



US Multicarrier

eSIM

Plan-US

IoT Connectivity and Platform Services

Soracom provides IoT connectivity and platform services to over 20,000 businesses and over 5M connections, with solutions for every challenge in IoT. We're focused on making it easy to connect M2M devices at scale, with a powerful IoT SIM that provides connectivity in 160 countries. Soracom provides direct integrations with the world's leading cloud platforms, making it easy to transmit data from your device to AWS, Google Cloud Platform, or Microsoft Azure.

Our team of IoT experts is on hand to learn more about your challenges, and to discuss how Soracom can help at every stage of your product development lifecycle.



No
Lock In's



Flexible
Plans



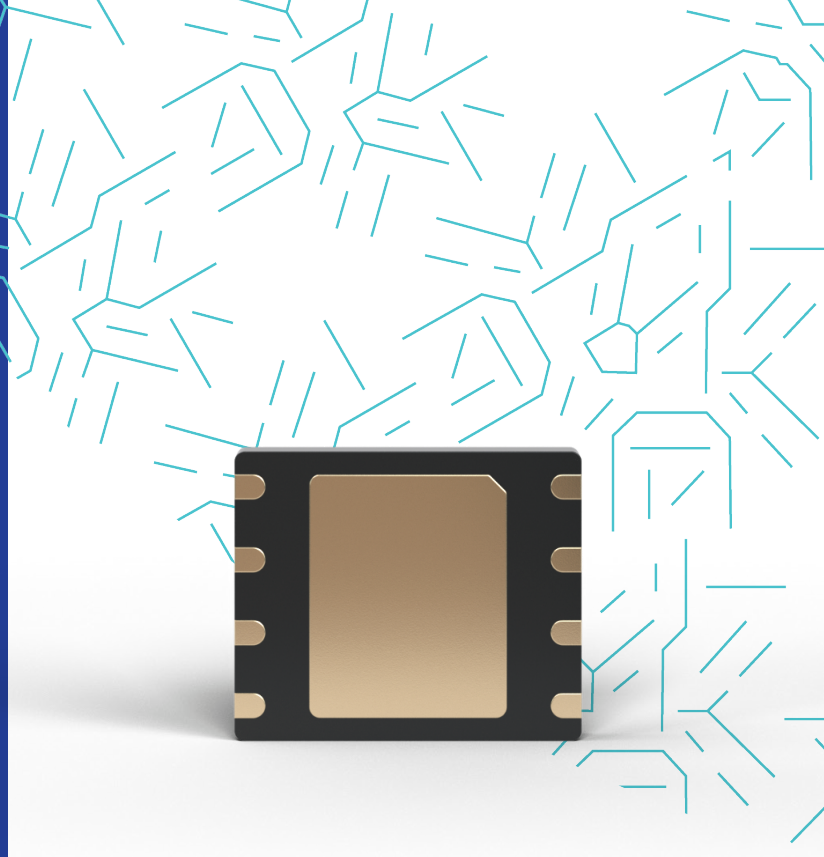
Cloud
Agnostic



Total
Visibility

www.soracom.io

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Soracom eSIMs are designed for mass-production, and help tech innovators connect devices to the cloud over cellular at scale.

Built to withstand temperatures ranging from -40°C to $+105^{\circ}\text{C}$ – and with data retention of up to 15 years – Soracom eSIMs ensure that devices stay connected in even the most extreme environments.

Plan-US Industrial-grade eSIM Features

- Nation-wide cellular IoT connectivity that transfers data over 4G LTE, Cat-M1, NB-IoT, and 5G. Connects to every major mobile network in the US.
- A secure IoT connection
- Direct integration with AWS, Azure, and Google Cloud
- Easy network control and management with the Soracom User Console and API
- Manage the entire lifecycle of every SIM card that's connected to the network, all from a single, easy-to-use IoT dashboard or our API

Plan-US Industrial-grade eSIM Technical Specifications

Software Specifications		Hardware Specifications	
Java Card 3.01		Supply voltage	1.62V to 5.5V (Class A/B/C)
3GPP Release 14		Operating Temperature	Industrial-grade -40°C to +105°C
OTA over SMS (SCP80)		Data retention	Industrial-grade Up to 15 years at 85°C
OTA over HTTPs: Global Platform 2.2 amendment B (SCP81)		NVM Endurance	Up to 30 million erase/write cycles
Java Card Cryptographic APIs ● CRC16, CRC32 ● DES, 3DES ● AES 128/256 bits		ESD Protection	Industrial-grade >4kv
Soracom Subscription container applet		Ruggedized Form Factor MFF2	TB-MA-HA-CC-VA-SA-RC-UC
Soracom Local information applet		Compliance	RoHS compliant

