

**PACKAGING INFORMATION**

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead finish/ Ball material (6)	MSL Peak Temp (3)	Op Temp (°C)	Device Marking (4/5)	Samples
MSP430FR2310IPW16	ACTIVE	TSSOP	PW	16	90	RoHS & Green	NIPDAU	Level-2-260C-1 YEAR	-40 to 85	FR2310	<a href="#">Samples</a>
MSP430FR2310IPW16R	ACTIVE	TSSOP	PW	16	2000	RoHS & Green	NIPDAU	Level-2-260C-1 YEAR	-40 to 85	FR2310	<a href="#">Samples</a>
MSP430FR2310IPW20	ACTIVE	TSSOP	PW	20	70	RoHS & Green	NIPDAU	Level-2-260C-1 YEAR	-40 to 85	FR2310	<a href="#">Samples</a>
MSP430FR2310IPW20R	ACTIVE	TSSOP	PW	20	2000	RoHS & Green	NIPDAU	Level-2-260C-1 YEAR	-40 to 85	FR2310	<a href="#">Samples</a>
MSP430FR2310IRGYR	ACTIVE	VQFN	RGY	16	3000	RoHS & Green	NIPDAU	Level-2-260C-1 YEAR	-40 to 85	FR2310	<a href="#">Samples</a>
MSP430FR2310IRGYT	ACTIVE	VQFN	RGY	16	250	RoHS & Green	NIPDAU	Level-2-260C-1 YEAR	-40 to 85	FR2310	<a href="#">Samples</a>
MSP430FR2311IPW16	ACTIVE	TSSOP	PW	16	90	RoHS & Green	NIPDAU	Level-2-260C-1 YEAR	-40 to 85	FR2311	<a href="#">Samples</a>
MSP430FR2311IPW16R	ACTIVE	TSSOP	PW	16	2000	RoHS & Green	NIPDAU	Level-2-260C-1 YEAR	-40 to 85	FR2311	<a href="#">Samples</a>
MSP430FR2311IPW20	ACTIVE	TSSOP	PW	20	70	RoHS & Green	NIPDAU	Level-2-260C-1 YEAR	-40 to 85	FR2311	<a href="#">Samples</a>
MSP430FR2311IPW20R	ACTIVE	TSSOP	PW	20	2000	RoHS & Green	NIPDAU	Level-2-260C-1 YEAR	-40 to 85	FR2311	<a href="#">Samples</a>
MSP430FR2311IRGYR	ACTIVE	VQFN	RGY	16	3000	RoHS & Green	NIPDAU	Level-1-260C-UNLIM	-40 to 85	FR2311	<a href="#">Samples</a>
MSP430FR2311IRGYT	ACTIVE	VQFN	RGY	16	250	RoHS & Green	NIPDAU	Level-2-260C-1 YEAR	-40 to 85	FR2311	<a href="#">Samples</a>

(1) The marketing status values are defined as follows:

**ACTIVE:** Product device recommended for new designs.

**LIFEBUY:** TI has announced that the device will be discontinued, and a lifetime-buy period is in effect.

**NRND:** Not recommended for new designs. Device is in production to support existing customers, but TI does not recommend using this part in a new design.

**PREVIEW:** Device has been announced but is not in production. Samples may or may not be available.

**OBSELETE:** TI has discontinued the production of the device.

(2) **RoHS:** TI defines "RoHS" to mean semiconductor products that are compliant with the current EU RoHS requirements for all 10 RoHS substances, including the requirement that RoHS substance do not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, "RoHS" products are suitable for use in specified lead-free processes. TI may reference these types of products as "Pb-Free".

**RoHS Exempt:** TI defines "RoHS Exempt" to mean products that contain lead but are compliant with EU RoHS pursuant to a specific EU RoHS exemption.

**Green:** TI defines "Green" to mean the content of Chlorine (Cl) and Bromine (Br) based flame retardants meet JS709B low halogen requirements of <=1000ppm threshold. Antimony trioxide based flame retardants must also meet the <=1000ppm threshold requirement.

- (3) MSL, Peak Temp. - The Moisture Sensitivity Level rating according to the JEDEC industry standard classifications, and peak solder temperature.
- (4) There may be additional marking, which relates to the logo, the lot trace code information, or the environmental category on the device.
- (5) Multiple Device Markings will be inside parentheses. Only one Device Marking contained in parentheses and separated by a "~" will appear on a device. If a line is indented then it is a continuation of the previous line and the two combined represent the entire Device Marking for that device.
- (6) Lead finish/Ball material - Orderable Devices may have multiple material finish options. Finish options are separated by a vertical ruled line. Lead finish/Ball material values may wrap to two lines if the finish value exceeds the maximum column width.

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