



Product Discontinuation Notice End of Life Statement (EOL)

TRINAMIC Motion Control GmbH & Co. KG
Waterloohain 5, 22769 Hamburg, Germany
www.trinamic.com

EOL-2017-01-01
January 01, 2017

Dear Valued TRINAMIC Customer,

this product discontinuation notice is to inform you that TRINAMIC will discontinue the product

TMC222

which is established since 2003. This is due to components of the product that will be discontinued. We will continue to provide support of this product through **December 31, 2017**

Support for this product will be limited to existing documentation that is available at www.trinamic.com

Products Affected

Article Name	Affected Article Numbers	Compatible Article *)	Article Numbers of Compatible Article
TMC222-LI	00-0002	TMC223-LI *)	00-0030
TMC222-LI-X	00-0002X	TMC223-LI-X *)	00-0030X
TMC222-SI	00-0003	TMC223-SI *)	00-0029
TMC222-SI-T	00-0003T	TMC223-SI-T *)	00-0029T
TMC222-SI-X	00-0003X	TMC223-SI-X *)	00-0029X
TMC222-EVAL	40-0002	TMC223-EVAL *)	40-0014

***) Please read Appendix for further information of TMC223 compatibility**

Timing

Effective date for placing last purchase orders until	30.06.2017
Final shipments until	31.12.2017

If you have any questions, please contact your sales partner.

Appendix

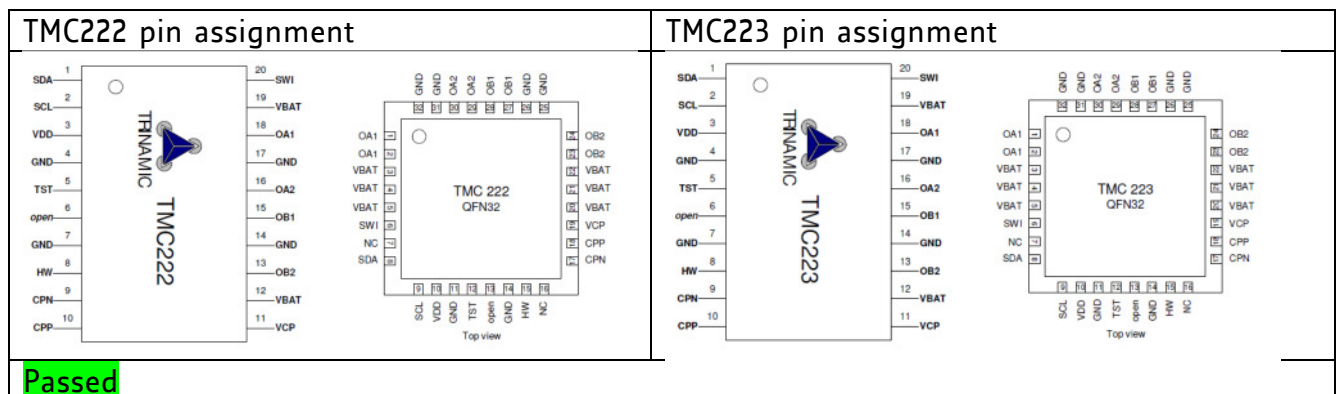
TMC223 Compatibility

TMC223 is an upgraded version of TMC222 well established since 2007. The TMC223 has an additional command (SetStallParam) and control bits for sensorless stall detection. The TMC222 ignores stall detection commands.

- Hardware drop in compatible
- No change in electrical behavior of digital and analog core die
- Additional command SetStallParam (Adr.:0x96)

1.1 Notes on hardware compatibility:

No change in pin assignment



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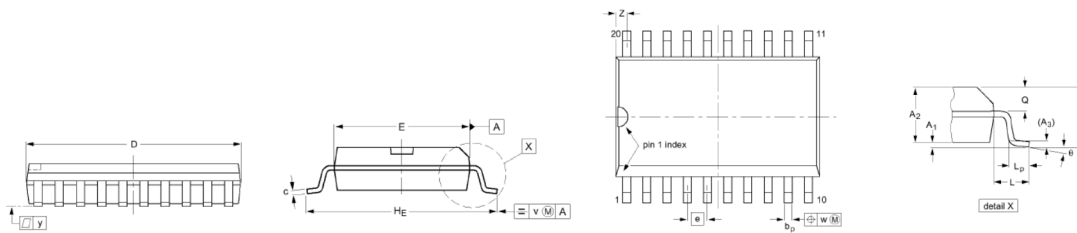
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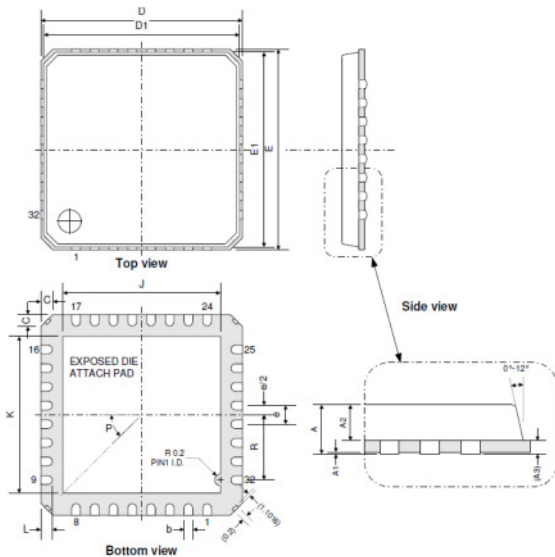
No change in mechanical dimensions

