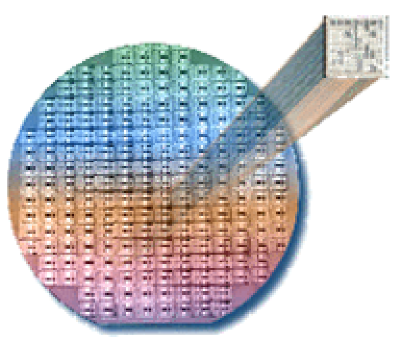


Silicon Test Die

Variety of Wire Bondable Patterns

Silicon Die with Daisy Chain

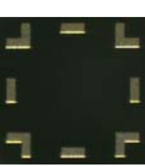
Nbr Pads	Description	Pad Size	Size (mm)	Die Material	Metalization	Tray Qty	Part Number	Fig.
8 pairs	Daisy Chain	60 x 160µm	1.0 x 1.0mm	Si	Al	100	TD8-1.0-DC	1
16 pairs	Daisy Chain	60 x 160µm	2.5 x 2.5mm	Si	Al	100	TD16-2.5-DC	2
24 pairs	Daisy Chain	60 x 360µm	4.0 x 4.0mm	Si	Al	64	TD24-4.0-DC	3

Specs: Die Thickness 250µm • Al Metallization 1.0µm over 0.75µm SiO_2 • Passivation = None

Daisy Chain Patterns

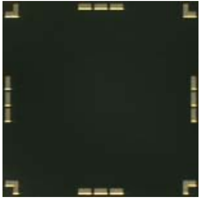
(Not to Scale)

Fig. 1



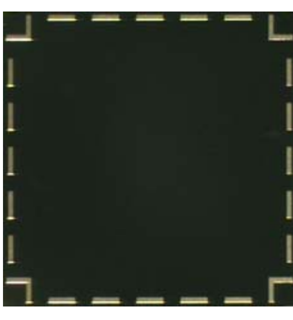
TD8-1.0-DC
1.0 x 1.0mm
151008

Fig. 2



TD16-2.5-DC
2.5 x 2.5mm
152516

Fig. 3



TD24-4.0-DC
4.0 x 4.0mm
154024

Silicon Die with Isolated Pads

Nbr Pads	Description	Pad Size	Size (mm)	Die Material	Metalization	Tray Qty	Part Number	Fig.
16	Isolated Pad	60µm SQ.	1.0 x1.0mm	Si	Al	100	TD16-1.0-ISO	4
32	Isolated Pad	60µm SQ.	2.5 x 2.5mm	Si	Al	100	TD32-2.5-ISO	5
48	Isolated Pad	60µm SQ.	4.0 x 4.0mm	Si	Al	64	TD48-4.0-ISO	6

Specs: Die Thickness 250µm • Al Metallization 1.0µm over 0.75µm SiO_2 • Passivation = None

Isolated Pad Patterns

(Not to Scale)

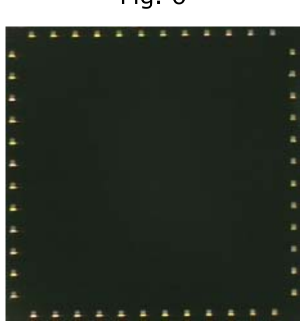
Fig. 4

TD16-1.0-ISO
1.0 x 1.0mm
151016

Fig. 5

TD32-2.5-ISO
2.5 x 2.5mm
152533

Fig. 6



TD48-4.0-ISO
4.0 x 4.0mm
154048

Silicon Die with Differential Pairs for RF/Microwave Parasitic Test

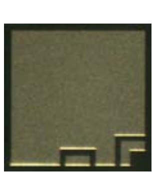
Nbr Pads	Description	Pad Size	Size (mm)	Die Material	Metalization	Tray Qty	Part Number	Fig.
2 Pads With Ground	Differential Pair	Pad 60 x 160µm Grnd 1000µm SQ.	1.0 x1.0mm	Si	Al	100	TD2-1.0-DIF	7
2 Pads With Ground	Differential Pair	Pad 60 x 160µm Grnd 2500µm SQ.	2.5 x 2.5mm	Si	Al	100	TD2-2.5-DIF	8
2 Pads With Ground	Differential Pair	Pad 60 x 160µm Grnd 4000µm SQ.	4.0 x 4.0mm	Si	Al	64	TD2-4.0-DIF	9

Specs: Die Thickness 250µm • Al Metallization 1.0µm over 0.75µm SiO_2 • Passivation = None

Differential Pair Pad Patterns

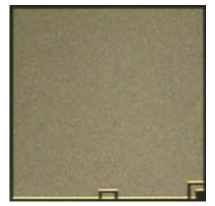
(Not to Scale)