Plan-US Industrial-grade eSIM Orderable Quantity

Soracom Part Number	Short Description	Number of Devices per reel
SUEIL01-01-500	**US Multicarrier eSIM Industrial-grade MFF2 (Soracom Air, plan-US)	500
SUEIL01-01-3000		3,000

** SUEIL01 eSIMs are not eUICC compatible, they use Subscription Containers to manage multiple IMSI profiles. However, Soracom also has eUICC-enabled eSIMs. Contact us directly for more information.

Leveraging Subscription Containers (Multi IMSI)

All of the advantages of eUICC without any of its major drawbacks

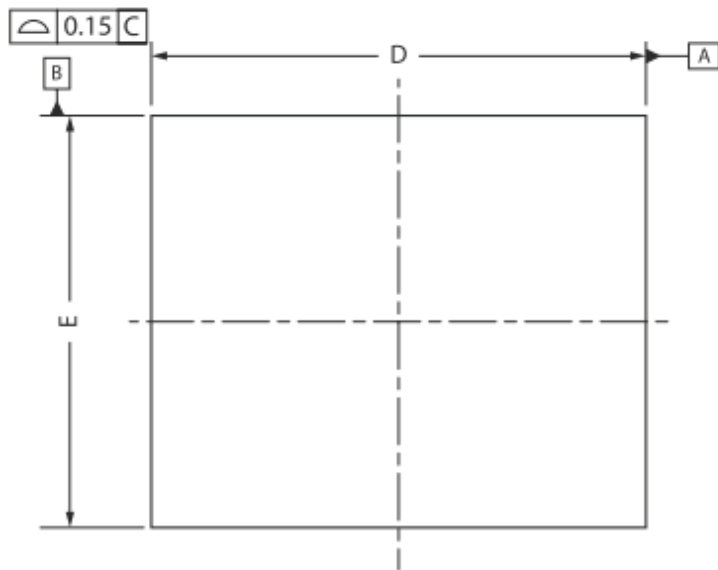
When soldering an eSIM into a device, you want to know that you're future proofed and can avoid situations where you're forced to make device updates in the field.

Subscription Containers is how Soracom implements a sophisticated approach to Multi IMSI eSIMs. Manage subscriptions for deployed eSIM enabled devices with OTA updates and automatically prioritize network usage that maximizes extra coverage and lower cost. This allows the same eSIM to reach new markets or access lower rates without any extra work.

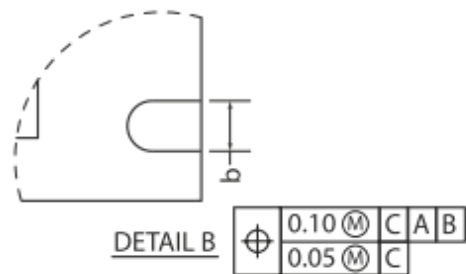
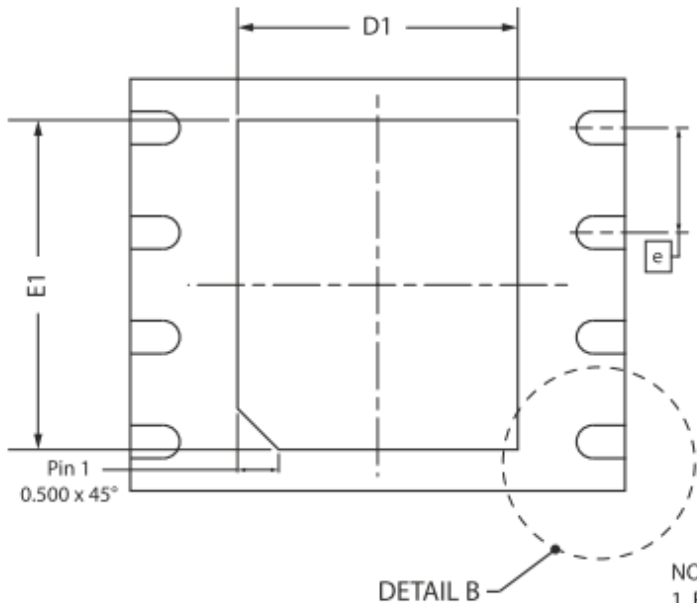
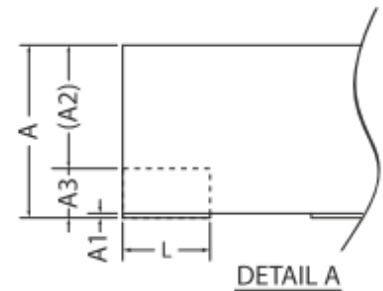
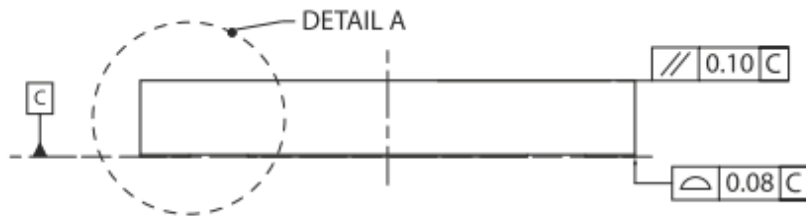
Packaging Datasheet

