



Multiple Channel Capacitive Touch Sensor and LED Driver

PRODUCT FEATURES

Data Brief

General Description

The CAP1014, which incorporates SMSC's RightTouch™ technology, is a multiple channel Capacitive Touch sensor and LED Driver.

The CAP1014 contains up to fourteen (14) individual Capacitive Touch sensor inputs with programmable sensitivity for use in touch button and slider switch applications. Each sensor also contains automatic recalibration with programmable time delays.

The CAP1014 also contains eleven (11) low side LED drivers that offer full-on / off, variable rate blinking, dimness controls, and breathing. Capacitive buttons can be linked to LED outputs.

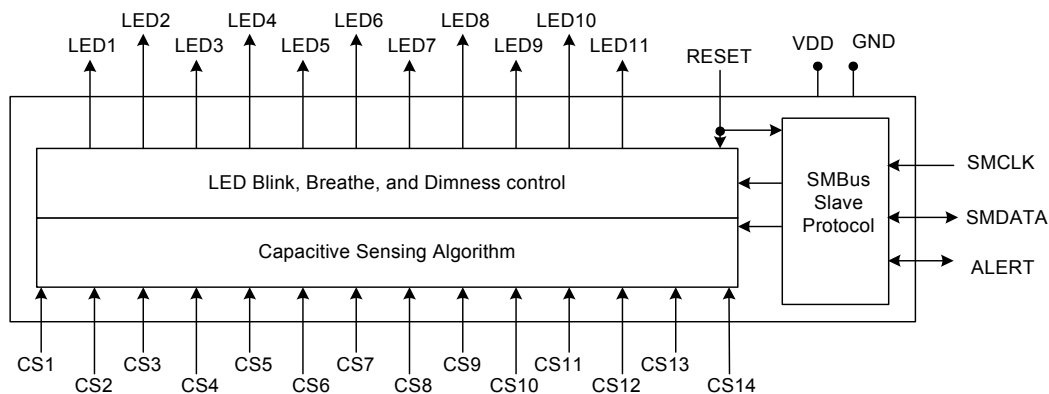
Applications

- Consumer Electronics
- Desktop and Notebook PC's
- LCD Monitors

Features

- Fourteen (14) Capacitive Touch Sensor inputs
 - Programmable sensitivity
 - High SNR allows for easy tuning
 - Automatic recalibration
 - Slider Acceleration Detection
 - Slider positional detection
- Low Power operation
 - 150uA quiescent current in Deep Sleep
 - 250uA quiescent current in Sleep mode while monitoring 2 buttons.
- Alert to signal touch to host processor
- User controlled reset
- Low External Component Count
- SMBus 2.0 compliant interface to change operating parameters to work in a wide variety of systems
 - Block Read and Write function for quick tasking
- Eleven (11) LED Driver outputs
 - Programmable blink, breathe, and dimness controls
 - 8 Configurable as GPIOs
 - Buttons can be linked to LED responses
- Development boards and software available
- Available in 32-pin 5mm x 5mm QFN Lead-free RoHS Compliant package

Block Diagram



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Order Number(s):

ORDERING NUMBER	PACKAGE	FEATURES
CAP1014-1-EZK-TR	32-pin QFN 5mm x 5mm (Lead Free RoHS compliant)	14 Capacitive Touch Sensors, 11 LED drivers. Lid Closure. SMBus address 0101_000b
CAP1014-2-EZK-TR	32-pin QFN 5mm x 5mm (Lead Free RoHS compliant)	14 Capacitive Touch Sensors, 11 LED drivers. Lid Closure. SMBus address 0101_100b

Reel Size is 4,000 pieces**This product meets the halogen maximum concentration values per IEC61249-2-21****For RoHS compliance and environmental information, please visit www.smSC.com/rohs**

