

PACKAGING INFORMATION

Orderable part number	Status (1)	Material type (2)	Package Pins	Package qty Carrier	RoHS (3)	Lead finish/ Ball material (4)	MSL rating/ Peak reflow (5)	Op temp (°C)	Part marking (6)
F280040CPMQR	Active	Production	LQFP (PM) 64	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280040CPMQ
F280040CPMQR.B	Active	Production	LQFP (PM) 64	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280040CPMQ
F280040PMQR	Active	Production	LQFP (PM) 64	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280040PMQ
F280040PMQR.B	Active	Production	LQFP (PM) 64	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280040PMQ
F280041CPMS	Active	Production	LQFP (PM) 64	160 JEDEC TRAY (10+1)	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280041CPMS
F280041CPMS.B	Active	Production	LQFP (PM) 64	160 JEDEC TRAY (10+1)	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280041CPMS
F280041CPZQR	Active	Production	LQFP (PZ) 100	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280041CPZQ
F280041CPZQR.B	Active	Production	LQFP (PZ) 100	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280041CPZQ
F280041CPZS	Active	Production	LQFP (PZ) 100	90 JEDEC TRAY (10+1)	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280041CPZS
F280041CPZS.B	Active	Production	LQFP (PZ) 100	90 JEDEC TRAY (10+1)	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280041CPZS
F280041CRSHSR	Active	Production	VQFN (RSH) 56	2500 LARGE T&R	Yes	Call TI Nipdau	Level-3-260C-168 HR	-40 to 125	F280041C RSHS
F280041CRSHSR.B	Active	Production	VQFN (RSH) 56	2500 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280041C RSHS
F280041PMS	Active	Production	LQFP (PM) 64	160 JEDEC TRAY (10+1)	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280041PMS
F280041PMS.B	Active	Production	LQFP (PM) 64	160 JEDEC TRAY (10+1)	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280041PMS
F280041PMSR	Active	Production	LQFP (PM) 64	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280041PMS
F280041PMSR.B	Active	Production	LQFP (PM) 64	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280041PMS
F280041PZQR	Active	Production	LQFP (PZ) 100	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280041PZQ
F280041PZQR.B	Active	Production	LQFP (PZ) 100	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280041PZQ
F280041PZS	Active	Production	LQFP (PZ) 100	90 JEDEC TRAY (10+1)	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280041PZS
F280041PZS.B	Active	Production	LQFP (PZ) 100	90 JEDEC TRAY (10+1)	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280041PZS
F280041PZSR	Active	Production	LQFP (PZ) 100	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280041PZS
F280041PZSR.B	Active	Production	LQFP (PZ) 100	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280041PZS