This section provides specific information for concerning the SMD package used by SIM cards in M2M communications. This SMD package attributes are compliant to ETSI TS 102 671 specifications and is called M2M Form Factor 2 (MFF2).

Package Mechanical Data and Outline for Plan-US (SUEIL01)



SYMBOL	DIMENSION (MM)			DIMENSION (MIL)		
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
A	0.70	0.75	0.80	28	30	31
A1	0.00	0.02	0.05	0	1	2
A2	0	0.55	0.80	0	22	31
A3	-	0.20	-	-	8	-
b	0.35	0.40	0.45	14	16	18
D	5.90	6.00	6.10	232	238	240
D1	3.30	3.40	3.50	130	134	138
E	5.90	5.00	5.10	193	197	201
E1	3.90	4.00	4.10	154	157	161
e	1.27 BSC			50 BSC		
L	0.55	0.60	0.65	22	24	26



NOTE :

1. REFER TO JEDEC STD: MO-229.
2. DIMENSION "b" APPLIES TO METALLIZED TERMINAL AND IS MEASURED BETWEEN 0.15MM AND 0.30MM FROM THE TERMINAL TIP. IF THE TERMINAL HAS OPTIONAL RADIUS ON THE OTHER END OF THE TERMINAL, THE DIMENSION B SHOULD NOT BE MEASURED IN THAT RADIUS AREA.

Package Pinout and Mapping of Contacts

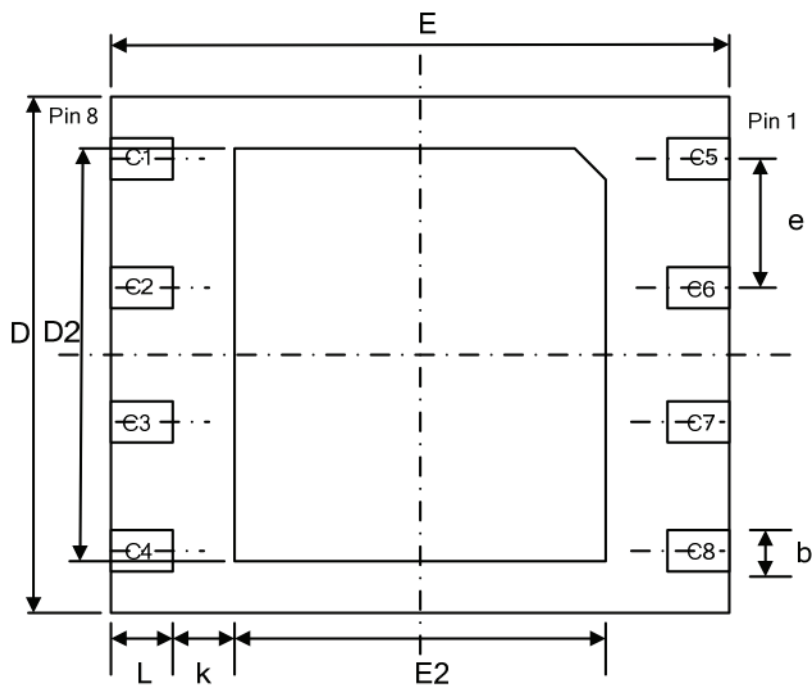
Common for all the eSIM and eUICC products.