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Package Information

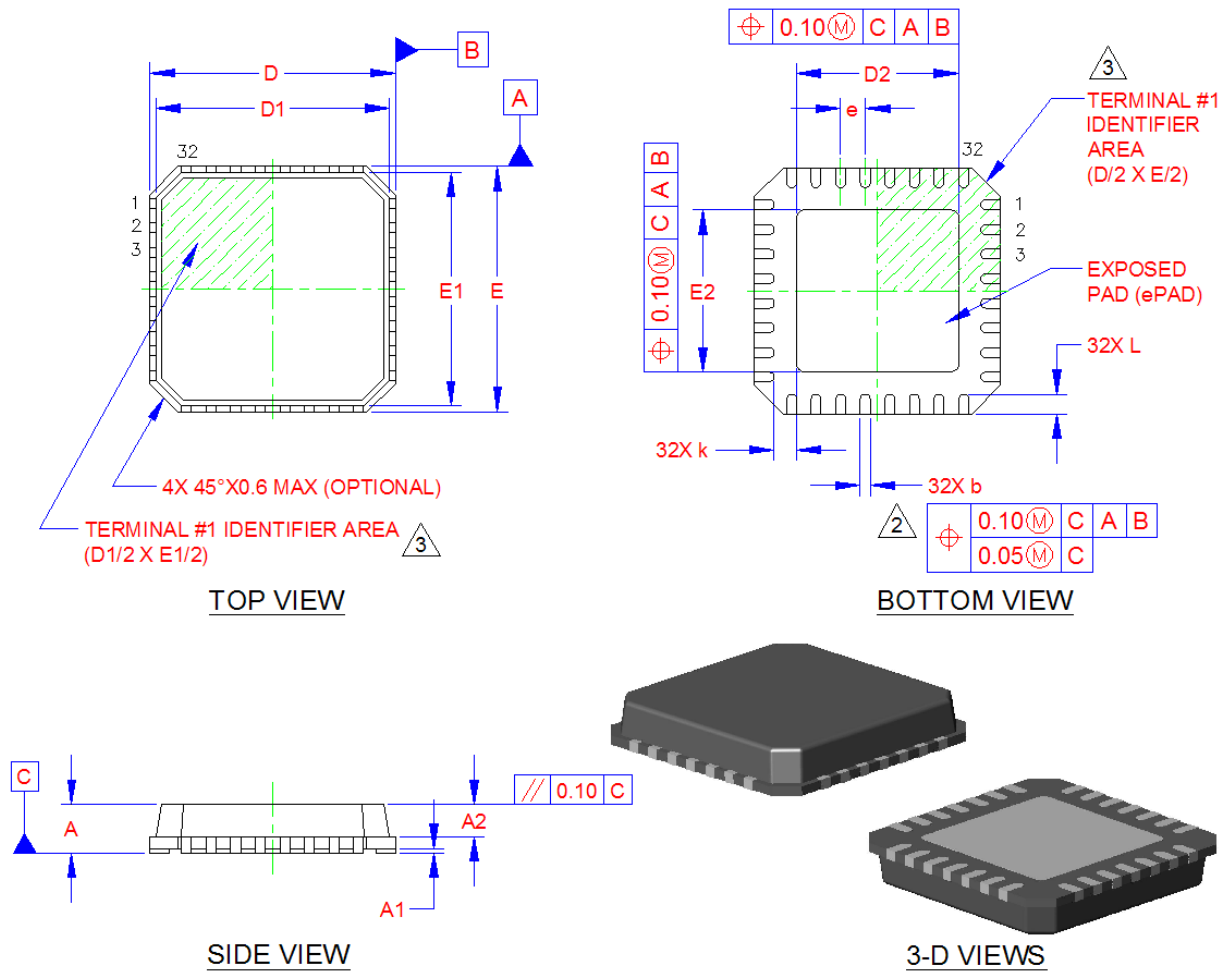


Figure 1 Package Diagram - 32-Pin QFN

COMMON DIMENSIONS					
SYMBOL	MIN	NOM	MAX	NOTE	REMARK
A	0.70	0.85	1.00	-	OVERALL PACKAGE HEIGHT
A1	0	0.02	0.05	-	STANDOFF
A2	-	-	0.90	-	MOLD CAP THICKNESS
D/E	4.90	5.00	5.10	-	X/Y BODY SIZE
D1/E1	4.55	4.75	4.95	-	X/Y MOLD CAP SIZE
D2/E2	3.10	3.30	3.40	-	X/Y EXPOSED PAD SIZE
L	0.30	0.40	0.50	-	TERMINAL LENGTH
b	0.18	0.25	0.30	2	TERMINAL WIDTH
k	0.35	-	-	-	TERMINAL TO ePAD CLEARANCE
e	0.50 BSC			-	TERMINAL PITCH

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DIMENSIONS "b" APPLIES TO PLATED TERMINALS AND IT IS MEASURED BETWEEN 0.15 AND 0.30 mm FROM THE TERMINAL TIP.
3. DETAILS OF TERMINAL #1 IDENTIFIER ARE OPTIONAL BUT MUST BE LOCATED WITHIN THE AREA INDICATED.

