

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
F28P650DH6NMRR	ACTIVE	NFBGA	NMR	169	1000	RoHS & Green	SNAGCU	Level-3-260C-168 HR	-40 to 125	F28P650DH6 NMR	Samples
F28P650DH6PTP	ACTIVE	HLQFP	PTP	176	40	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 125	F28P650DH6 PTP	Samples
F28P650DH6PZPR	ACTIVE	HTQFP	PZP	100	1000	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 125	F28P650DH6 PZP	Samples
F28P650DH6ZEJR	ACTIVE	NFBGA	ZEJ	256	1000	RoHS & Green	SNAGCU	Level-3-260C-168 HR	-40 to 125	F28P650DH6 ZEJ	Samples
F28P650DK6PTP	ACTIVE	HLQFP	PTP	176	40	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 125	F28P650DK6 PTP	Samples
F28P650DK6PZP	ACTIVE	HTQFP	PZP	100	90	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 125	F28P650DK6 PZP	Samples
F28P650DK6PZPR	ACTIVE	HTQFP	PZP	100	1000	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 125	F28P650DK6 PZP	Samples
F28P650DK6ZEJR	ACTIVE	NFBGA	ZEJ	256	1000	RoHS & Green	SNAGCU	Level-3-260C-168 HR	-40 to 125	F28P650DK6 ZEJ	Samples
F28P650DK7NMRR	ACTIVE	NFBGA	NMR	169	1000	RoHS & Green	SNAGCU	Level-3-260C-168 HR	-40 to 125	F28P650DK7 NMR	Samples
F28P650DK7PTP	ACTIVE	HLQFP	PTP	176	40	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 125	F28P650DK7 PTP	Samples
F28P650DK7ZEJR	ACTIVE	NFBGA	ZEJ	256	1000	RoHS & Green	SNAGCU	Level-3-260C-168 HR	-40 to 125	F28P650DK7 ZEJ	Samples
F28P650DK8NMRR	ACTIVE	NFBGA	NMR	169	1000	RoHS & Green	SNAGCU	Level-3-260C-168 HR	-40 to 125	F28P650DK8 NMR	Samples
F28P650DK8PTP	ACTIVE	HLQFP	PTP	176	40	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 125	F28P650DK8 PTP	Samples
F28P650DK8ZEJR	ACTIVE	NFBGA	ZEJ	256	1000	RoHS & Green	SNAGCU	Level-3-260C-168 HR	-40 to 125	F28P650DK8 ZEJ	Samples
F28P650DK9NMR	ACTIVE	NFBGA	NMR	169	260	RoHS & Green	SNAGCU	Level-3-260C-168 HR	-40 to 125	F28P650DK9 NMR	Samples
F28P650DK9NMRR	ACTIVE	NFBGA	NMR	169	1000	RoHS & Green	SNAGCU	Level-3-260C-168 HR	-40 to 125	F28P650DK9 NMR	Samples
F28P650DK9PTP	ACTIVE	HLQFP	PTP	176	40	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 125	F28P650DK9	Samples

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										PTP	
F28P650DK9ZEJR	ACTIVE	NFBGA	ZEJ	256	1000	RoHS & Green	SNAGCU	Level-3-260C-168 HR	-40 to 125	F28P650DK9 ZEJ	Samples
F28P650SH6NMRR	ACTIVE	NFBGA	NMR	169	1000	RoHS & Green	SNAGCU	Level-3-260C-168 HR	-40 to 125	F28P650SH6 NMR	Samples
F28P650SH6PTP	ACTIVE	HLQFP	PTP	176	40	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 125	F28P650SH6 PTP	Samples
F28P650SH6PZPR	ACTIVE	HTQFP	PZP	100	1000	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 125	F28P650SH6 PZP	Samples
F28P650SH6ZEJR	ACTIVE	NFBGA	ZEJ	256	1000	RoHS & Green	SNAGCU	Level-3-260C-168 HR	-40 to 125	F28P650SH6 ZEJ	Samples