Pin assignments for the contacts C1 to C8 are defined as per ETSI TS 102.221 and TS 102.671.

Pin #	ISO 7816	Signal	Purpose
1 (Index)	C5	GND	Ground
2	C6	NC	Reserved
3	C7	I/O	Input or Output for ISO interface
4	C8	NC	Reserved

Pin #	ISO 7816	Signal	Purpose
5	C4	NC	Reserved
6	C3	CLK	Clock signal input
7	C2	RST	Reset signal input
8	C1	VCC	Supply power input

NC: Not physically/electrically connected



The contacts shall be located on the front of the SIM. The dimensions are referenced to the left and upper edges of the front surface of the SIM as defined in ISO/IEC 7810. Each numbered contact shall be assigned as specified in ISO/IEC 7816-3 where C4 and C8 are not connected (NC). Unused contact areas shall be either non-conductive or electrically isolated from any other contact area in order to avoid potential short circuit in interface devices.

Laser Markings



ZONE A & C

These are not customizable and will be issued according to supply source.

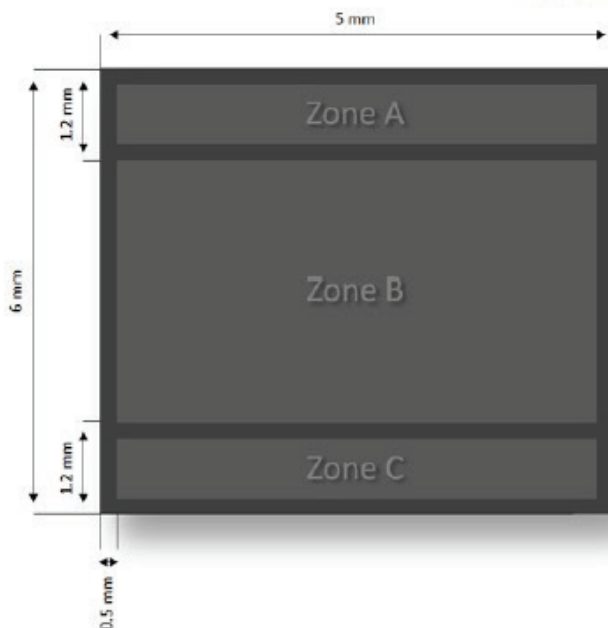
ZONE B

ICCID (19 digits) is printed in 3 lines.

ZONE B (middle blank area) – customizable

- This area is allocated for customer specific alphanumeric information, consisting of:
 - ⇒ A to Z (uppercase only)
 - ⇒ 0 to 9
 - ⇒ Symbol “-” (minus only)
- The maximum is 3 lines of 10 characters each (i.e. 30 characters total)
- Standard recommendation is 3 lines of 8 for eye readability
- No space characters in the middle of a field. A space(s) character is only allowed in fixed data
- The lines must be left or right adjusted

MFF2 Top View



Zone A

Reserved for SMD assembly
Not customizable by end-customer

Zone B

Blank Area for personalization
Customizable marking zone, based on what has been defined by the customer in their technical specifications.

Zone C

Pin #1 index & Reserved
Not customizable by end-customer

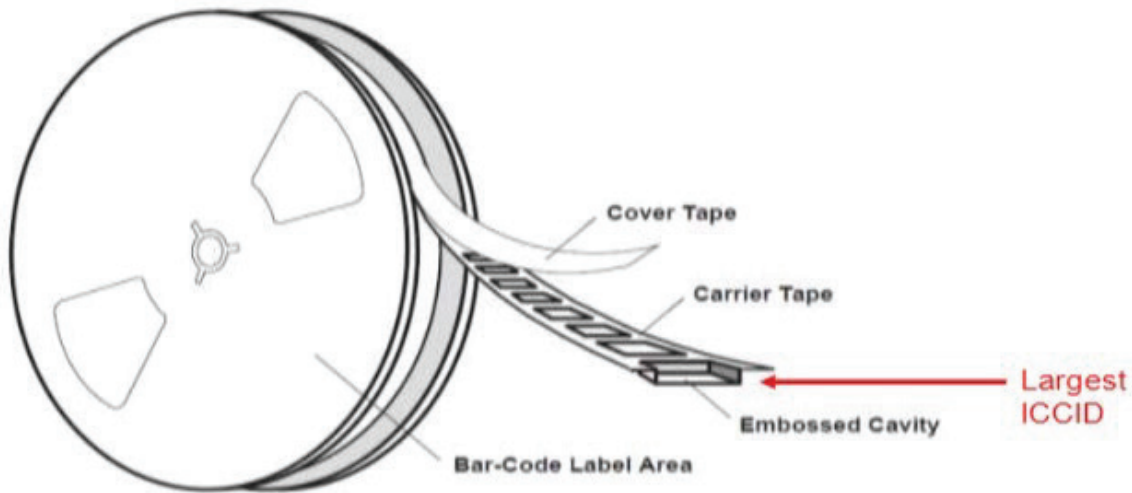
Tape and Reel Packing

Common for both eSIM and eUICC.