Figure 2 Package Dimensions - 32-Pin QFN

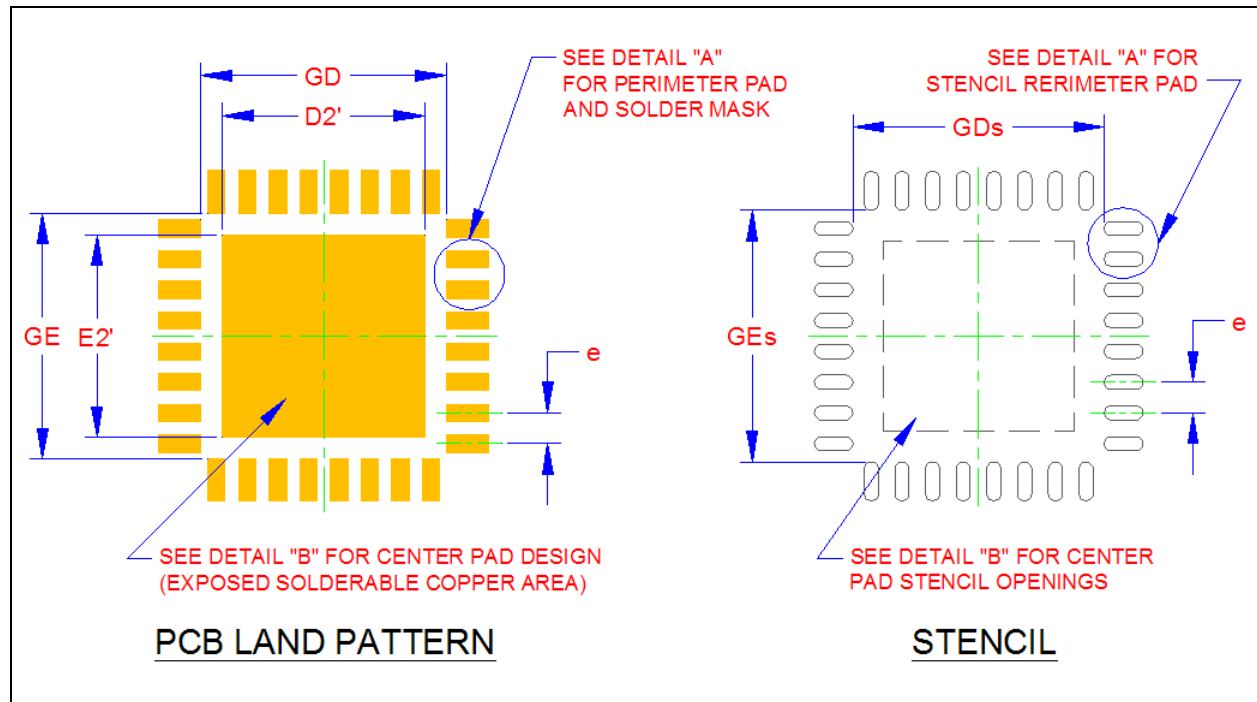


Figure 3 Package PCB Land Pattern and Stencil

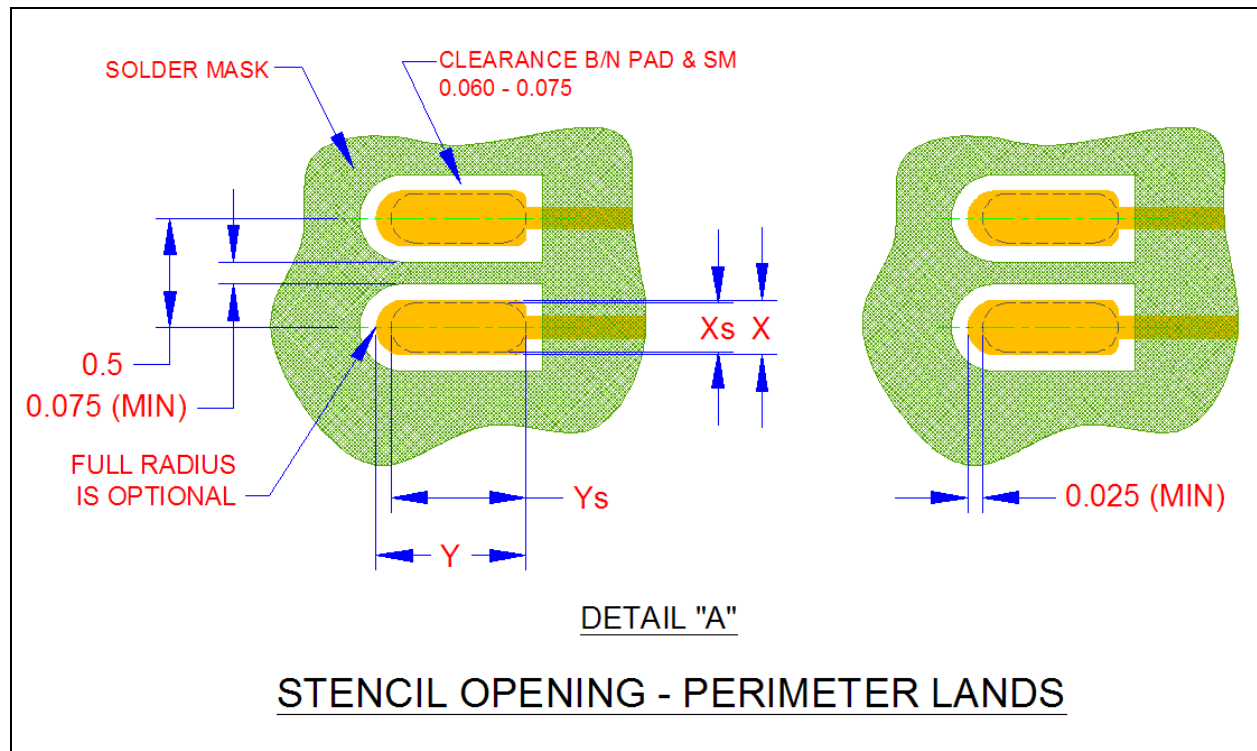


