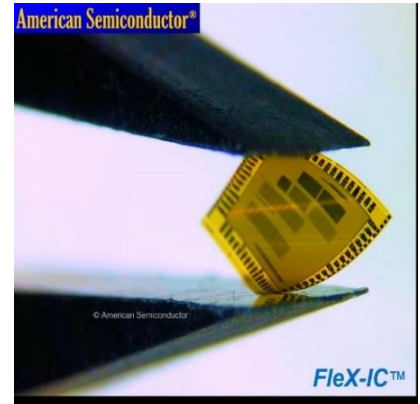


AS_EM4325 FleX-RFID™

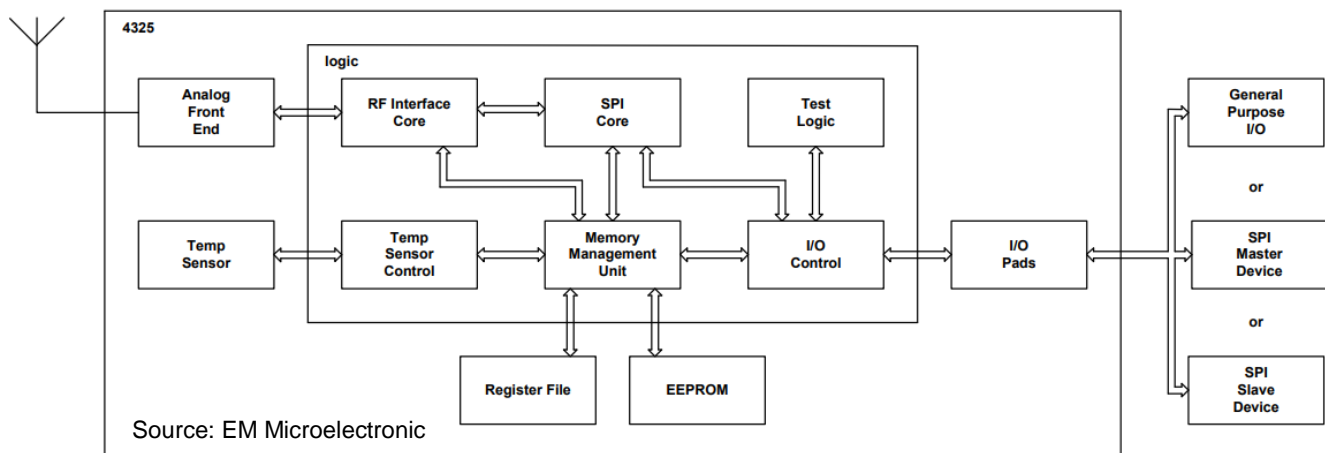
Flexible RFID Temperature Monitoring IC

Overview

The FleX-RFID is the industry’s first physically flexible IC to support 860-960MHz RFID communication. This FleX-RFID is an ultra-thin, flexible version of EM Microelectronic’s [EM4325](#). The FleX-RFID has an integrated temperature sensor that supports temperature monitoring from -40°C to +60°C with programmable alarm conditions. The FleX-RFC can operate in either fully passive mode use RF field energy or battery-assisted passive applications for expanded read range. Potential applications include supply chain management, tracking and tracing, reusable containers and pallets, access control, asset control, cold chain monitoring, and sensor monitoring. The American Semiconductor FleX™ Semiconductor-on-Polymer™ process is used to convert the standard CMOS product into the robust, physically flexible form factor. Initial testing supports applications with 5mm radius of curvatures and is not considered the limit of the device capability.



Block Diagram



Features

RFID Protocols	ISO 18000-63 (Gen2) ISO 18000-64 (TOTAL) EPC Class-1 Generation-2
RFID Data Formats	EPCglobal Tag Data Standards, Version 1.10
Nonvolatile Memory (EEPROM)	4096b including 3072b for user data
RF Carrier Frequency	860 – 960MHz
Temperature Accuracy (Typical)	±0.6°C between -1°C and +13°C ±1.0°C between -40°C and +60°C
Programmable Temperature Alarms	Yes; with time stamp
Passive Mode Operation	Yes
Battery Assisted Operation	Yes; 1.25 – 3.65V
Programmable Low Battery Alarm	Yes
SPI interface	1
Unique Serial Number for Identification	Yes
Coordinated Universal Time Clock	Yes

AS_EM4325 FleX-RFID™

Flexible RFID Temperature Monitoring IC



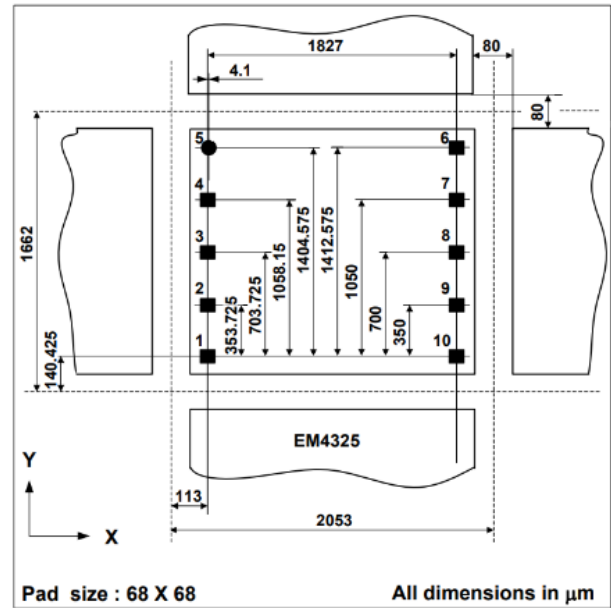
Changing Your World One Flexible Chip at a Time

Physical Specifications

Die Size	1.66mm X 2.05mm
Thickness	35um
Pad Count	8
Min Pad Size	68um x 68um
Min Pad Spacing	88 um
Flexibility	FleX Silicon-on-Polymer
Flexible	Yes
Conformal	Yes

Pin List

1	P1_MISO
2	PO_MOSI
3	TEST_A
4	AUX
5	ANT+
6	VSS
7	VBAT
8	TEST
9	P3_CS
10	P2_SCLK



Source: EM Microelectronic

Ordering Information

Part Number	Description
AS_EM4325P.fxd	FleX-RFID flexible die with 10um Ni/Au plated bond pads

Contact Info

For more information or to purchase FleX products, please contact us at:

Email: sales@americansemi.com

Phone: 208.336.2773

American Semiconductor Inc., the American Semiconductor logo, FleX, FleX-RFID, and Semiconductor-on-Polymer are trademarks of American Semiconductor, Inc.

EM MICROELECTRONIC DOES NOT GIVE ANY WARRANTIES, EXPRESSED OR IMPLIED, ON THE FLEX CONVERSION PROCESS STEPS AND SHALL HAVE NO LIABILITY FOR THE CONSEQUENCES OF SUCH ACTIVITIES.