

**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
MSP430F133IPAG	ACTIVE	TQFP	PAG	64	160	RoHS & Green	NIPDAU	Level-4-260C-72 HR	-40 to 85	M430F133	<a href="#">Samples</a>
MSP430F133IPM	ACTIVE	LQFP	PM	64	160	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	M430F133	<a href="#">Samples</a>
MSP430F133IPMR	ACTIVE	LQFP	PM	64	1000	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	M430F133	<a href="#">Samples</a>
MSP430F133IRTD	ACTIVE	VQFN	RTD	64	250	RoHS & Green	SN	Level-3-260C-168 HR	-40 to 85	M430F133	<a href="#">Samples</a>
MSP430F135IPAG	ACTIVE	TQFP	PAG	64	160	RoHS & Green	NIPDAU	Level-4-260C-72 HR	-40 to 85	M430F135 REV #	<a href="#">Samples</a>
MSP430F135IPM	ACTIVE	LQFP	PM	64	160	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	M430F135 REV #	<a href="#">Samples</a>
MSP430F135IPMR	ACTIVE	LQFP	PM	64	1000	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	M430F135 REV #	<a href="#">Samples</a>
MSP430F135IRTD	ACTIVE	VQFN	RTD	64	2500	RoHS & Green	SN	Level-3-260C-168 HR	-40 to 85	M430F135	<a href="#">Samples</a>
MSP430F135IRTD	ACTIVE	VQFN	RTD	64	250	RoHS & Green	SN	Level-3-260C-168 HR	-40 to 85	M430F135	<a href="#">Samples</a>
MSP430F1471IPM	ACTIVE	LQFP	PM	64	160	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	M430F1471 REV #	<a href="#">Samples</a>
MSP430F1471IPMR	ACTIVE	LQFP	PM	64	1000	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	M430F1471 REV #	<a href="#">Samples</a>
MSP430F1471IRTD	ACTIVE	VQFN	RTD	64	250	RoHS & Green	SN	Level-3-260C-168 HR	-40 to 85	M430F1471	<a href="#">Samples</a>
MSP430F147IPAG	ACTIVE	TQFP	PAG	64	160	RoHS & Green	NIPDAU	Level-4-260C-72 HR	-40 to 85	M430F147 REV #	<a href="#">Samples</a>
MSP430F147IPM	ACTIVE	LQFP	PM	64	160	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	M430F147 REV #	<a href="#">Samples</a>
MSP430F147IPMR	ACTIVE	LQFP	PM	64	1000	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	M430F147 REV #	<a href="#">Samples</a>
MSP430F147IPMR-KAM	ACTIVE	LQFP	PM	64	1000	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	M430F147 REV #	<a href="#">Samples</a>
MSP430F147IPMRG4	ACTIVE	LQFP	PM	64	1000	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	M430F147 REV #	<a href="#">Samples</a>
MSP430F147IRTD	ACTIVE	VQFN	RTD	64	2500	RoHS & Green	SN	Level-3-260C-168 HR	-40 to 85	M430F147	<a href="#">Samples</a>

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MSP430F147IRTD	ACTIVE	VQFN	RTD	64	250	RoHS & Green	SN	Level-3-260C-168 HR	-40 to 85	M430F147	<a href="#">Samples</a>
MSP430F1481IPM	ACTIVE	LQFP	PM	64	160	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	M430F1481	<a href="#">Samples</a>
MSP430F1481IPMR	ACTIVE	LQFP	PM	64	1000	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	M430F1481	<a href="#">Samples</a>
MSP430F1481IRTD	ACTIVE	VQFN	RTD	64	250	RoHS & Green	SN	Level-3-260C-168 HR	-40 to 85	M430F1481	<a href="#">Samples</a>
MSP430F148IPAG	ACTIVE	TQFP	PAG	64	160	RoHS & Green	NIPDAU	Level-4-260C-72 HR	-40 to 85	M430F148	<a href="#">Samples</a>
MSP430F148IPM	ACTIVE	LQFP	PM	64	160	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	M430F148 REV #	<a href="#">Samples</a>
MSP430F148IPMR	ACTIVE	LQFP	PM	64	1000	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	M430F148 REV #	<a href="#">Samples</a>
MSP430F148IRTD	ACTIVE	VQFN	RTD	64	2500	RoHS & Green	SN	Level-3-260C-168 HR	-40 to 85	M430F148	<a href="#">Samples</a>
MSP430F148IRTD	ACTIVE	VQFN	RTD	64	250	RoHS & Green	SN	Level-3-260C-168 HR	-40 to 85	M430F148	<a href="#">Samples</a>
MSP430F1491IPM	ACTIVE	LQFP	PM	64	160	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	M430F1491	<a href="#">Samples</a>
MSP430F1491IPMR	ACTIVE	LQFP	PM	64	1000	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	M430F1491	<a href="#">Samples</a>
MSP430F1491IRTD	ACTIVE	VQFN	RTD	64	2500	RoHS & Green	SN	Level-3-260C-168 HR	-40 to 85	M430F1491	<a href="#">Samples</a>
MSP430F1491IRTD	ACTIVE	VQFN	RTD	64	250	RoHS & Green	SN	Level-3-260C-168 HR	-40 to 85	M430F1491	<a href="#">Samples</a>
MSP430F149IPAG	ACTIVE	TQFP	PAG	64	160	RoHS & Green	NIPDAU	Level-4-260C-72 HR	-40 to 85	M430F149 REV #	<a href="#">Samples</a>
MSP430F149IPAGR	ACTIVE	TQFP	PAG	64	1500	RoHS & Green	NIPDAU	Level-4-260C-72 HR	-40 to 85	M430F149 REV #	<a href="#">Samples</a>
MSP430F149IPM	ACTIVE	LQFP	PM	64	160	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	M430F149 REV #	<a href="#">Samples</a>
MSP430F149IPMG4	ACTIVE	LQFP	PM	64	160	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	M430F149 REV #	<a href="#">Samples</a>
MSP430F149IPMR	ACTIVE	LQFP	PM	64	1000	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	M430F149 REV #	<a href="#">Samples</a>
MSP430F149IPMRG4	ACTIVE	LQFP	PM	64	1000	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	M430F149 REV #	<a href="#">Samples</a>

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MSP430F149IRTD	ACTIVE	VQFN	RTD	64	2500	RoHS & Green	SN	Level-3-260C-168 HR	-40 to 85	M430F149	<a href="#">Samples</a>
MSP430F149IRTD	ACTIVE	VQFN	RTD	64	250	RoHS & Green	SN	Level-3-260C-168 HR	-40 to 85	M430F149	<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.

**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 <=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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