Fig. 7



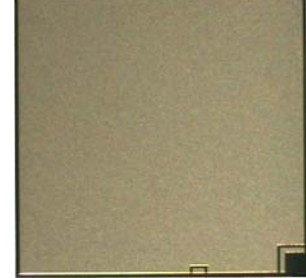
TD2-1.0-DIF
1.0 x 1.0mm
151002

Fig. 8



TD2-2.5-DIF
2.5 x 2.5mm
152502

Fig. 9



TD2-4.0-DIF
4.0 x 4.0mm
154002

Silicon Die with Full Metallization

Nbr Pads	Description	Pad Size	Size (mm)	Die Material	Metalization	Tray Qty	Part Number	Fig.
1 Large Pad	Fully Metallized	1000µm SQ.	1.0 x1.0mm	Si	Al	100	TD1-1.0-BUS	10
1 Large Pad	Fully Metallized	2500µm SQ.	2.5 x 2.5mm	Si	Al	100	TD1-2.5-BUS	11
1 Large Pad	Fully Metallized	4000µm SQ.	4.0 x 4.0mm	Si	Al	64	TD1-4.0-BUS	12

Specs: Die Thickness 250µm • Al Metallization 1.0µm over 0.75µm SiO_2 • Passivation = None

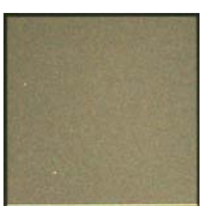
Fully Metallized Pad Patterns

(Not to Scale)

Fig. 10

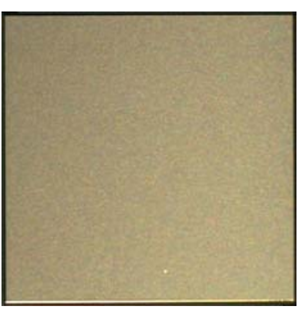
TD1-1.0-BUS
1.0 x 1.0mm
151001

Fig. 11



TD1-2.5-BUS
2.5 x 2.5mm
152501

Fig. 12



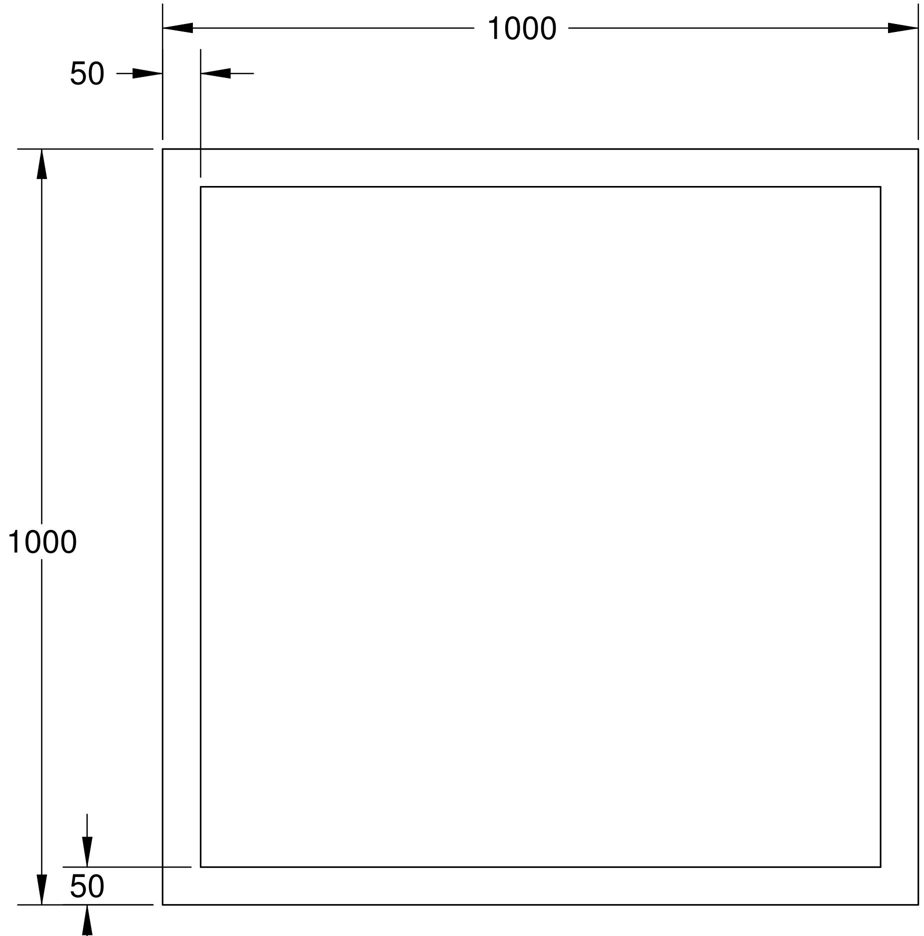
TD1-4.0-BUS
4.0 x 4.0mm
154001

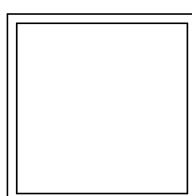
JEDEC Moisture Sensitivity Level **MSL-1**

TopLine Corporation
95 Highway 22 W
Milledgeville, GA 31061, USA
Toll Free USA/Canada (800) 776-9888
International: 1-478-451-5000 • Fax: 1-478-451-3000
Email: sales@topline.tv

©2010 TopLine. All Rights Reserved.

