

## TAPE AND REEL INFORMATION



### QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE



\*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Reel Diameter (mm)	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
MSP430FR5962IPMR	LQFP	PM	64	1000	330.0	24.4	13.0	13.0	2.1	16.0	24.0	Q2
MSP430FR5962IPNR	LQFP	PN	80	1000	330.0	24.4	16.0	16.0	2.0	24.0	24.0	Q2
MSP430FR5962IRGZR	VQFN	RGZ	48	2500	330.0	16.4	7.3	7.3	1.1	12.0	16.0	Q2
MSP430FR5962IZVWR	NFBGA	ZVW	87	1000	330.0	16.4	6.3	6.3	1.5	12.0	16.0	Q1
MSP430FR5964IPMR	LQFP	PM	64	1000	330.0	24.4	13.0	13.0	2.1	16.0	24.0	Q2
MSP430FR5964IPNR	LQFP	PN	80	1000	330.0	24.4	16.0	16.0	2.0	24.0	24.0	Q2
MSP430FR5964IRGZR	VQFN	RGZ	48	2500	330.0	16.4	7.3	7.3	1.1	12.0	16.0	Q2
MSP430FR5964IZVWR	NFBGA	ZVW	87	1000	330.0	16.4	6.3	6.3	1.5	12.0	16.0	Q1
MSP430FR5992IPMR	LQFP	PM	64	1000	330.0	24.4	13.0	13.0	2.1	16.0	24.0	Q2
MSP430FR5992IPNR	LQFP	PN	80	1000	330.0	24.4	16.0	16.0	2.0	24.0	24.0	Q2
MSP430FR5992IRGZR	VQFN	RGZ	48	2500	330.0	16.4	7.3	7.3	1.1	12.0	16.0	Q2
MSP430FR5992IZVWR	NFBGA	ZVW	87	1000	330.0	16.4	6.3	6.3	1.5	12.0	16.0	Q1
MSP430FR59941IPMR	LQFP	PM	64	1000	330.0	24.4	13.0	13.0	2.1	16.0	24.0	Q2
MSP430FR59941IPNR	LQFP	PN	80	1000	330.0	24.4	16.0	16.0	2.0	24.0	24.0	Q2
MSP430FR59941IRGZR	VQFN	RGZ	48	2500	330.0	16.4	7.3	7.3	1.1	12.0	16.0	Q2
MSP430FR59941IRGZT	VQFN	RGZ	48	250	180.0	16.4	7.3	7.3	1.1	12.0	16.0	Q2

Device	Package Type	Package Drawing	Pins	SPQ	Reel Diameter (mm)	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
MSP430FR59941ZVWR	NFBGA	ZVW	87	1000	330.0	16.4	6.3	6.3	1.5	12.0	16.0	Q1
MSP430FR5994IPMR	LQFP	PM	64	1000	330.0	24.4	13.0	13.0	2.1	16.0	24.0	Q2
MSP430FR5994IPNR	LQFP	PN	80	1000	330.0	24.4	16.0	16.0	2.0	24.0	24.0	Q2
MSP430FR5994IRGZR	VQFN	RGZ	48	2500	330.0	16.4	7.3	7.3	1.1	12.0	16.0	Q2
MSP430FR5994IRGZT	VQFN	RGZ	48	250	180.0	16.4	7.3	7.3	1.1	12.0	16.0	Q2
MSP430FR5994IZVWR	NFBGA	ZVW	87	1000	330.0	16.4	6.3	6.3	1.5	12.0	16.0	Q1

**TAPE AND REEL BOX DIMENSIONS**


\*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
MSP430FR5962IPMR	LQFP	PM	64	1000	336.6	336.6	41.3
MSP430FR5962IPNR	LQFP	PN	80	1000	367.0	367.0	55.0
MSP430FR5962IRGZR	VQFN	RGZ	48	2500	367.0	367.0	38.0
MSP430FR5962IZVWR	NFBGA	ZVW	87	1000	336.6	336.6	31.8
MSP430FR5964IPMR	LQFP	PM	64	1000	336.6	336.6	41.3
MSP430FR5964IPNR	LQFP	PN	80	1000	367.0	367.0	55.0
MSP430FR5964IRGZR	VQFN	RGZ	48	2500	367.0	367.0	38.0
MSP430FR5964IZVWR	NFBGA	ZVW	87	1000	336.6	336.6	31.8
MSP430FR5992IPMR	LQFP	PM	64	1000	336.6	336.6	41.3
MSP430FR5992IPNR	LQFP	PN	80	1000	367.0	367.0	55.0
MSP430FR5992IRGZR	VQFN	RGZ	48	2500	367.0	367.0	38.0
MSP430FR5992IZVWR	NFBGA	ZVW	87	1000	336.6	336.6	31.8
MSP430FR59941IPMR	LQFP	PM	64	1000	336.6	336.6	41.3
MSP430FR59941IPNR	LQFP	PN	80	1000	367.0	367.0	55.0
MSP430FR59941IRGZR	VQFN	RGZ	48	2500	367.0	367.0	38.0
MSP430FR59941IRGZT	VQFN	RGZ	48	250	210.0	185.0	35.0
MSP430FR59941IZVWR	NFBGA	ZVW	87	1000	336.6	336.6	31.8
MSP430FR5994IPMR	LQFP	PM	64	1000	336.6	336.6	41.3

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Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
MSP430FR5994IPNR	LQFP	PN	80	1000	367.0	367.0	55.0
MSP430FR5994IRGZR	VQFN	RGZ	48	2500	367.0	367.0	38.0
MSP430FR5994IRGZT	VQFN	RGZ	48	250	210.0	185.0	35.0
MSP430FR5994IZVWR	NFBGA	ZVW	87	1000	336.6	336.6	31.8

**TRAY**


Chamfer on Tray corner indicates Pin 1 orientation of packed units.

\*All dimensions are nominal

Device	Package Name	Package Type	Pins	SPQ	Unit array matrix	Max temperature (°C)	L (mm)	W (mm)	K0 (µm)	P1 (mm)	CL (mm)	CW (mm)
MSP430FR59941IPM	PM	LQFP	64	160	8 X 20	150	315	135.9	7620	15.2	13.1	13
MSP430FR59941IPN	PN	LQFP	80	119	7 X 17	150	315	135.9	7620	17.9	14.3	13.95
MSP430FR5994IPM	PM	LQFP	64	160	8 X 20	150	315	135.9	7620	15.2	13.1	13
MSP430FR5994IPN	PN	LQFP	80	119	7 X 17	150	315	135.9	7620	17.9	14.3	13.95