SOIC-20 Package Outline



Device	A <i>max</i>	A ₁	A ₂	A ₃	b _P	c	D ⁽¹⁾	E ⁽¹⁾	e	H _E	L	L _P	Q	v	w	y	Z ⁽¹⁾	theta	UNIT
TMC222	2.65	0.30 0.10	2.45 2.25	0.25	0.49 0.36	0.32 0.23	13.0 12.6	7.6 7.4	1.27	10.65 10.00	1.4	1.1 0.4	1.1 1.0	0.25	0.25	0.1	009 0.4	8° 0°	mm
TMC223	2.65	0.30 0.10	2.45 2.25	0.25	0.49 0.36	0.32 0.23	13.0 12.6	7.6 7.4	1.27	10.65 10.00	1.4	1.1 0.4	1.1 1.0	0.25	0.25	0.1	0.9 0.4	8° 0°	mm

QFN32 Package Outline



Device	A	A ₁	A ₂	A ₃	b	C	D	D1	E	E1	e	J	K	L	P	R	UNIT
TMC222	0.80	0.00 0.02	0.576 0.615	0.203	0.25 0.3	0.24 0.42	7	6.75	7	6.75	0.65	5.35 5.47 5.57	5.37 5.47 5.57	0.35 0.4 0.45	45	2.185	MIN NOM MAX
TMC223	0.80	0.00 0.02	0.576 0.615	0.203	0.25 0.3	0.24 0.42	7	6.75	7	6.75	0.65	5.37 5.47 5.57	5.37 5.47 5.57	0.35 0.4 0.45	45	2.185	MIN NOM MAX



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1.2 Notes on software compatibility

When a TMC223 within a TMC222 environment receives a stall detection command, it might cause unwanted motor stop.

TMC222/TMC223 Command Overview

The table below shows the differences in TMC222 and TMC223 command set. Four categories are marked (green: no change, orange: change in command response, blue: new command, red: change in command).

TMC222 command set:

Command Mnemonic	Function	Command Byte (hexadecimal)
GetFullStatus1	Returns complete status of the chip	0x81
GetFullStatus2	Returns actual, target and secure position	0xFC
GetOTPPParam	Returns OTP parameter	0x82
GotoSecurePosition	Drives motor to secure position	0x84
HardStop	Immediate full stop	0x85
ResetPosition	Sets actual position to zero	0x86
ResetToDefault	Overwrites the chip RAM with OTP contents	0x87
RunInit	Reference Search	0x88
SetMotorParam	Sets motor parameter	0x89
SetOTPPParam	Zaps the OTP memory	0x90
SetPosition	Programmers a target and secure position	0x8B
SoftStop	Motor stopping with deceleration phase	0x8F

TMC223 command set:

Command Mnemonic	Function	Command Byte (hexadecimal)
GetFullStatus1	Returns complete status of the chip	0x81
GetFullStatus2	Returns actual, target and secure position	0xFC
GetOTPPParam	Returns OTP parameter	0x82
GotoSecurePosition	Drives motor to secure position	0x84
HardStop	Immediate full stop	0x85
ResetPosition	Sets actual position to zero	0x86
ResetToDefault	Overwrites the chip RAM with OTP contents	0x87
RunInit	pre-programmed motion sequence to move to a mechanical limit	0x88
SetMotorParam	Sets motor parameter	0x89
SetOTP	Zaps the OTP memory	0x90
SetPosition	Programmers a target and secure position	0x8B
SetStallParam	Set Stall Detection Parameters	0x96
SoftStop	Motor stopping with deceleration phase	0x8F
TestBEMF	Outputs BEMF voltage on pin SW1 (for debugging purposes only)	0x9F

To avoid unwanted behaviour application firmware validation is recommended.