REVISIONS				
DATE	REV.	ECO	DESCRIPTION	APPROVED





SCALE 25:1

Notes: (Unless Otherwise Specified).
1) DIE MATERIAL IS SILICON.
2) DIE THICKNESS IS 250 um (10 MIL).
3) METALLIZATION 1.0 um ALUMINUM (Al) OVER 0.75 um SiO_2.
4) DIE IS WITHOUT PASSIVATION.
5) WIRE BONDABLE WITH GOLD (Au) OR ALUMINUM (Al) WIRE.
6) FULLY METALLIZED OVER ENTIRE SURFACE OF DIE.
7) TOLERANCE = ±1 um.

DIMENSIONS IN MICRONS
1000 um = 1. 0mm

PART NUMBER SYSTEM						
TD	-	1	-	1.0	-	BUS
SILICON TEST DIE		BOND PADS		DIE SIZE (mm)		FULLY METALLIZED

TOLERANCE UNLESS NOTED	
X.XX	+/- 0.01
X.XXX	+/- 0.005
X.XXXX	+/- 0.0005
ANGLES	+/- 0.5°
ALL DIMENSIONS IN ☒ INCHES ☐ MILLIMETERS	
THIRD ANGLE PROJECTION	

APPROVALS	DATE
DRAWN J. HINES	5/2/2010
ENG	
MFG	
QA	
CUST	
REVISED	

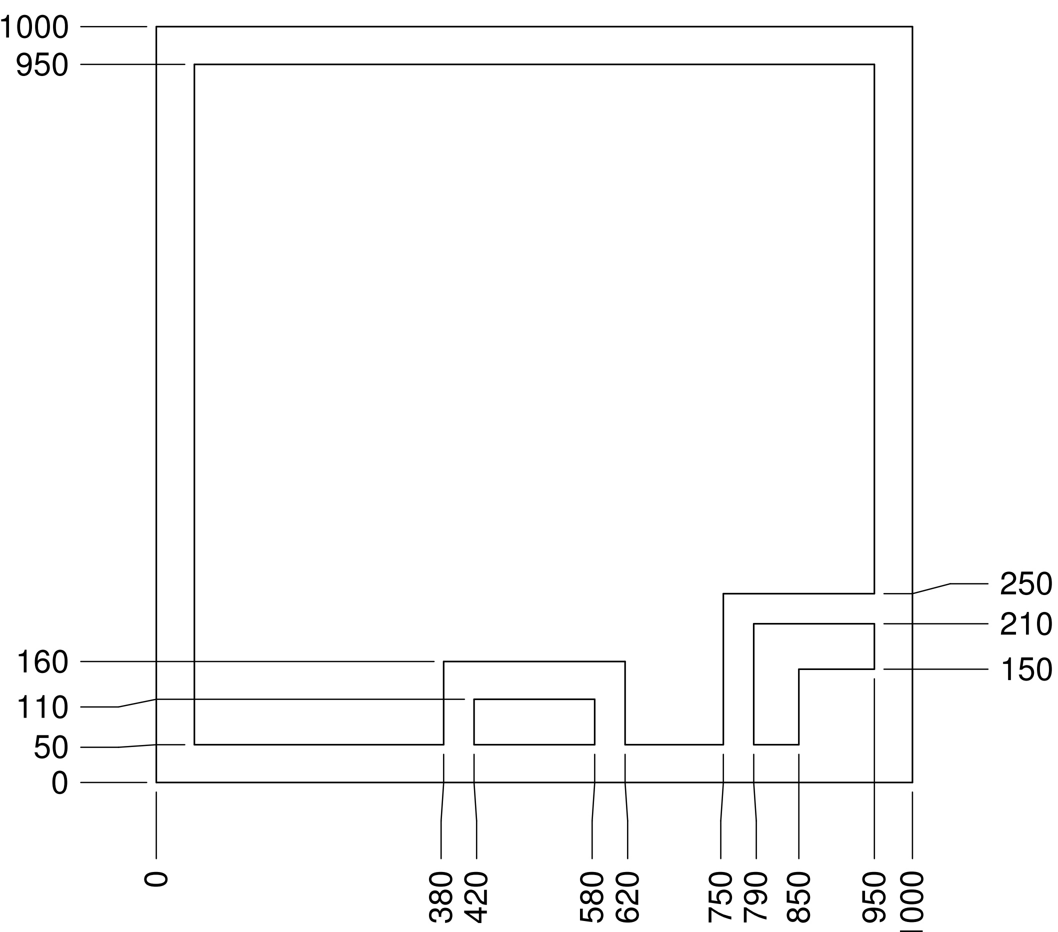
TopLine®

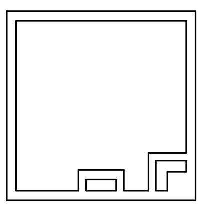
TITLE Si TEST DIE TD SERIES

SCALE	SIZE	DRAWING NO.	REV
100:1	A	151001	A