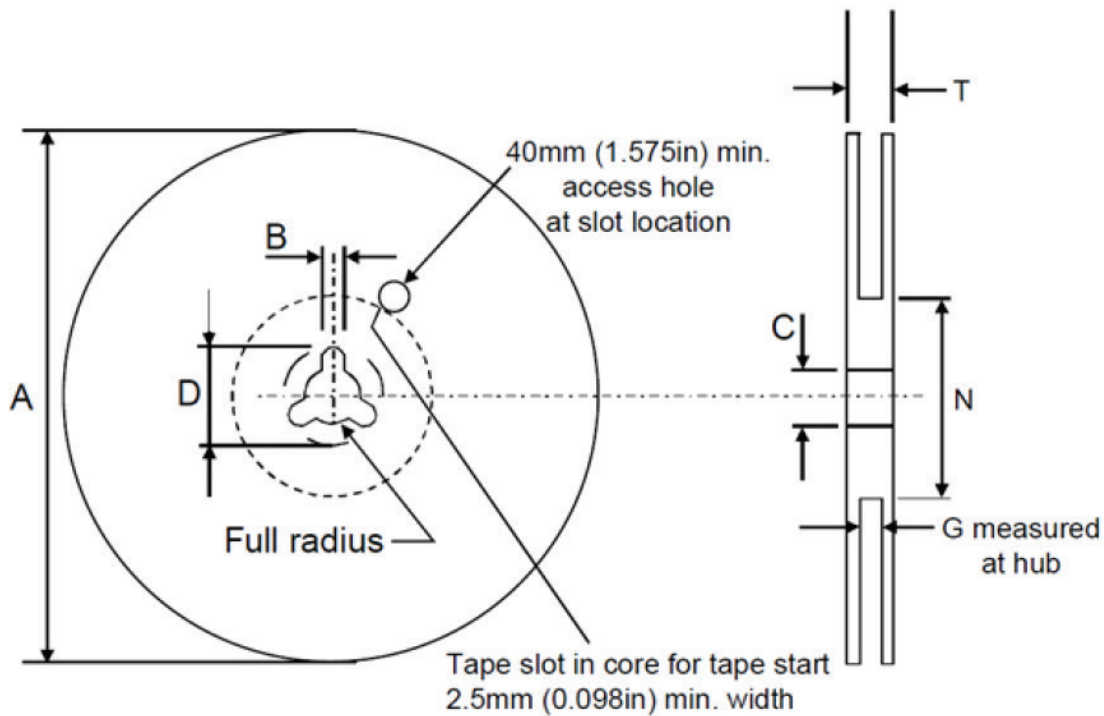
Surface-mount packages are supplied with Tape and Reel packing.

- Quantity per reel: 3000 units
- Material: Styrofoam, electrically conductive
- Surface resistance: $10^2 < R < 10^{12}$ ohms

Reel size	Tape size	A Max.	B Min.	C	D Min.	G Max.	N Min.	T Max.	Unit
13"	12 mm	330	1.5	13 ±0.25	20.2	12.6	100	18.4	mm