Figure 4 Package Detail A - Stencil Opening and Perimeter Lands

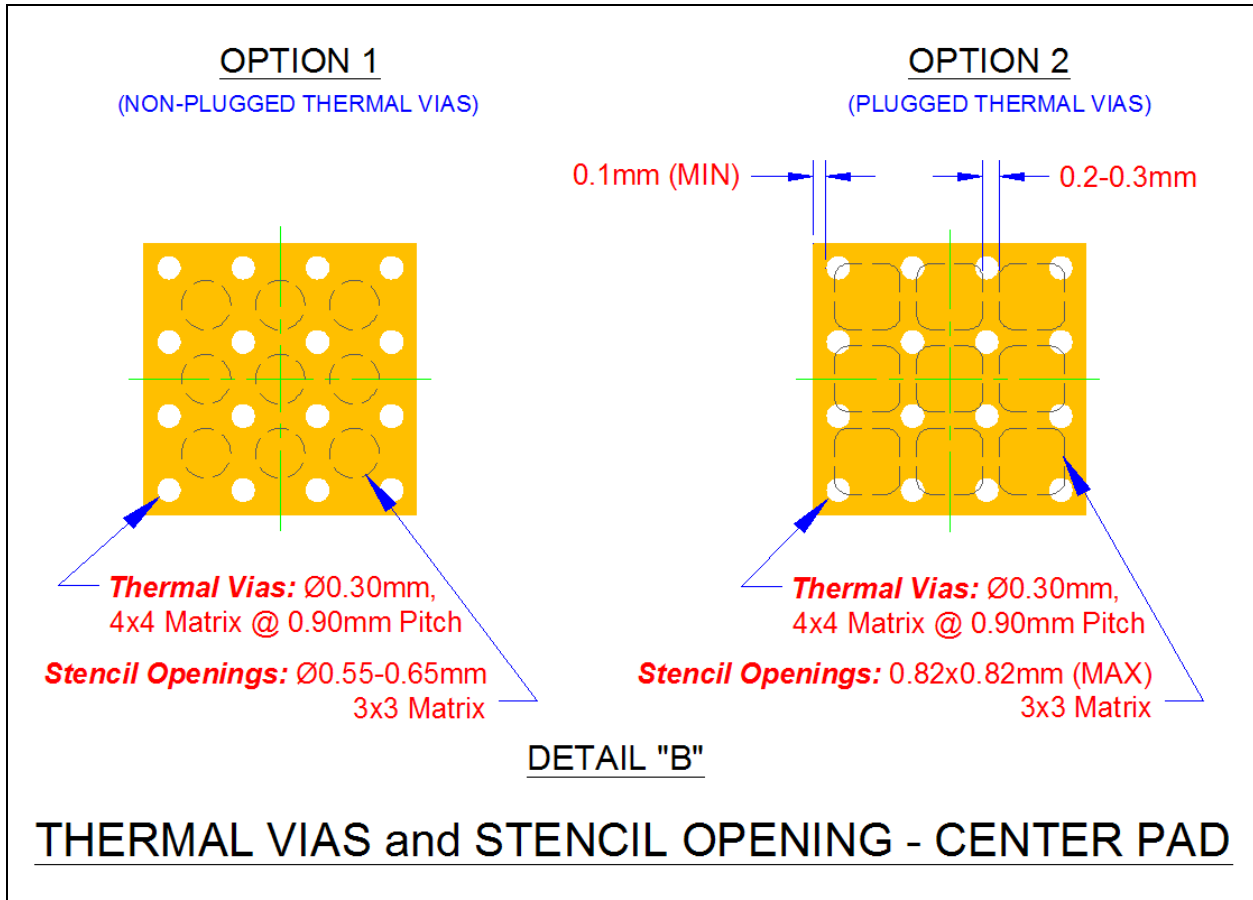


Figure 5 Package Detail B - Thermal Vias and Stencil Opening

LAND PATTERN DIMENSIONS			
SYMBOL	MIN	NOM	MAX
GD/GE	4.00	-	5.10
GDs/GEs	4.05	-	-
D2'/E2'	-	3.30	3.30
Pad: X	-	0.28	0.28
Stencil: Xs	-	0.23	0.25
Pad: Y	-	0.69	0.69
Stencil: Ys	-	0.62	0.64
e	0.50		

Figure 6 Package Land Pattern Dimensions