DO NOT SCALE DRAWING — SHEET 1 OF 1

REVISIONS				
DATE	REV.	ECO	DESCRIPTION	APPROVED





SCALE 25:1

Notes: (Unless Otherwise Specified).
1) DIE MATERIAL IS SILICON.
2) DIE THICKNESS IS 250 um (10 MIL).
3) METALLIZATION 1.0 um ALUMINUM (Al) OVER 0.75 um SiO_2.
4) DIE IS WITHOUT PASSIVATION.
5) WIRE BONDABLE WITH GOLD (Au) OR ALUMINUM (Al) WIRE.
6) DIFFERENTIAL PAIR (2 PADS) WITH LARGE GROUND PAD.
7) RF / MICROWAVE PARASITIC TEST APPLICATIONS.
8) TOLERANCE = $\pm$1 um.

DIMENSIONS IN MICRONS
1000 um = 1. 0mm

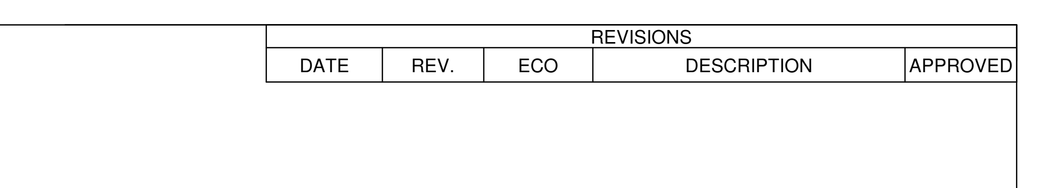
PART NUMBER SYSTEM						
TD	-	2	-	1.0	-	DIF
SILICON TEST DIE		BOND PADS		DIE SIZE (mm)		DIFFERENTIAL PAIR

TOLERANCE UNLESS NOTED	
X.XX	+/- 0.01
X.XXX	+/- 0.005
X.XXXX	+/- 0.0005
ANGLES	+/- 0.5°
ALL DIMENSIONS IN ☒ INCHES ☐ MILLIMETERS	
THIRD ANGLE PROJECTION	

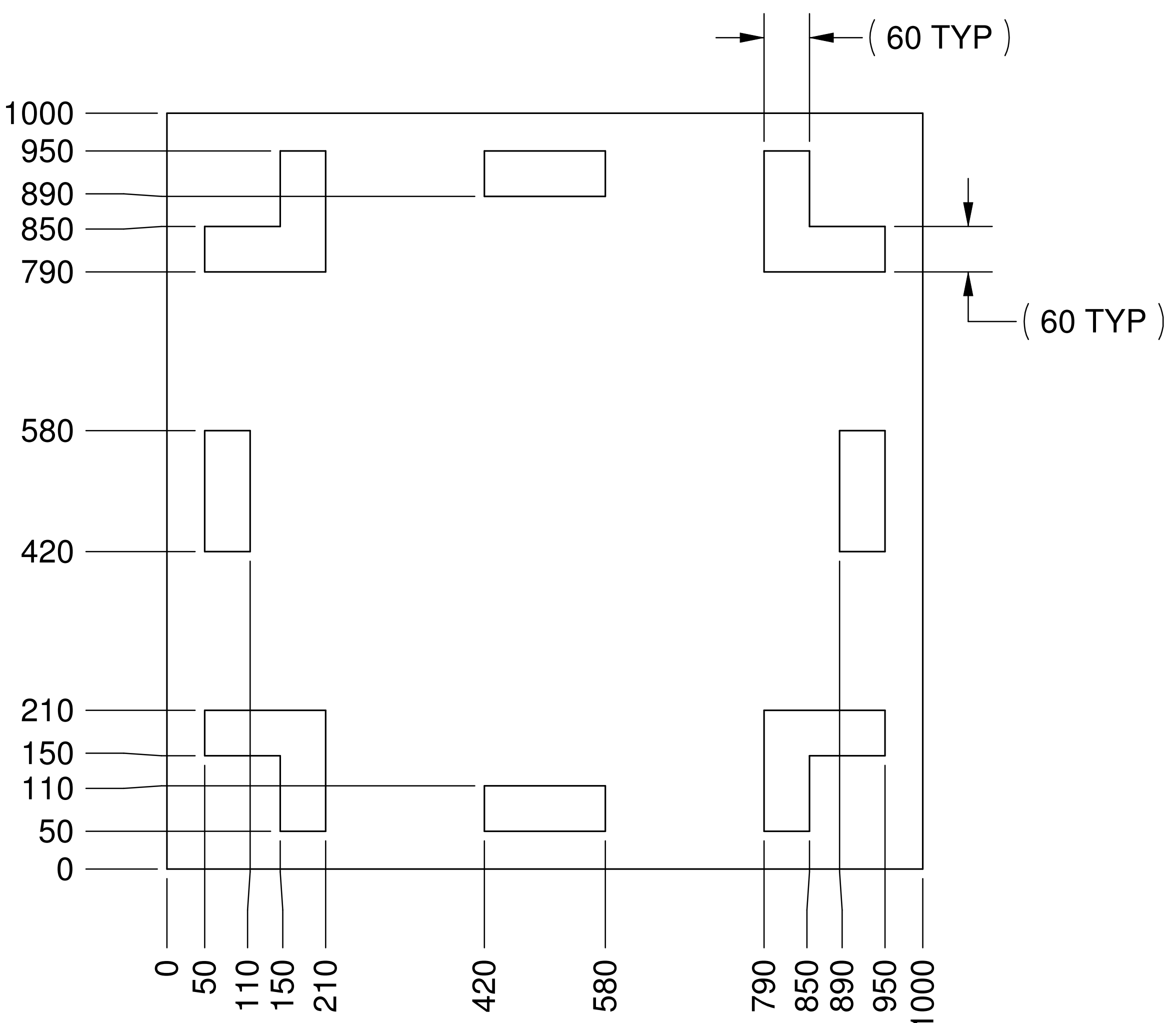
APPROVALS	DATE
DRAWN J. HINES	4/2/2010
ENG	
MFG	
QA	
CUST	
REVISED	

