DGQ0010D vs DGQ0010H Footprint and compatibility

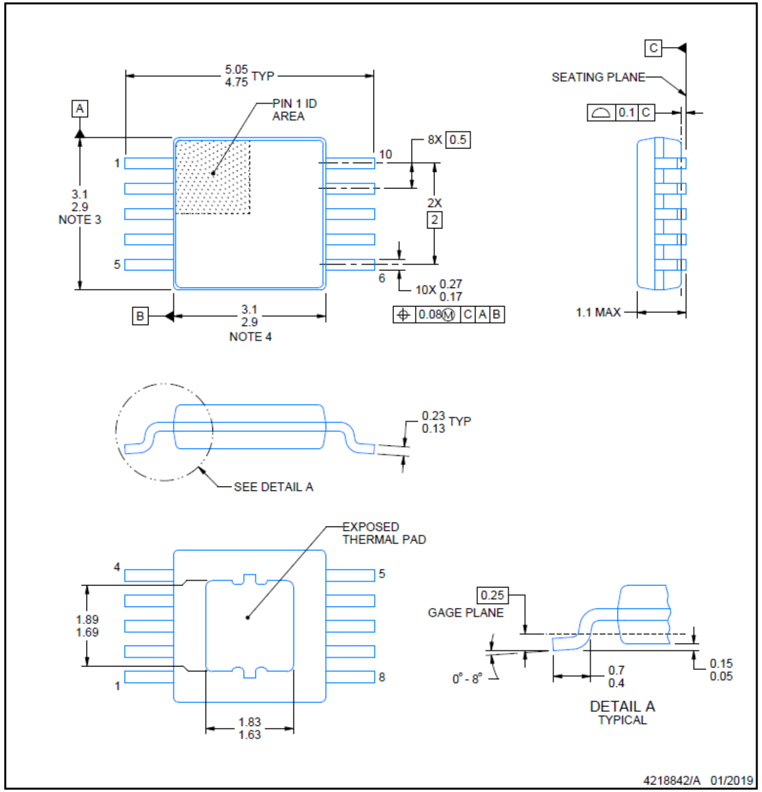
DGQ0010D

DGQ0010D

PACKAGE OUTLINE

PowerPAD ™ - 1.1 mm max height

PLASTIC SMALL OUTLINE



5.05
4.75 TYP
A
PIN 1 ID
AREA
1
3.1
2.9
NOTE 3
5
8X 0.5
10
2X
2
6
10X 0.27
0.17
0.08 Ⓜ C A B
B
3.1
2.9
NOTE 4
C
SEATING PLANE
0.1 C
1.1 MAX
0.23
0.13 TYP
SEE DETAIL A
EXPOSED
THERMAL PAD
4
5
1.89
1.69
1
8
1.83
1.63
0.25
GAGE PLANE
0° - 8°
0.7
0.4
0.15
0.05
DETAIL A
TYPICAL

