

**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
MSP430F5212IRGZT	ACTIVE	VQFN	RGZ	48	250	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	F5212	<a href="#">Samples</a>
MSP430F5214IRGZR	ACTIVE	VQFN	RGZ	48	2500	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	F5214	<a href="#">Samples</a>
MSP430F5217IRGCT	ACTIVE	VQFN	RGC	64	250	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	F5217	<a href="#">Samples</a>
MSP430F52171YFFR	ACTIVE	DSBGA	YFF	64	2500	RoHS & Green	SNAGCU	Level-1-260C-UNLIM	-40 to 85	M430F5217	<a href="#">Samples</a>
MSP430F52191YFFT	ACTIVE	DSBGA	YFF	64	250	RoHS & Green	SNAGCU	Level-1-260C-UNLIM	-40 to 85	M430F5219	<a href="#">Samples</a>
MSP430F5222IRGZR	ACTIVE	VQFN	RGZ	48	2500	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	F5222	<a href="#">Samples</a>
MSP430F5222IRGZT	ACTIVE	VQFN	RGZ	48	250	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	F5222	<a href="#">Samples</a>
MSP430F5224IRGZR	ACTIVE	VQFN	RGZ	48	2500	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	F5224	<a href="#">Samples</a>
MSP430F5229IRGCR	ACTIVE	VQFN	RGC	64	2000	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	F5229	<a href="#">Samples</a>
MSP430F5229IRGCT	ACTIVE	VQFN	RGC	64	250	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	F5229	<a href="#">Samples</a>
MSP430F52291YFFR	ACTIVE	DSBGA	YFF	64	2500	RoHS & Green	SNAGCU	Level-1-260C-UNLIM	-40 to 85	M430F5229	<a href="#">Samples</a>
MSP430F52291YFFT	ACTIVE	DSBGA	YFF	64	250	RoHS & Green	SNAGCU	Level-1-260C-UNLIM	-40 to 85	M430F5229	<a href="#">Samples</a>
MSP430F5229IZQE	OBSOLETE	BGA MICROSTAR JUNIOR	ZQE	80		TBD	Call TI	Call TI		F5229	
MSP430F5229IZQER	OBSOLETE	BGA MICROSTAR JUNIOR	ZQE	80		TBD	Call TI	Call TI		F5229	

(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.

**OBSOLETE:** 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  $\leq 1000$ ppm threshold. Antimony trioxide based flame retardants must also meet the  $\leq 1000$ ppm 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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