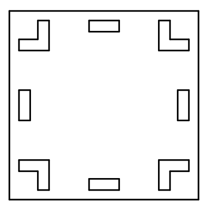
TopLine®

TITLE Si TEST DIE TD SERIES			
SCALE 100:1	SIZE A	DRAWING NO. 151002	REV A
DO NOT SCALE DRAWING		SHEET 1 OF 1	



REVISIONS				
DATE	REV.	ECO	DESCRIPTION	APPROVED





SCALE 25:1

Notes: (Unless Otherwise Specified).

1) DIE MATERIAL IS SILICON.
2) DIE THICKNESS IS 250 um (10 MIL).
3) METALLIZATION 1.0 um ALUMINUM (Al) OVER 0.75 um SiO_2.
4) DIE IS WITHOUT PASSIVATION.
5) WIRE BONDABLE WITH GOLD (Au) OR ALUMINUM (Al) WIRE.
6) DAISY CHAIN PAIRS (8 PLACES).
7) TOLERANCE = ±1 um.

DIMENSIONS IN MICRONS
1000 um = 1. 0mm

PART NUMBER SYSTEM						
TD	-	8	-	1.0	-	DC
SILICON TEST DIE		BOND PADS		DIE SIZE (mm)		DAISY CHAIN

TOLERANCE UNLESS NOTED		APPROVALS	DATE
X.XX	+/- 0.01		
X.XXX	+/- 0.005	DRAWN J. HINES	5/2/2010
X.XXXX	+/- 0.0005		
ANGLES	+/- 0.5°	ENG	
ALL DIMENSIONS IN ☒ INCHES ☐ MILLIMETERS		MFG	
THIRD ANGLE PROJECTION		QA	
		CUST	
		REVISED	

TopLine®

TITLE	Si TEST DIE TD SERIES		
SCALE 100:1	SIZE A	DRAWING NO. 151008	REV A
DO NOT SCALE DRAWING		SHEET 1 OF 1	

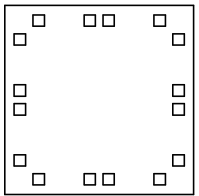
REVISIONS				
DATE	REV.	ECO	DESCRIPTION	APPROVED

16X 60

1000
920
820
550
450
180
80
0

16X 60

0 80 180 450 550 820 920 1000



SCALE 25:1

Notes: (Unless Otherwise Specified).
1) DIE MATERIAL IS SILICON.
2) DIE THICKNESS IS 250 um (10 MIL).
3) METALLIZATION 1.0 um ALUMINUM (Al) OVER 0.75 um SiO_2.
4) DIE IS WITHOUT PASSIVATION.
5) WIRE BONDABLE WITH GOLD (Au) OR ALUMINUM (Al) WIRE.
6) ISOLATED PADS 60 um SQUARE (16 PLACES).
7) TOLERANCE = ±1 um.

DIMENSIONS IN MICRONS
1000 um = 1. 0mm

PART NUMBER SYSTEM						
TD	-	16	-	1.0	-	ISO
SILICON TEST DIE		BOND PADS		DIE SIZE (mm)		ISOLATED PADS

TOLERANCE UNLESS NOTED		
X.XX	+/-	0.01
X.XXX	+/-	0.005
X.XXXX	+/-	0.0005
ANGLES	+/-	0.5°

ALL DIMENSIONS IN ☒ INCHES ☐ MILLIMETERS

THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN J. HINES	5/2/2010
ENG	
MFG	
QA	
CUST	
REVISED	

