PenMount® PenMount P2-02 & P2-04 Controller Data Sheet

PenMount P2-02 & P2-04 Controller

PenMount Project Capacitive Input items(P2-02 & P2-04) apply two ICs to support 11.0” ~ 15.0” projected capacitive touch panels, USB / UART / I²C interfaces are supported ; and can be used directly under Windows 7, without installing extra device drivers. The PenMount team also developed device drivers for other platforms.

PenMount P2-02 & P2-04 Controllers use Microchip controller, which is a capacitive sensing IC designed for AMT Projected Capacitive Input (PCI) touch panels and other projected capacitive touch panels. The solution has the programmable filter, gain amplifier; with the functions of single, dual touch; and the gestures of one and two fingers; furthermore, there's powerful frequency hopping technique to decrease the noise- interference.

Specifications (Base on PM1400 control board)

Touch Screen Size	Projected capacitive type, size is 11.0” to 15.0"
Interface	USB,Full-speed, 12Mbps
	UART Interface 38400 baud rate / non-PnP
	I²C Slave, address 0x38, support 400 kHz specifications. (If you use I2C interface, please connect pin3/4/7 with typical 2.3K pull up resistor.)
Touch Screen Controller	PenMount P2-02 series (PIC18F45K22) ; 44- pin QFN PenMount P2-04 series (PIC24FJ256GB210) ; 100-pin TQFP
Resolution	2048 x 2048
Operating Voltage	+3.3V ± 5%
Operating Temperature	-40 °C to +85 °C (-40 °F to +185 °F)
Power Consumption (Base on PM1400 board)	Typical -- Standby Mode : 23.9 mA ; Active Mode : 39.8 mA Sleep Mode : 3.5 mA

Driver Software

UART & USB interface：

Windows XP / Vista / 7 *

Windows Embedded CE 6.0、Windows Embedded Compact 7

Linux (provide the source code for Linux and Android)

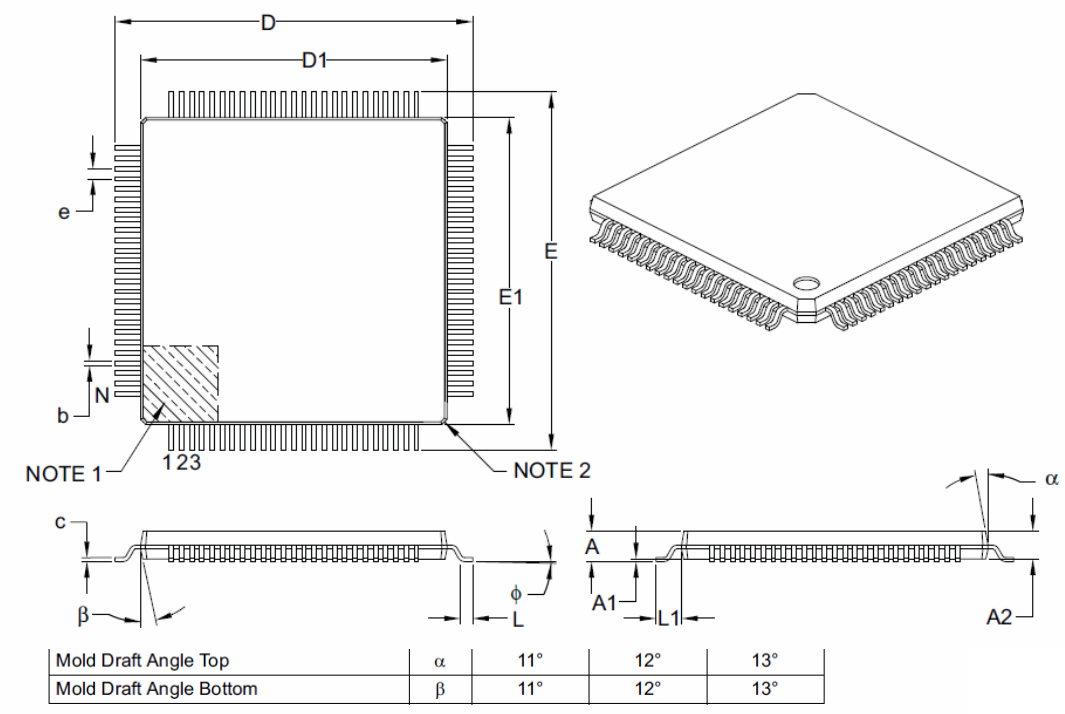
***USB interface support Windows Vista and 7 inbox driver**

Utility:

Firmware update utility is ready for users to update the controllers for Windows XP / 7 / 8.