Orderable part number	Status (1)	Material type (2)	Package Pins	Package qty Carrier	RoHS (3)	Lead finish/ Ball material (4)	MSL rating/ Peak reflow (5)	Op temp (°C)	Part marking (6)
F280041RSHSR	Active	Production	VQFN (RSH) 56	2500 LARGE T&R	Yes	Call TI Nipdau	Level-3-260C-168 HR	-40 to 125	F280041 RSHS
F280041RSHSR.A	Active	Production	VQFN (RSH) 56	2500 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280041 RSHS
F280041RSHSR.B	Active	Production	VQFN (RSH) 56	2500 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280041 RSHS
F280045PMS	Active	Production	LQFP (PM) 64	160 JEDEC TRAY (10+1)	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280045PMS
F280045PMS.B	Active	Production	LQFP (PM) 64	160 JEDEC TRAY (10+1)	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280045PMS
F280045PMSR	Active	Production	LQFP (PM) 64	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280045PMS
F280045PMSR.B	Active	Production	LQFP (PM) 64	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280045PMS
F280045PZS	Active	Production	LQFP (PZ) 100	90 JEDEC TRAY (10+1)	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280045PZS
F280045PZS.B	Active	Production	LQFP (PZ) 100	90 JEDEC TRAY (10+1)	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280045PZS
F280045PZSR	Active	Production	LQFP (PZ) 100	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280045PZS
F280045PZSR.B	Active	Production	LQFP (PZ) 100	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280045PZS
F280045RSHSR	Active	Production	VQFN (RSH) 56	2500 LARGE T&R	Yes	Call TI Nipdau	Level-3-260C-168 HR	-40 to 125	F280045 RSHS
F280045RSHSR.B	Active	Production	VQFN (RSH) 56	2500 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280045 RSHS
F280048CPMQR	Active	Production	LQFP (PM) 64	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280048CPMQ
F280048CPMQR.B	Active	Production	LQFP (PM) 64	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280048CPMQ
F280048PMQR	Active	Production	LQFP (PM) 64	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280048PMQ
F280048PMQR.B	Active	Production	LQFP (PM) 64	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280048PMQ
F280049CPMS	Active	Production	LQFP (PM) 64	160 JEDEC TRAY (10+1)	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049CPMS
F280049CPMS.A	Active	Production	LQFP (PM) 64	160 JEDEC TRAY (10+1)	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049CPMS
F280049CPMS.B	Active	Production	LQFP (PM) 64	160 JEDEC TRAY (10+1)	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049CPMS
F280049CPMSR	Active	Production	LQFP (PM) 64	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049CPMS
F280049CPMSR.B	Active	Production	LQFP (PM) 64	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049CPMS

Orderable part number	Status (1)	Material type (2)	Package Pins	Package qty Carrier	RoHS (3)	Lead finish/ Ball material (4)	MSL rating/ Peak reflow (5)	Op temp (°C)	Part marking (6)
F280049CPZQR	Active	Production	LQFP (PZ) 100	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049CPZQ
F280049CPZQR.B	Active	Production	LQFP (PZ) 100	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049CPZQ
F280049CPZS	Active	Production	LQFP (PZ) 100	90 JEDEC TRAY (10+1)	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049CPZS
F280049CPZS.B	Active	Production	LQFP (PZ) 100	90 JEDEC TRAY (10+1)	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049CPZS
F280049CRSHSR	Active	Production	VQFN (RSH) 56	2500 LARGE T&R	Yes	Call TI Nipdau	Level-3-260C-168 HR	-40 to 125	F280049C RSHS
F280049CRSHSR.A	Active	Production	VQFN (RSH) 56	2500 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049C RSHS
F280049CRSHSR.B	Active	Production	VQFN (RSH) 56	2500 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049C RSHS
F280049CRSHSRG4	Active	Production	VQFN (RSH) 56	2500 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049C RSHS
F280049CRSHSRG4.A	Active	Production	VQFN (RSH) 56	2500 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049C RSHS
F280049CRSHSRG4.B	Active	Production	VQFN (RSH) 56	2500 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049C RSHS
F280049PMS	Active	Production	LQFP (PM) 64	160 JEDEC TRAY (10+1)	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049PMS
F280049PMS.B	Active	Production	LQFP (PM) 64	160 JEDEC TRAY (10+1)	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049PMS
F280049PMSR	Active	Production	LQFP (PM) 64	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049PMS
F280049PMSR.B	Active	Production	LQFP (PM) 64	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049PMS
F280049PZQ	Active	Production	LQFP (PZ) 100	90 JEDEC TRAY (10+1)	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049PZQ
F280049PZQ.B	Active	Production	LQFP (PZ) 100	90 JEDEC TRAY (10+1)	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049PZQ
F280049PZQR	Active	Production	LQFP (PZ) 100	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049PZQ
F280049PZQR.B	Active	Production	LQFP (PZ) 100	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049PZQ
F280049PZS	Active	Production	LQFP (PZ) 100	90 JEDEC TRAY (10+1)	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049PZS
F280049PZS.A	Active	Production	LQFP (PZ) 100	90 JEDEC TRAY (10+1)	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049PZS