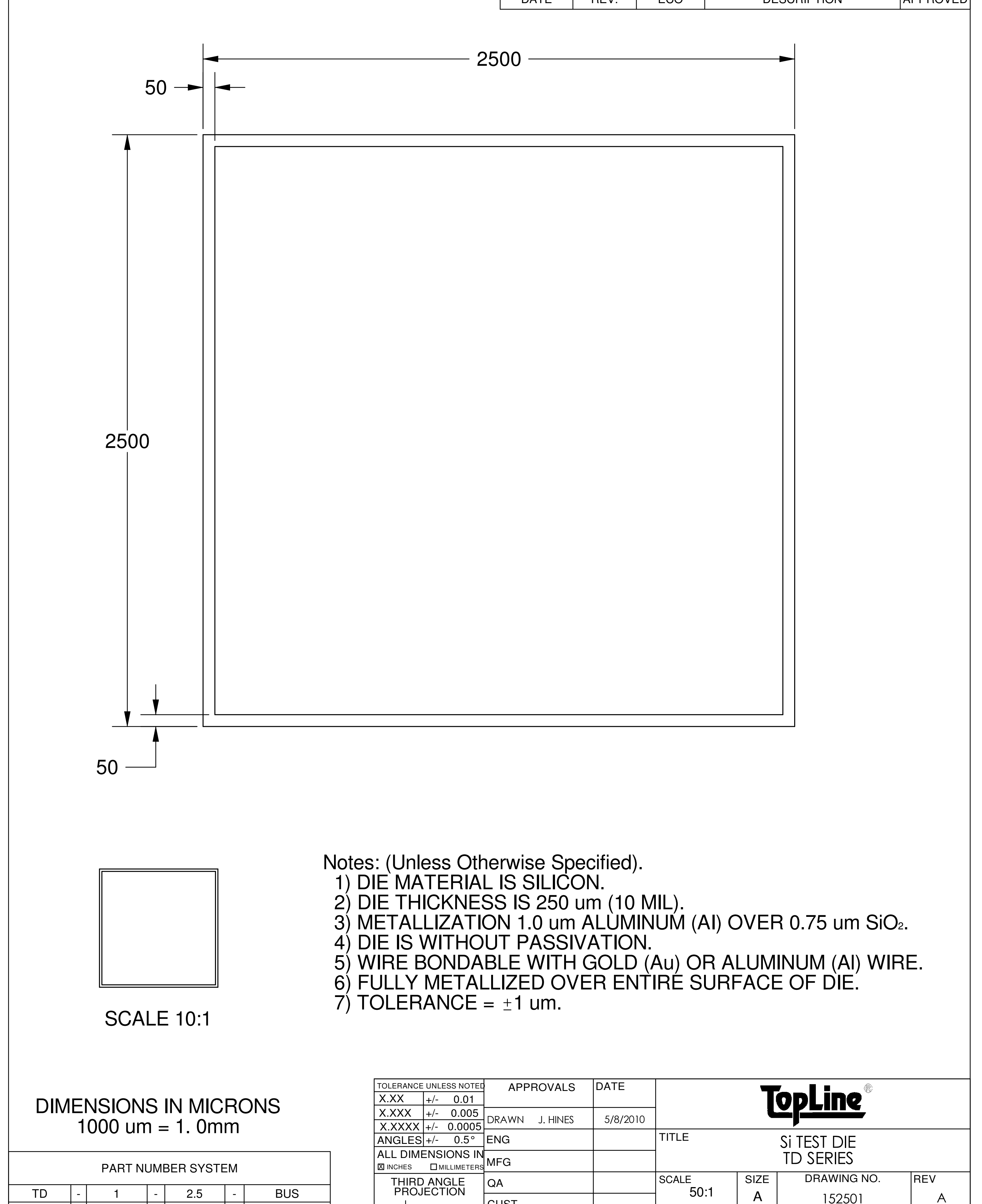
TopLine®

TITLE Si TEST DIE TD SERIES