PenMount P2-04 series (PIC24FJ256GB210)　Packaging Information

The following diagram depicts the pinout of chip:



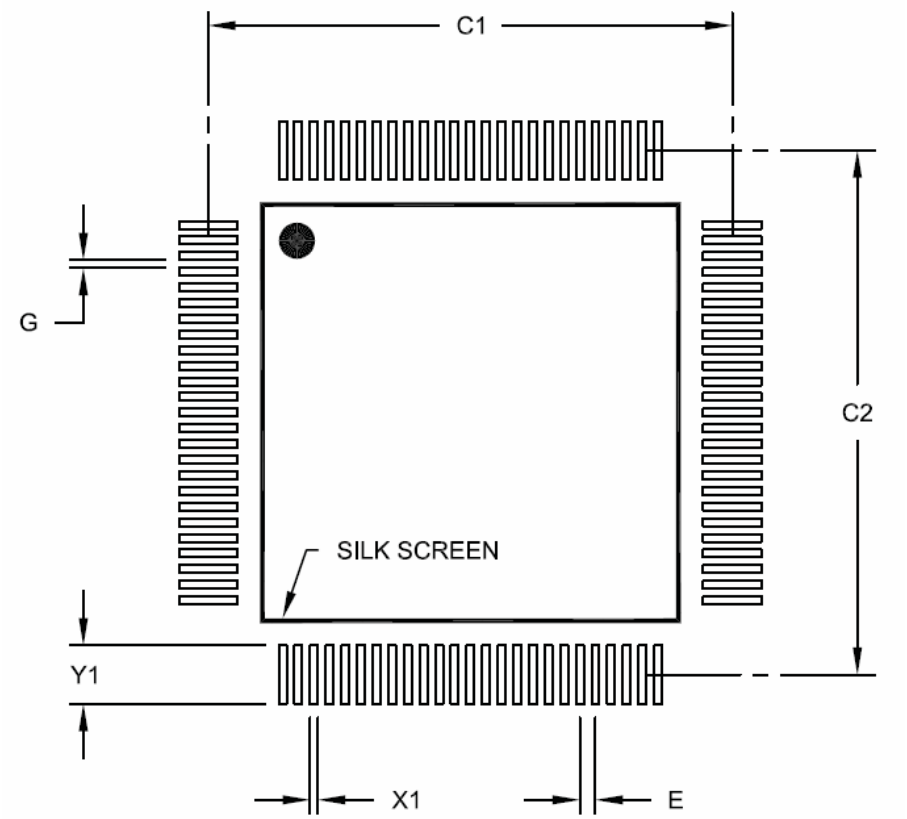
Mold Draft Angle Top	α	11°	12°	13°
Mold Draft Angle Bottom	β	11°	12°	13°

Notes:

1. Pin 1 visual index feature may vary, but must be located within the hatched area.
2. Chamfers at corners are optional; size may vary.
3. Dimensions D1 and E1 do not include mold flash or protrusions. Mold flash or protrusions shall not exceed 0.25 mm per side.
4. Dimensioning and tolerancing per ASME Y14.5M.

BSC: Basic Dimension. Theoretically exact value shown without tolerances.
REF: Reference Dimension, usually without tolerance, for information purposes only.

Microchip Technology Drawing C04-100B



RECOMMENDED LAND PATTERN

Units		MILLIMETERS		
Dimension Limits		MIN	NOM	MAX
Contact Pitch	E		0.40 BSC	
Contact Pad Spacing	C1		13.40	
Contact Pad Spacing	C2		13.40	
Contact Pad Width (X100)	X1			0.20
Contact Pad Length (X100)	Y1			1.50
Distance Between Pads	G	0.20		

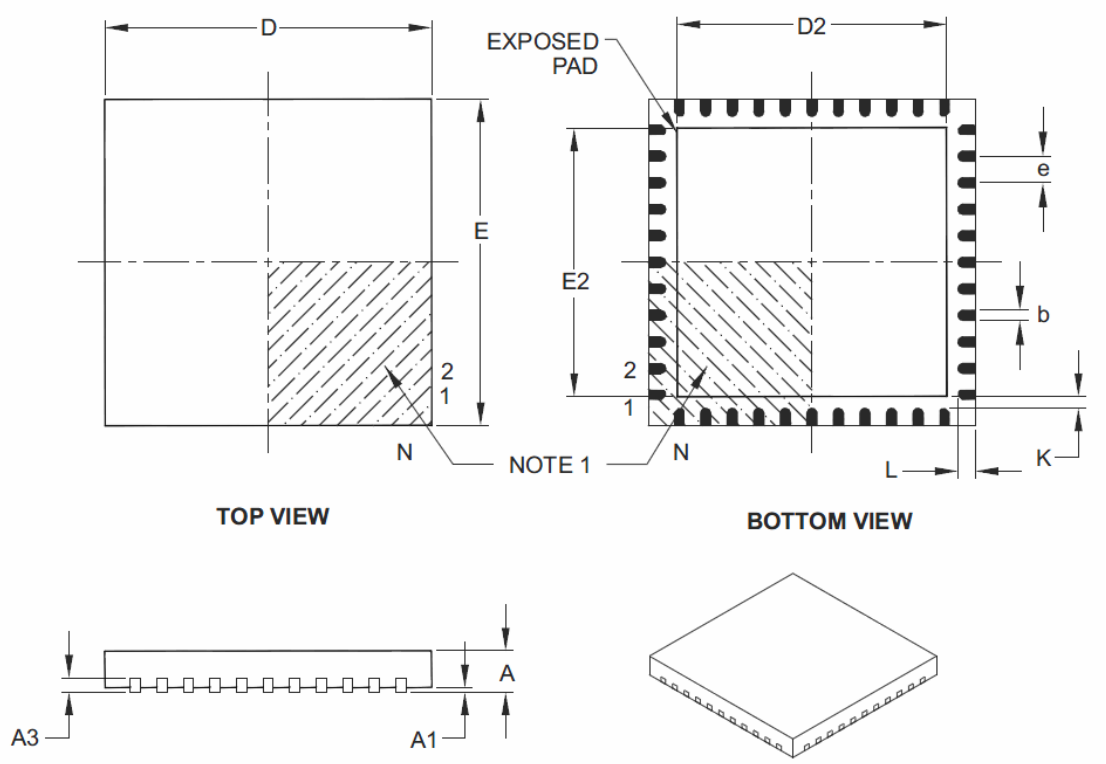
Notes:

