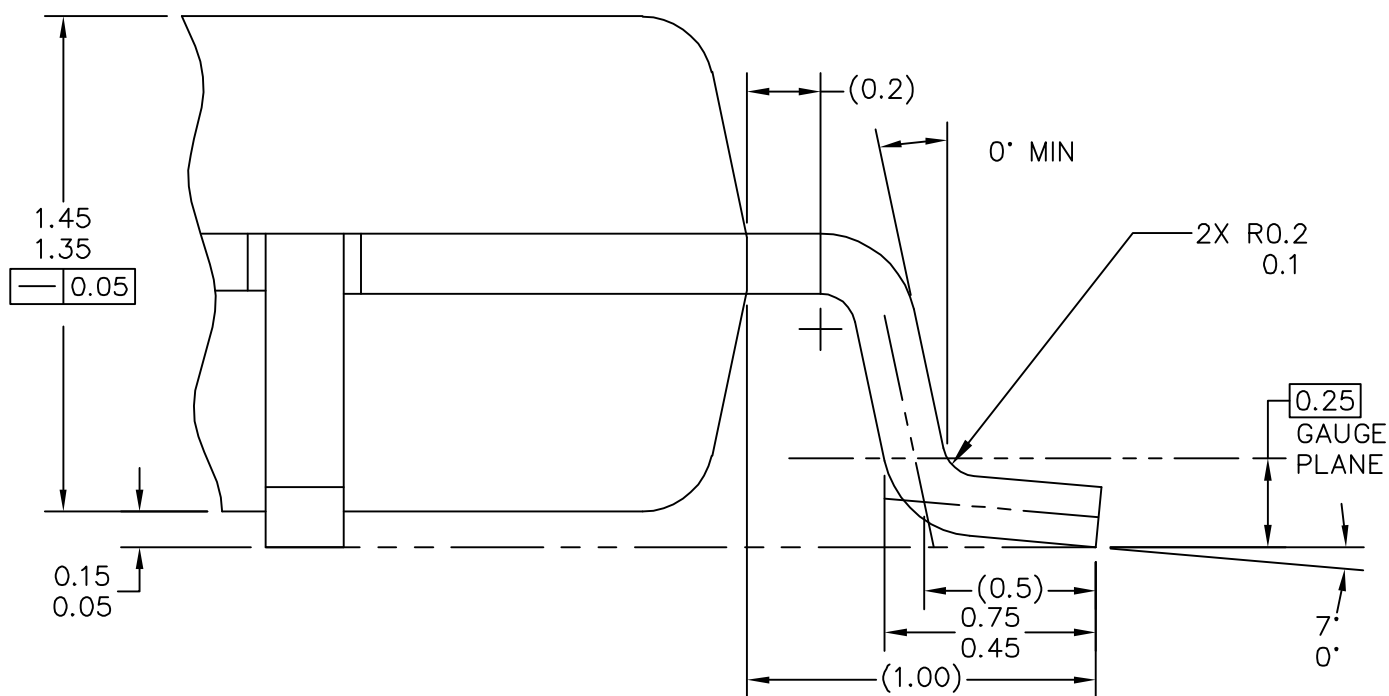|	
Product Status	Active
Core Processor	ARM® Cortex®-M4
Core Size	32-Bit Single-Core
Speed	72MHz
Connectivity	CANbus, I²C, IrDA, SPI, UART/USART, USB, USB OTG
Peripherals	DMA, I²S, LCD, LVD, POR, PWM, WDT
Number of I/O	36
Program Memory Size	128KB (128K x 8)
Program Memory Type	FLASH
EEPROM Size	2K x 8
RAM Size	32K x 8
Voltage - Supply (Vcc/Vdd)	1.71V ~ 3.6V
Data Converters	A/D 18x16b; D/A 1x12b
Oscillator Type	Internal
Operating Temperature	-40°C ~ 105°C (TA)
Mounting Type	Surface Mount
Package / Case	64-LQFP
Supplier Device Package	64-LQFP (10x10)
Purchase URL	https://www.e-xfl.com/product-detail/nxp-semiconductors/mk40dx128vlh7

PIN 1 INDEX

4X ⌓ 0.2 H A-B D

□ D /3\

4X 16 TIPS ⌓ 0.2 C A-B D

64

49

/7\

1

48

/3\ A

B /3\

10 /6\

DETAIL Y

4X

5 /6\

6 /4\

12 /4\

16

33

17

32

5 /6\

6 /4\

10 /6\

12 /4\

1.60 MAX

H

64X ⌓ 0.08 C

(4X 12°)

C

64X 0.27
    0.17 /5\

(4X 12°)

DETAIL AA

SEATING
PLANE

⊕ 0.08 Ⓜ C A-B D

MECHANICAL OUTLINE

PRINT VERSION NOT TO SCALE

TITLE:
LQFP,
10 X 10 X 1.4 PKG, 0.5 PITCH, 64LD

DETAIL Y

60X
[0.5]

[0.25]

[X] X=A, B OR D

SECTION B-B

⟨8⟩
(0.22)

BASE METAL

0.20
0.09 △8

0.16
0.09 △8

0.23
0.17 △8

PLATING

DETAIL AA

(0.2)

0° MIN

1.45
1.35
[— | 0.05]

2X R0.2
0.1

0.25
GAUGE
PLANE

0.15
0.05

(0.5)
0.75
0.45

(1.00)

7°
0°

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TITLE: LQFP, 10 X 10 X 1.4 PKG, 0.5 PITCH, 64LD	DOCUMENT NO: 98ASS23234W	REV: G
	STANDARD: JEDEC MS-026 BCD	
	SOT1699-1	25 JAN 2016

NOTES:

1. DIMENSIONS ARE IN MILLIMETERS.

2. DIMENSIONING AND TOLERANCING PER ASME Y14.5M−1994.

⚠3 DATUMS A, B AND D TO BE DETERMINED AT DATUM PLANE H.

⚠4 DIMENSIONS TO BE DETERMINED AT SEATING PLANE C.

⚠5 THIS DIMENSION DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR
PROTRUSION SHALL NOT CAUSE THE LEAD WIDTH TO EXCEED THE UPPER LIMIT
BY MORE THAN 0.08 MM AT MAXIMUM MATERIAL CONDITION. DAMBAR CANNOT BE
LOCATED ON THE LOWER RADIUS OR THE FOOT. MINIMUM SPACE BETWEEN
PROTRUSION AND ADJACENT LEAD SHALL NOT BE LESS THAN 0.07 MM.

⚠6 THIS DIMENSION DOES NOT INCLUDE MOLD PROTRUSION. ALLOWABLE PROTRUSION
IS 0.25 MM PER SIDE. THIS DIMENSION IS MAXIMUM PLASTIC BODY SIZE
DIMENSION INCLUDING MOLD MISMATCH.

⚠7 EXACT SHAPE OF EACH CORNER IS OPTIONAL.

⚠8 THESE DIMENSIONS APPLY TO THE FLAT SECTION OF THE LEAD BETWEEN
0.1 MM AND 0.25 MM FROM THE LEAD TIP.

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