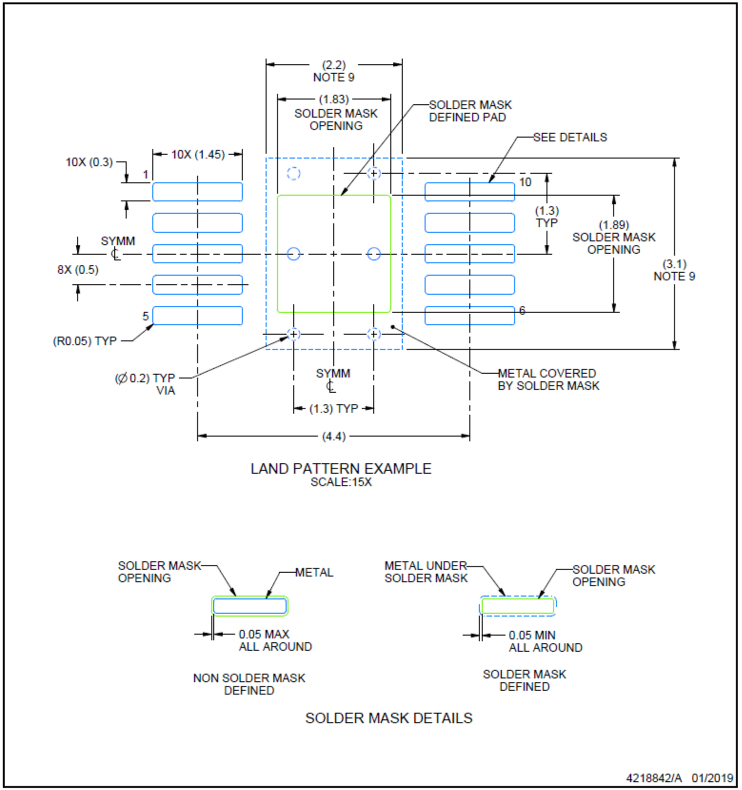
4218842/A 01/2019

DGQ0010D

EXAMPLE BOARD LAYOUT

PowerPAD ™ - 1.1 mm max height

PLASTIC SMALL OUTLINE



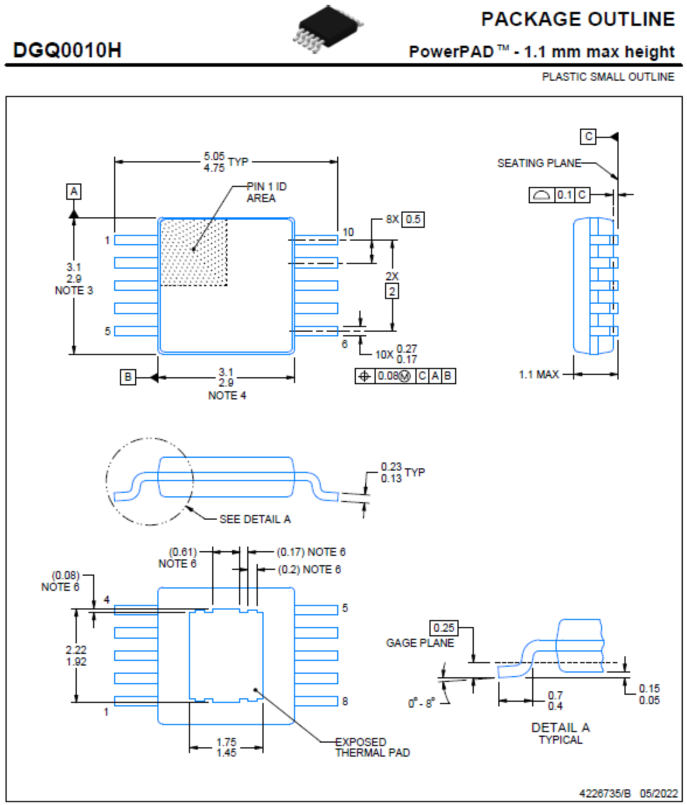
(2.2)
NOTE 9
(1.83)
SOLDER MASK
OPENING
SOLDER MASK
DEFINED PAD
SEE DETAILS
10X (0.3)
10X (1.45)
1
10
(1.3)
TYP
(1.89)
SOLDER MASK
OPENING
(3.1)
NOTE 9
SYMM
℄
8X (0.5)
5
6
(R0.05) TYP
(∅0.2) TYP
VIA
SYMM
℄
(1.3) TYP
METAL COVERED
BY SOLDER MASK
(4.4)
SOLDER MASK
OPENING
METAL
0.05 MAX
ALL AROUND
NON SOLDER MASK
DEFINED
METAL UNDER
SOLDER MASK
SOLDER MASK
OPENING
0.05 MIN
ALL AROUND
SOLDER MASK
DEFINED