1. Dimensioning and tolerancing per ASME Y14.5M

BSC: Basic Dimension. Theoretically exact value shown without tolerances.

Microchip Technology Drawing No. C04-2100A

PenMount P2-02 series (PIC18F45K22) Packaging Information



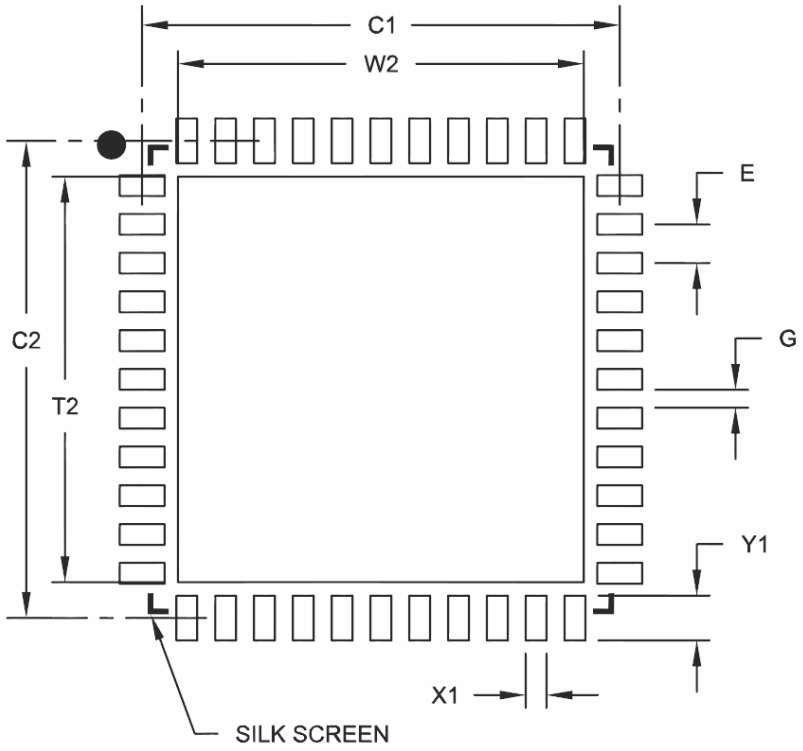
Units		MILLIMETERS		
Dimension Limits		MIN	NOM	MAX
Number of Pins	N		44	
Pitch	e		0.65 BSC	
Overall Height	A	0.80	0.90	1.00
Standoff	A1	0.00	0.02	0.05
Contact Thickness	A3		0.20 REF	
Overall Width	E		8.00 BSC	
Exposed Pad Width	E2	6.30	6.45	6.80
Overall Length	D		8.00 BSC	
Exposed Pad Length	D2	6.30	6.45	6.80
Contact Width	b	0.25	0.30	0.38
Contact Length	L	0.30	0.40	0.50
Contact-to-Exposed Pad	K	0.20	–	–

Notes:

1. Pin 1 visual index feature may vary, but must be located within the hatched area.
2. Package is saw singulated.
3. Dimensioning and tolerancing per ASME Y14.5M.

BSC: Basic Dimension. Theoretically exact value shown without tolerances.
REF: Reference Dimension, usually without tolerance, for information purposes only.

Microchip Technology Drawing C04-103B



RECOMMENDED LAND PATTERN

Units		MILLIMETERS		
Dimension Limits		MIN	NOM	MAX
Contact Pitch	E		0.65 BSC	
Optional Center Pad Width	W2			6.80
Optional Center Pad Length	T2			6.80
Contact Pad Spacing	C1		8.00	
Contact Pad Spacing	C2		8.00	
Contact Pad Width (X44)	X1			0.35
Contact Pad Length (X44)	Y1			0.80
Distance Between Pads	G	0.25		

Notes:

1. Dimensioning and tolerancing per ASME Y14.5M

BSC: Basic Dimension. Theoretically exact value shown without tolerances.

Microchip Technology Drawing No. C04-2103A

Remark: Specification is subject to change without notice