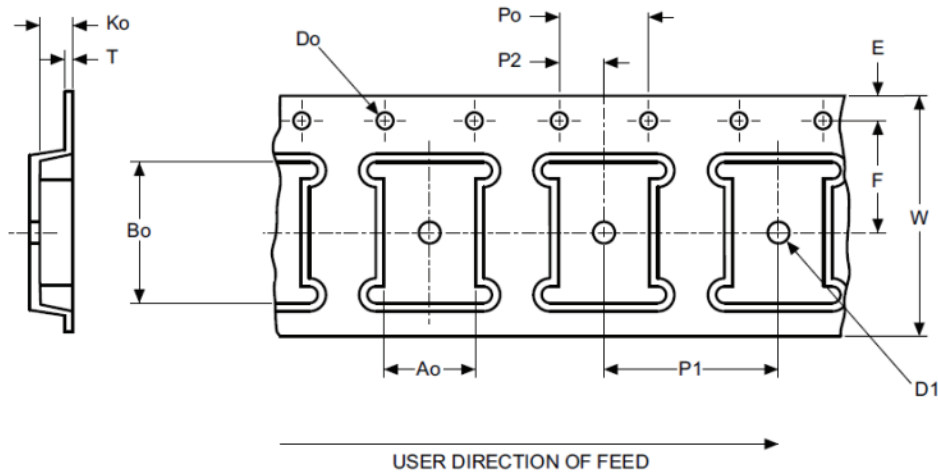
Note: the smallest ICCID is the most-inside, the largest ICCID is the outmost.



Embossed Carrier Tape

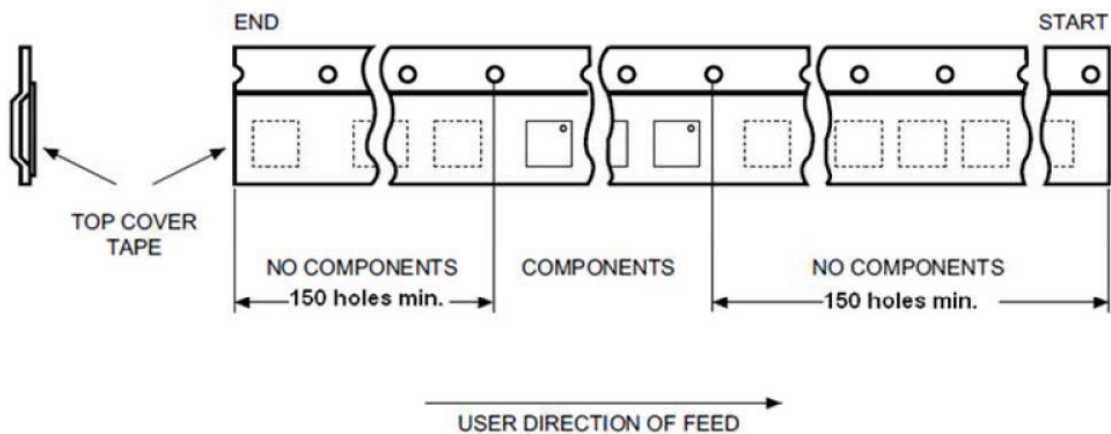
Typically, the carrier tape is constructed from a polystyrene (PS) or PS-laminate film. The uniform film thickness is 0.2mm, to 0.4mm, depending on the size and weight of the component carried by the tape.

- Cover tape's surface resistance: 10^5 Ohms/sq
- Carrier tape's surface resistance: $10^5 \sim 10^9$ Ohms/sq



Package	A0	B0	K0	D1 Min.	P1	P2	D0	P0	E	F	W	T Max.	Unit
MFF2	5.3 ±0.1	6.3 ±0.1	1.2 ±0.1	1.5	8 ±0.1	2 ±0.1	1.55 ±0.05	4 ±0.1	1.75 ±0.1	5.5 ±0.1	12 ±0.3	0.3 ±0.05	mm

Leader and Trailer



Note: Min. trailer length : 160 mm and min. leader length: 400 mm

Moisture Sensitivity

Plastic IC packages absorb moisture from the surrounding environment. This is a typical characteristic of the materials (mold compound and die attach) used in the construction of plastic packages.

The moisture inside the package increases or decreases to reach the relative humidity (RH) of the surrounding environment. Weight gain/loss analysis is used to determine the time it takes for a package to reach moisture saturation or the time required for removing it. This information is used to specify maximum exposure times and minimum dry-baking time.

Floor Life for Different Package Moisture-Sensitivity Levels

LEVEL	FLOOR LIFE			SOAK TIME		
	CONDITIONS		TIME	TIME (HOURS)	CONDITIONS	
	TEMPERATURE (°C)	RH (%)			TEMPERATURE (°C)	RH (%)
1	≤30	90	Unlimited	168	85	85
				X + Y = Z (see Note)		

NOTE: X = time between bake and dry bake at the manufacturing site

Y = floor life of package after removal from dry-pack bag

Z = total soak time

The X values are default values. If the actual time exceeds this value, use the actual time and adjust the soak time.

Mouser Electronics

Authorized Distributor

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