

**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
MSP430FR5986IPMR	LQFP	PM	64	1000	330.0	24.4	13.0	13.0	2.1	16.0	24.0	Q2
MSP430FR5987IPMR	LQFP	PM	64	1000	330.0	24.4	13.0	13.0	2.1	16.0	24.0	Q2
MSP430FR5987IRGCR	VQFN	RGC	64	2000	330.0	16.4	9.3	9.3	1.1	12.0	16.0	Q2
MSP430FR5987IRGCT	VQFN	RGC	64	250	180.0	16.4	9.3	9.3	1.1	12.0	16.0	Q2
MSP430FR5988IRGCT	VQFN	RGC	64	250	180.0	16.4	9.3	9.3	1.1	12.0	16.0	Q2
MSP430FR59891IRGCT	VQFN	RGC	64	250	180.0	16.4	9.3	9.3	1.1	12.0	16.0	Q2
MSP430FR5989IPMR	LQFP	PM	64	1000	330.0	24.4	13.0	13.0	2.1	16.0	24.0	Q2
MSP430FR5989IRGCR	VQFN	RGC	64	2000	330.0	16.4	9.3	9.3	1.1	12.0	16.0	Q2
MSP430FR5989IRGCT	VQFN	RGC	64	250	180.0	16.4	9.3	9.3	1.1	12.0	16.0	Q2
MSP430FR6987IPNR	LQFP	PN	80	1000	330.0	24.4	15.0	15.0	2.1	20.0	24.0	Q2
MSP430FR6988IPNR	LQFP	PN	80	1000	330.0	24.4	15.0	15.0	2.1	20.0	24.0	Q2
MSP430FR69891IPZR	LQFP	PZ	100	1000	330.0	24.4	17.0	17.0	2.1	20.0	24.0	Q2
MSP430FR6989IPNR	LQFP	PN	80	1000	330.0	24.4	15.0	15.0	2.1	20.0	24.0	Q2
MSP430FR6989IPZR	LQFP	PZ	100	1000	330.0	24.4	17.0	17.0	2.1	20.0	24.0	Q2

**TAPE AND REEL BOX DIMENSIONS**


\*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
MSP430FR5986IPMR	LQFP	PM	64	1000	350.0	350.0	43.0
MSP430FR5987IPMR	LQFP	PM	64	1000	350.0	350.0	43.0
MSP430FR5987IRGCR	VQFN	RGC	64	2000	367.0	367.0	38.0
MSP430FR5987IRGCT	VQFN	RGC	64	250	210.0	185.0	35.0
MSP430FR5988IRGCT	VQFN	RGC	64	250	210.0	185.0	35.0
MSP430FR59891IRGCT	VQFN	RGC	64	250	210.0	185.0	35.0
MSP430FR5989IPMR	LQFP	PM	64	1000	350.0	350.0	43.0
MSP430FR5989IRGCR	VQFN	RGC	64	2000	367.0	367.0	38.0
MSP430FR5989IRGCT	VQFN	RGC	64	250	210.0	185.0	35.0
MSP430FR6987IPNR	LQFP	PN	80	1000	350.0	350.0	43.0
MSP430FR6988IPNR	LQFP	PN	80	1000	350.0	350.0	43.0
MSP430FR69891IPZR	LQFP	PZ	100	1000	350.0	350.0	43.0
MSP430FR6989IPNR	LQFP	PN	80	1000	350.0	350.0	43.0
MSP430FR6989IPZR	LQFP	PZ	100	1000	350.0	350.0	43.0

**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)
MSP430FR5986IPM	PM	LQFP	64	160	8 x 20	150	315	135.9	7620	15.2	13.1	13
MSP430FR5987IPM	PM	LQFP	64	160	8 x 20	150	315	135.9	7620	15.2	13.1	13
MSP430FR5988IPM	PM	LQFP	64	160	8 x 20	150	315	135.9	7620	15.2	13.1	13
MSP430FR59891IPM	PM	LQFP	64	160	8 x 20	150	315	135.9	7620	15.2	13.1	13
MSP430FR5989IPM	PM	LQFP	64	160	8 x 20	150	315	135.9	7620	15.2	13.1	13
MSP430FR6987IPN	PN	LQFP	80	119	7 x 17	150	315	135.9	7620	17.9	14.3	13.95
MSP430FR6987IPZ	PZ	LQFP	100	90	6 x 15	150	315	135.9	7620	20.3	15.4	15.45
MSP430FR6988IPN	PN	LQFP	80	119	7 x 17	150	315	135.9	7620	17.9	14.3	13.95
MSP430FR6988IPZ	PZ	LQFP	100	90	6 x 15	150	315	135.9	7620	20.3	15.4	15.45
MSP430FR69891IPN	PN	LQFP	80	119	7 x 17	150	315	135.9	7620	17.9	14.3	13.95
MSP430FR69891IPZ	PZ	LQFP	100	90	6 x 15	150	315	135.9	7620	20.3	15.4	15.45
MSP430FR6989IPN	PN	LQFP	80	119	7 x 17	150	315	135.9	7620	17.9	14.3	13.95
MSP430FR6989IPZ	PZ	LQFP	100	90	6 x 15	150	315	135.9	7620	20.3	15.4	15.45