

## 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
F28P650DH6NMRR	NFBGA	NMR	169	1000	330.0	16.4	9.3	9.3	1.5	12.0	16.0	Q1
F28P650DH6PZPR	HTQFP	PZP	100	1000	330.0	24.4	17.0	17.0	1.5	20.0	24.0	Q2
F28P650DH6ZEJR	NFBGA	ZEJ	256	1000	330.0	24.4	13.35	13.35	2.6	16.0	24.0	Q1
F28P650DK6PZPR	HTQFP	PZP	100	1000	330.0	24.4	17.0	17.0	1.5	20.0	24.0	Q2
F28P650DK6ZEJR	NFBGA	ZEJ	256	1000	330.0	24.4	13.35	13.35	2.6	16.0	24.0	Q1
F28P650DK7NMRR	NFBGA	NMR	169	1000	330.0	16.4	9.3	9.3	1.5	12.0	16.0	Q1
F28P650DK7ZEJR	NFBGA	ZEJ	256	1000	330.0	24.4	13.35	13.35	2.6	16.0	24.0	Q1
F28P650DK8NMRR	NFBGA	NMR	169	1000	330.0	16.4	9.3	9.3	1.5	12.0	16.0	Q1
F28P650DK8ZEJR	NFBGA	ZEJ	256	1000	330.0	24.4	13.35	13.35	2.6	16.0	24.0	Q1
F28P650DK9NMRR	NFBGA	NMR	169	1000	330.0	16.4	9.3	9.3	1.5	12.0	16.0	Q1
F28P650DK9ZEJR	NFBGA	ZEJ	256	1000	330.0	24.4	13.35	13.35	2.6	16.0	24.0	Q1
F28P650SH6NMRR	NFBGA	NMR	169	1000	330.0	16.4	9.3	9.3	1.5	12.0	16.0	Q1
F28P650SH6PZPR	HTQFP	PZP	100	1000	330.0	24.4	17.0	17.0	1.5	20.0	24.0	Q2
F28P650SH6ZEJR	NFBGA	ZEJ	256	1000	330.0	24.4	13.35	13.35	2.6	16.0	24.0	Q1
F28P650SH7NMRR	NFBGA	NMR	169	1000	330.0	16.4	9.3	9.3	1.5	12.0	16.0	Q1
F28P650SH7ZEJR	NFBGA	ZEJ	256	1000	330.0	24.4	13.35	13.35	2.6	16.0	24.0	Q1

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
F28P650SK6NMRR	NFBGA	NMR	169	1000	330.0	16.4	9.3	9.3	1.5	12.0	16.0	Q1
F28P650SK6PZPR	HTQFP	PZP	100	1000	330.0	24.4	17.0	17.0	1.5	20.0	24.0	Q2
F28P650SK6ZEJR	NFBGA	ZEJ	256	1000	330.0	24.4	13.35	13.35	2.6	16.0	24.0	Q1
F28P650SK7NMRR	NFBGA	NMR	169	1000	330.0	16.4	9.3	9.3	1.5	12.0	16.0	Q1
F28P650SK7ZEJR	NFBGA	ZEJ	256	1000	330.0	24.4	13.35	13.35	2.6	16.0	24.0	Q1
F28P659DH8PZPRQ1	HTQFP	PZP	100	1000	330.0	24.4	17.0	17.0	1.5	20.0	24.0	Q2
F28P659DK8PZPRQ1	HTQFP	PZP	100	1000	330.0	24.4	17.0	17.0	1.5	20.0	24.0	Q2
F28P659DK8ZEJRQ1	NFBGA	ZEJ	256	1000	330.0	24.4	13.35	13.35	2.6	16.0	24.0	Q1
F28P659SH6PZPRQ1	HTQFP	PZP	100	1000	330.0	24.4	17.0	17.0	1.5	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)
F28P650DH6NMRR	NFBGA	NMR	169	1000	336.6	336.6	31.8
F28P650DH6PZPR	HTQFP	PZP	100	1000	367.0	367.0	55.0
F28P650DH6ZEJR	NFBGA	ZEJ	256	1000	336.6	336.6	41.3
F28P650DK6PZPR	HTQFP	PZP	100	1000	367.0	367.0	55.0
F28P650DK6ZEJR	NFBGA	ZEJ	256	1000	336.6	336.6	41.3
F28P650DK7NMRR	NFBGA	NMR	169	1000	336.6	336.6	31.8
F28P650DK7ZEJR	NFBGA	ZEJ	256	1000	336.6	336.6	41.3
F28P650DK8NMRR	NFBGA	NMR	169	1000	336.6	336.6	31.8
F28P650DK8ZEJR	NFBGA	ZEJ	256	1000	336.6	336.6	41.3
F28P650DK9NMRR	NFBGA	NMR	169	1000	336.6	336.6	31.8
F28P650DK9ZEJR	NFBGA	ZEJ	256	1000	336.6	336.6	41.3
F28P650SH6NMRR	NFBGA	NMR	169	1000	336.6	336.6	31.8
F28P650SH6PZPR	HTQFP	PZP	100	1000	367.0	367.0	55.0
F28P650SH6ZEJR	NFBGA	ZEJ	256	1000	336.6	336.6	41.3
F28P650SH7NMRR	NFBGA	NMR	169	1000	336.6	336.6	31.8
F28P650SH7ZEJR	NFBGA	ZEJ	256	1000	336.6	336.6	41.3
F28P650SK6NMRR	NFBGA	NMR	169	1000	336.6	336.6	31.8
F28P650SK6PZPR	HTQFP	PZP	100	1000	367.0	367.0	55.0

Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
F28P650SK6ZEJR	NFBGA	ZEJ	256	1000	336.6	336.6	41.3
F28P650SK7NMRR	NFBGA	NMR	169	1000	336.6	336.6	31.8
F28P650SK7ZEJR	NFBGA	ZEJ	256	1000	336.6	336.6	41.3
F28P659DH8PZPRQ1	HTQFP	PZP	100	1000	367.0	367.0	55.0
F28P659DK8PZPRQ1	HTQFP	PZP	100	1000	367.0	367.0	55.0
F28P659DK8ZEJRQ1	NFBGA	ZEJ	256	1000	336.6	336.6	41.3
F28P659SH6PZPRQ1	HTQFP	PZP	100	1000	367.0	367.0	55.0

**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)
F28P650DH6PTP	PTP	HLQFP	176	40	4x10	150	315	135.9	7620	20.7	30.4	20.7
F28P650DK6PTP	PTP	HLQFP	176	40	4x10	150	315	135.9	7620	20.7	30.4	20.7
F28P650DK6PZP	PZP	HTQFP	100	90	6 X 15	150	315	135.9	7620	15.4	20.3	21
F28P650DK7PTP	PTP	HLQFP	176	40	4x10	150	315	135.9	7620	20.7	30.4	20.7
F28P650DK8PTP	PTP	HLQFP	176	40	4x10	150	315	135.9	7620	20.7	30.4	20.7
F28P650DK9NMR	NMR	NFBGA	169	260	10 X 26	150	315	135.9	7620	11.8	10	10.35
F28P650DK9PTP	PTP	HLQFP	176	40	4x10	150	315	135.9	7620	20.7	30.4	20.7
F28P650SH6PTP	PTP	HLQFP	176	40	4x10	150	315	135.9	7620	20.7	30.4	20.7
F28P650SH7PTP	PTP	HLQFP	176	40	4x10	150	315	135.9	7620	20.7	30.4	20.7
F28P650SK6PTP	PTP	HLQFP	176	40	4x10	150	315	135.9	7620	20.7	30.4	20.7
F28P650SK7PTP	PTP	HLQFP	176	40	4x10	150	315	135.9	7620	20.7	30.4	20.7
F28P659DK8PTPQ1	PTP	HLQFP	176	40	4x10	150	315	135.9	7620	20.7	30.4	20.7
F28P659DK8PZPQ1	PZP	HTQFP	100	90	6 X 15	150	315	135.9	7620	15.4	20.3	21
F28P659DK8ZEJQ1	ZEJ	NFBGA	256	119	07x17	150	315	135.9	7620	18.1	12.7	12.9
F28P659SH6PTPQ1	PTP	HLQFP	176	40	4x10	150	315	135.9	7620	20.7	30.4	20.7