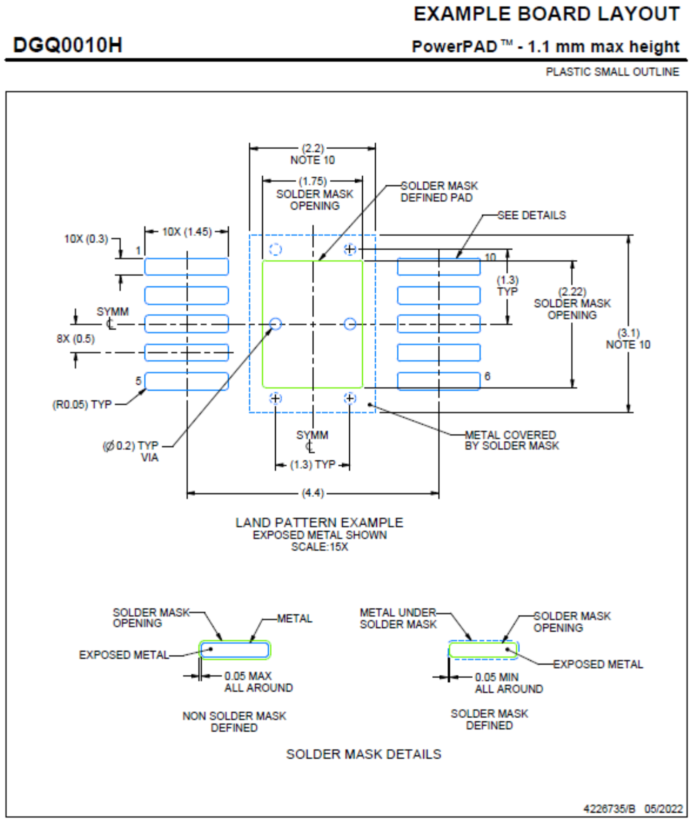
LAND PATTERN EXAMPLE
SCALE:15X

SOLDER MASK DETAILS

4218842/A 01/2019

DGQ0010H


PACKAGE OUTLINE
DGQ0010H
PowerPAD ™ - 1.1 mm max height
PLASTIC SMALL OUTLINE
5.05
4.75 TYP
A
PIN 1 ID
AREA
1
10
8X 0.5
3.1
2.9
NOTE 3
2X
2
5
6
10X 0.27
0.17
0.08 Ⓜ C A B
B
3.1
2.9
NOTE 4
C
SEATING PLANE
0.1 C
1.1 MAX
0.23
0.13 TYP
SEE DETAIL A
(0.61)
NOTE 6
(0.17) NOTE 6
(0.2) NOTE 6
(0.08)
NOTE 6
4
5
2.22
1.92
1
8
1.75
1.45
EXPOSED
THERMAL PAD
0.25
GAGE PLANE
0° - 8°
0.7
0.4
0.15
0.05
DETAIL A
TYPICAL
4226735/B 05/2022


EXAMPLE BOARD LAYOUT
DGQ0010H
PowerPAD ™ - 1.1 mm max height
PLASTIC SMALL OUTLINE
(2.2)
NOTE 10
(1.75)
SOLDER MASK
OPENING
SOLDER MASK
DEFINED PAD
SEE DETAILS
10X (0.3)
10X (1.45)
1
10
(1.3)
TYP
(2.22)
SOLDER MASK
OPENING
(3.1)
NOTE 10
SYMM
℄
8X (0.5)
5
6
(R0.05) TYP
(⌀0.2) TYP
VIA
SYMM
℄
(1.3) TYP
METAL COVERED
BY SOLDER MASK
(4.4)
LAND PATTERN EXAMPLE
EXPOSED METAL SHOWN
SCALE:15X
SOLDER MASK
OPENING
METAL
EXPOSED METAL
0.05 MAX
ALL AROUND
NON SOLDER MASK
DEFINED
METAL UNDER
SOLDER MASK
SOLDER MASK
OPENING
EXPOSED METAL
0.05 MIN
ALL AROUND
SOLDER MASK
DEFINED
SOLDER MASK DETAILS
4226735/B 05/2022

Over-hang and Under-hang Analysis

Units: mm

PKG Designator	Thermal Pad Width	Thermal Pad length	PCB Pad Dimension	DGQ0010H Thermal Pad Width Min	DGQ0010H Thermal Pad Width Max	DGQ0010H Thermal Pad Length Min	DGQ0010H Thermal Pad Length Max
DGQ0010D	1.63-1.83	1.69-1.89	1.83X1.89	1.45	1.75	1.92	2.22
Putting DGQ0010H onto PCB for DGQ0010D **(Variance)**[Note 1]				0.19	0.04	-0.015	-0.165
PKG Designator	Thermal Pad Width	Thermal Pad length	PCB Pad Dimension	DGQ0010D Thermal Pad Width Min	DGQ0010D Thermal Pad Width Max	DGQ0010D Thermal Pad Length Min	DGQ0010D Thermal Pad Length Max
DGQ0010H	1.45-1.75	1.92-2.22	1.75X2.22	1.63	1.83	1.69	1.89
Putting DGQ0010D onto PCB for DGQ0010H **(Variance)**[Note 1]				0.06	-0.04	0.265	0.165

Note 1: Variance means the difference between package thermal pad and PCB thermal pad.

Positive number means underhang, component pad < PCB pad, limit is **0.4mm** at each side.

Negative number means overhang, component pad > PCB pad, limit is **-0.2mm** at each side.

Conclusion from analysis:

1. **Mounting DGQ0010D on PCB layout for DGQ0010H is within the under-hang/over-hang limit.**
2. **Mounting DGQ0010H on PCB layout for DGQ0010D is within the under-hang/over-hang limit.**

Important notice and disclaimer

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES “AS IS” AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements.

These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI’s products are provided subject to TI’s Terms of Sale or other applicable terms available either on ti.com or provided in conjunction with such TI products. TI’s provision of these resources does not expand or otherwise alter TI’s applicable warranties or warranty disclaimers for TI products.