F28P650SH7NMRR	ACTIVE	NFBGA	NMR	169	1000	RoHS & Green	SNAGCU	Level-3-260C-168 HR	-40 to 125	F28P650SH7 NMR	Samples
F28P650SH7PTP	ACTIVE	HLQFP	PTP	176	40	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 125	F28P650SH7 PTP	Samples
F28P650SH7ZEJR	ACTIVE	NFBGA	ZEJ	256	1000	RoHS & Green	SNAGCU	Level-3-260C-168 HR	-40 to 125	F28P650SH7 ZEJ	Samples
F28P650SK6NMRR	ACTIVE	NFBGA	NMR	169	1000	RoHS & Green	SNAGCU	Level-3-260C-168 HR	-40 to 125	F28P650SK6 NMR	Samples
F28P650SK6PTP	ACTIVE	HLQFP	PTP	176	40	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 125	F28P650SK6 PTP	Samples
F28P650SK6PZPR	ACTIVE	HTQFP	PZP	100	1000	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 125	F28P650SK6 PZP	Samples
F28P650SK6ZEJR	ACTIVE	NFBGA	ZEJ	256	1000	RoHS & Green	SNAGCU	Level-3-260C-168 HR	-40 to 125	F28P650SK6 ZEJ	Samples
F28P650SK7NMRR	ACTIVE	NFBGA	NMR	169	1000	RoHS & Green	SNAGCU	Level-3-260C-168 HR	-40 to 125	F28P650SK7 NMR	Samples
F28P650SK7PTP	ACTIVE	HLQFP	PTP	176	40	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 125	F28P650SK7 PTP	Samples
F28P650SK7ZEJR	ACTIVE	NFBGA	ZEJ	256	1000	RoHS & Green	SNAGCU	Level-3-260C-168 HR	-40 to 125	F28P650SK7 ZEJ	Samples
F28P659DH8PZPRQ1	ACTIVE	HTQFP	PZP	100	1000	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 125	F28P659DH8 PZPQ	Samples
F28P659DK8PTPQ1	ACTIVE	HLQFP	PTP	176	40	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 125	F28P659DK8 PTPQ	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
F28P659DK8PZPQ1	ACTIVE	HTQFP	PZP	100	90	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 125	F28P659DK8 PZPQ	Samples
F28P659DK8PZPRQ1	ACTIVE	HTQFP	PZP	100	1000	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 125	F28P659DK8 PZPQ	Samples
F28P659DK8ZEJQ1	ACTIVE	NFBGA	ZEJ	256	119	RoHS & Green	SNAGCU	Level-3-260C-168 HR	-40 to 125	F28P659DK8 ZEJQ	Samples
F28P659DK8ZEJRQ1	ACTIVE	NFBGA	ZEJ	256	1000	RoHS & Green	SNAGCU	Level-3-260C-168 HR	-40 to 125	F28P659DK8 ZEJQ	Samples
F28P659SH6PTPQ1	ACTIVE	HLQFP	PTP	176	40	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 125	F28P659SH6 PTPQ	Samples
F28P659SH6PZPRQ1	ACTIVE	HTQFP	PZP	100	1000	RoHS & Green	NIPDAU	Level-3-260C-168 HR	-40 to 125	F28P659SH6 PZPQ	Samples
XF28P650DK6PZP	ACTIVE	HTQFP	PZP	100	90	TBD	Call TI	Call TI	-40 to 125		Samples
XF28P650DK9PTP	ACTIVE	HLQFP	PTP	176	40	TBD	Call TI	Call TI	-40 to 125		Samples
XF28P650DK9ZEJ	ACTIVE	NFBGA	ZEJ	256	119	TBD	Call TI	Call TI	-40 to 125		Samples
XF28P659DK8PTPQ1	ACTIVE	HLQFP	PTP	176	40	TBD	Call TI	Call TI	-40 to 125		Samples
XF28P659DK8PZPRQ1	ACTIVE	HTQFP	PZP	100	1000	TBD	Call TI	Call TI	-40 to 125		Samples
XF28P659DK8ZEJRQ1	ACTIVE	NFBGA	ZEJ	256	1000	TBD	Call TI	Call TI	-40 to 125		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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