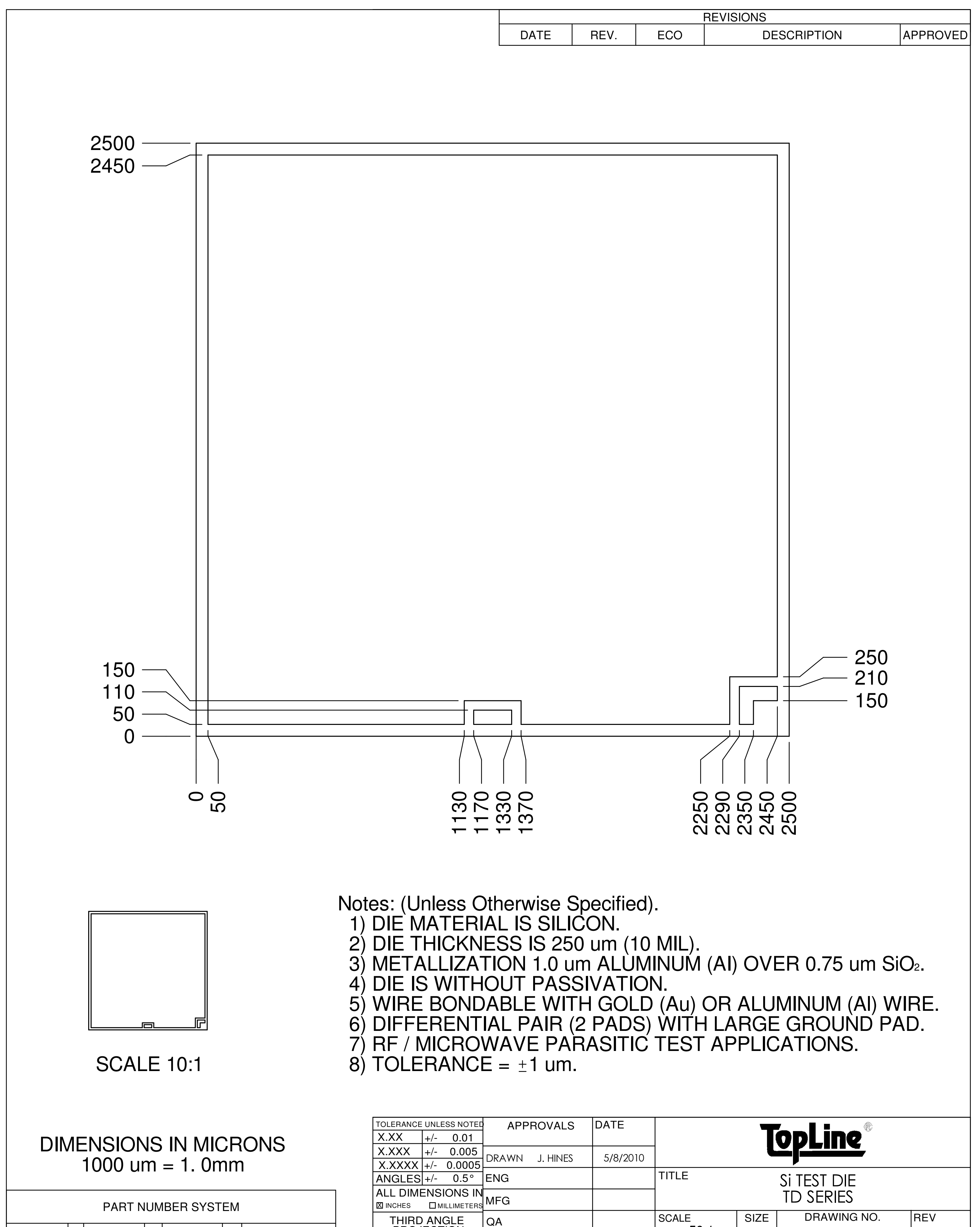
SCALE	SIZE	DRAWING NO.	REV
100:1	A	151016	A

