

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
MSP430FR59471IRHAR	ACTIVE	VQFN	RHA	40	2500	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR59471	Samples
MSP430FR59471IRHAT	ACTIVE	VQFN	RHA	40	250	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR59471	Samples
MSP430FR59471IDA	ACTIVE	TSSOP	DA	38	40	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5947	Samples
MSP430FR59471IDAR	ACTIVE	TSSOP	DA	38	2000	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5947	Samples
MSP430FR59471RHAR	ACTIVE	VQFN	RHA	40	2500	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5947	Samples
MSP430FR59471RHAT	ACTIVE	VQFN	RHA	40	250	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5947	Samples
MSP430FR59481IDA	ACTIVE	TSSOP	DA	38	40	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5948	Samples
MSP430FR59481IDAR	ACTIVE	TSSOP	DA	38	2000	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5948	Samples
MSP430FR59481RHAR	ACTIVE	VQFN	RHA	40	2500	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5948	Samples
MSP430FR59481RHAT	ACTIVE	VQFN	RHA	40	250	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5948	Samples
MSP430FR59491IDA	ACTIVE	TSSOP	DA	38	40	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5949	Samples
MSP430FR59491IDAR	ACTIVE	TSSOP	DA	38	2000	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5949	Samples
MSP430FR59491RHAR	ACTIVE	VQFN	RHA	40	2500	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5949	Samples
MSP430FR59491RHAT	ACTIVE	VQFN	RHA	40	250	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5949	Samples
MSP430FR59571IDA	ACTIVE	TSSOP	DA	38	40	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5957	Samples
MSP430FR59571IDAR	ACTIVE	TSSOP	DA	38	2000	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5957	Samples
MSP430FR59571RHAR	ACTIVE	VQFN	RHA	40	2500	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5957	Samples
MSP430FR59571RHAT	ACTIVE	VQFN	RHA	40	250	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5957	Samples
MSP430FR59581IDA	ACTIVE	TSSOP	DA	38	40	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5958	Samples
MSP430FR59581IDAR	ACTIVE	TSSOP	DA	38	2000	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5958	Samples

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
MSP430FR5958IRHAR	ACTIVE	VQFN	RHA	40	2500	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5958	Samples
MSP430FR5958IRHAT	ACTIVE	VQFN	RHA	40	250	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5958	Samples
MSP430FR5959IDA	ACTIVE	TSSOP	DA	38	40	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5959	Samples
MSP430FR5959IDAR	ACTIVE	TSSOP	DA	38	2000	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5959	Samples
MSP430FR5959IRHAR	ACTIVE	VQFN	RHA	40	2500	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5959	Samples
MSP430FR5959IRHAT	ACTIVE	VQFN	RHA	40	250	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5959	Samples
MSP430FR5967IRGZR	ACTIVE	VQFN	RGZ	48	2500	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5967	Samples
MSP430FR5967IRGZT	ACTIVE	VQFN	RGZ	48	250	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5967	Samples
MSP430FR5968IRGZR	ACTIVE	VQFN	RGZ	48	2500	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5968	Samples
MSP430FR5968IRGZT	ACTIVE	VQFN	RGZ	48	250	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5968	Samples
MSP430FR59691IRGZR	ACTIVE	VQFN	RGZ	48	2500	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR59691	Samples
MSP430FR59691IRGZT	ACTIVE	VQFN	RGZ	48	250	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR59691	Samples
MSP430FR5969IRGZR	ACTIVE	VQFN	RGZ	48	2500	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5969	Samples
MSP430FR5969IRGZT	ACTIVE	VQFN	RGZ	48	250	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 85	FR5969	Samples

(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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OTHER QUALIFIED VERSIONS OF MSP430FR5969 :

- Space: [MSP430FR5969-SP](#)

NOTE: Qualified Version Definitions:

- Space - Radiation tolerant, ceramic packaging and qualified for use in Space-based application