Orderable part number	Status (1)	Material type (2)	Package Pins	Package qty Carrier	RoHS (3)	Lead finish/ Ball material (4)	MSL rating/ Peak reflow (5)	Op temp (°C)	Part marking (6)
F280049PZS.B	Active	Production	LQFP (PZ) 100	90 JEDEC TRAY (10+1)	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049PZS
F280049PZSR	Active	Production	LQFP (PZ) 100	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049PZS
F280049PZSR.B	Active	Production	LQFP (PZ) 100	1000 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049PZS
F280049RSHSR	Active	Production	VQFN (RSH) 56	2500 LARGE T&R	Yes	Call TI Nipdau	Level-3-260C-168 HR	-40 to 125	F280049 RSHS
F280049RSHSR.B	Active	Production	VQFN (RSH) 56	2500 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049 RSHS
F280049RSHSRG4	Active	Production	VQFN (RSH) 56	2500 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049 RSHS
F280049RSHSRG4.B	Active	Production	VQFN (RSH) 56	2500 LARGE T&R	Yes	NIPDAU	Level-3-260C-168 HR	-40 to 125	F280049 RSHS

⁽¹⁾ **Status:** For more details on status, see our [product life cycle](#).

⁽²⁾ **Material type:** When designated, preproduction parts are prototypes/experimental devices, and are not yet approved or released for full production. Testing and final process, including without limitation quality assurance, reliability performance testing, and/or process qualification, may not yet be complete, and this item is subject to further changes or possible discontinuation. If available for ordering, purchases will be subject to an additional waiver at checkout, and are intended for early internal evaluation purposes only. These items are sold without warranties of any kind.

⁽³⁾ **RoHS values:** Yes, No, RoHS Exempt. See the [TI RoHS Statement](#) for additional information and value definition.

⁽⁴⁾ **Lead finish/Ball material:** Parts 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.

⁽⁵⁾ **MSL rating/Peak reflow:** The moisture sensitivity level ratings and peak solder (reflow) temperatures. In the event that a part has multiple moisture sensitivity ratings, only the lowest level per JEDEC standards is shown. Refer to the shipping label for the actual reflow temperature that will be used to mount the part to the printed circuit board.

⁽⁶⁾ **Part marking:** There may be an additional marking, which relates to the logo, the lot trace code information, or the environmental category of the part.

Multiple part markings will be inside parentheses. Only one part marking contained in parentheses and separated by a "~" will appear on a part. If a line is indented then it is a continuation of the previous line and the two combined represent the entire part marking for that device.

Important Information and Disclaimer: The information provided on this page represents TI's knowledge and belief as of the date that it is provided. TI bases its knowledge and belief on information provided by third parties, and makes no representation or warranty as to the accuracy of such information. Efforts are underway to better integrate information from third parties. TI has taken and continues to take reasonable steps to provide representative

and accurate information but may not have conducted destructive testing or chemical analysis on incoming materials and chemicals. TI and TI suppliers consider certain information to be proprietary, and thus CAS numbers and other limited information may not be available for release.

In no event shall TI's liability arising out of such information exceed the total purchase price of the TI part(s) at issue in this document sold by TI to Customer on an annual basis.

OTHER QUALIFIED VERSIONS OF TMS320F280041, TMS320F280041-Q1, TMS320F280041C, TMS320F280041C-Q1, TMS320F280049, TMS320F280049-Q1, TMS320F280049C, TMS320F280049C-Q1 :

- Catalog : [TMS320F280041](#), [TMS320F280041C](#), [TMS320F280049](#), [TMS320F280049C](#)
- Automotive : [TMS320F280041-Q1](#), [TMS320F280041C-Q1](#), [TMS320F280049-Q1](#), [TMS320F280049C-Q1](#)

NOTE: Qualified Version Definitions:

- Catalog - TI's standard catalog product
- Automotive - Q100 devices qualified for high-reliability automotive applications targeting zero defects