DO NOT SCALE DRAWING

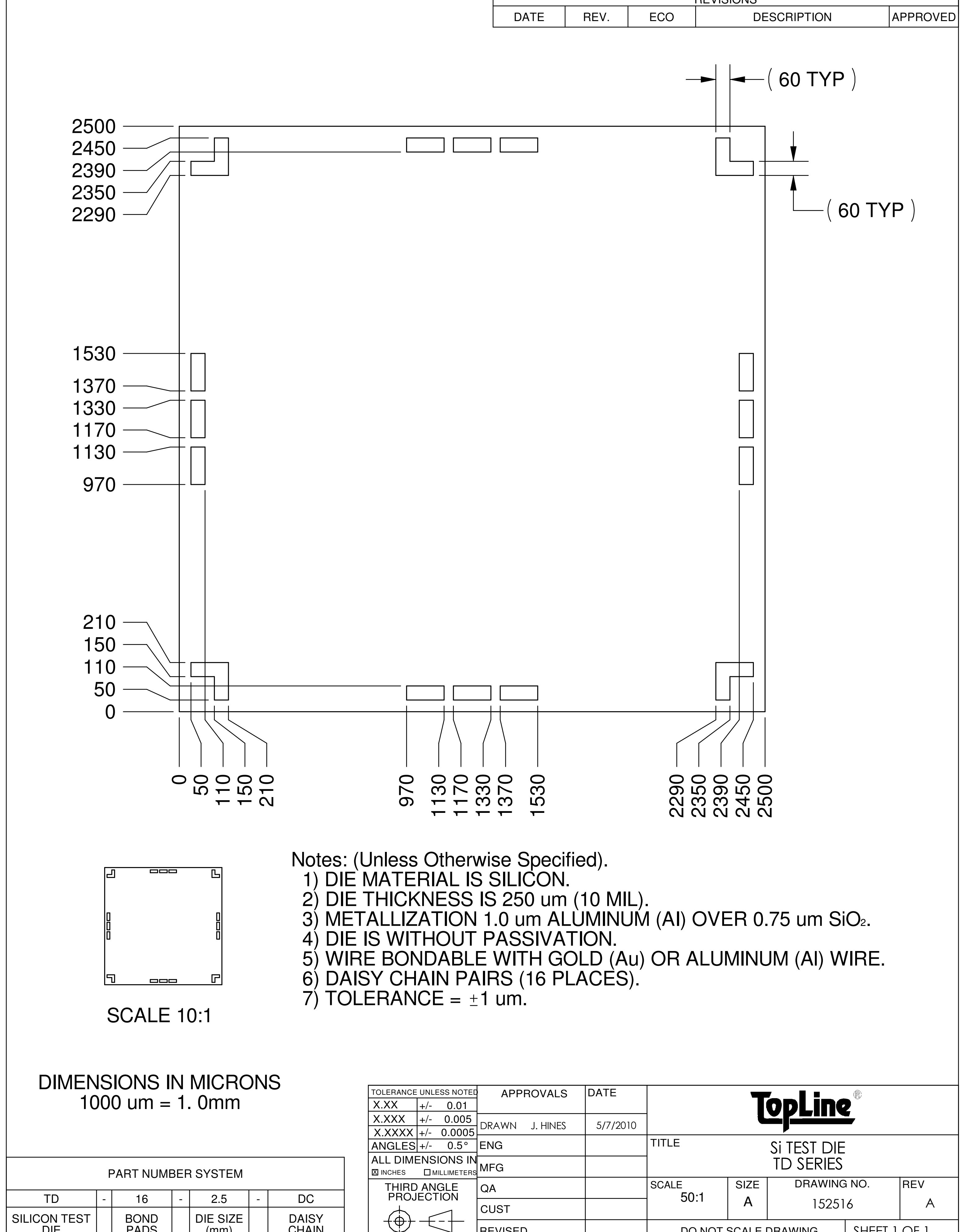
SHEET 1 OF 1

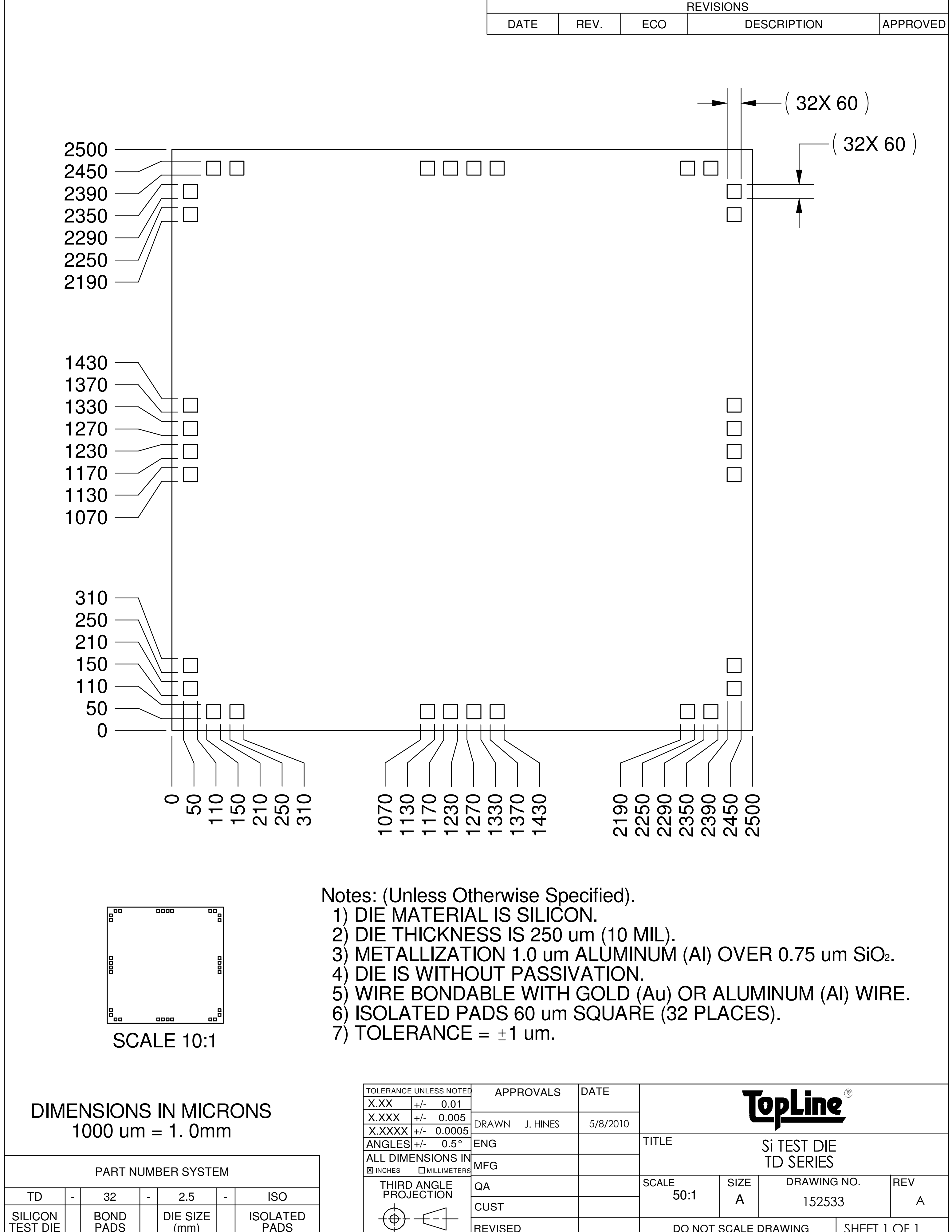


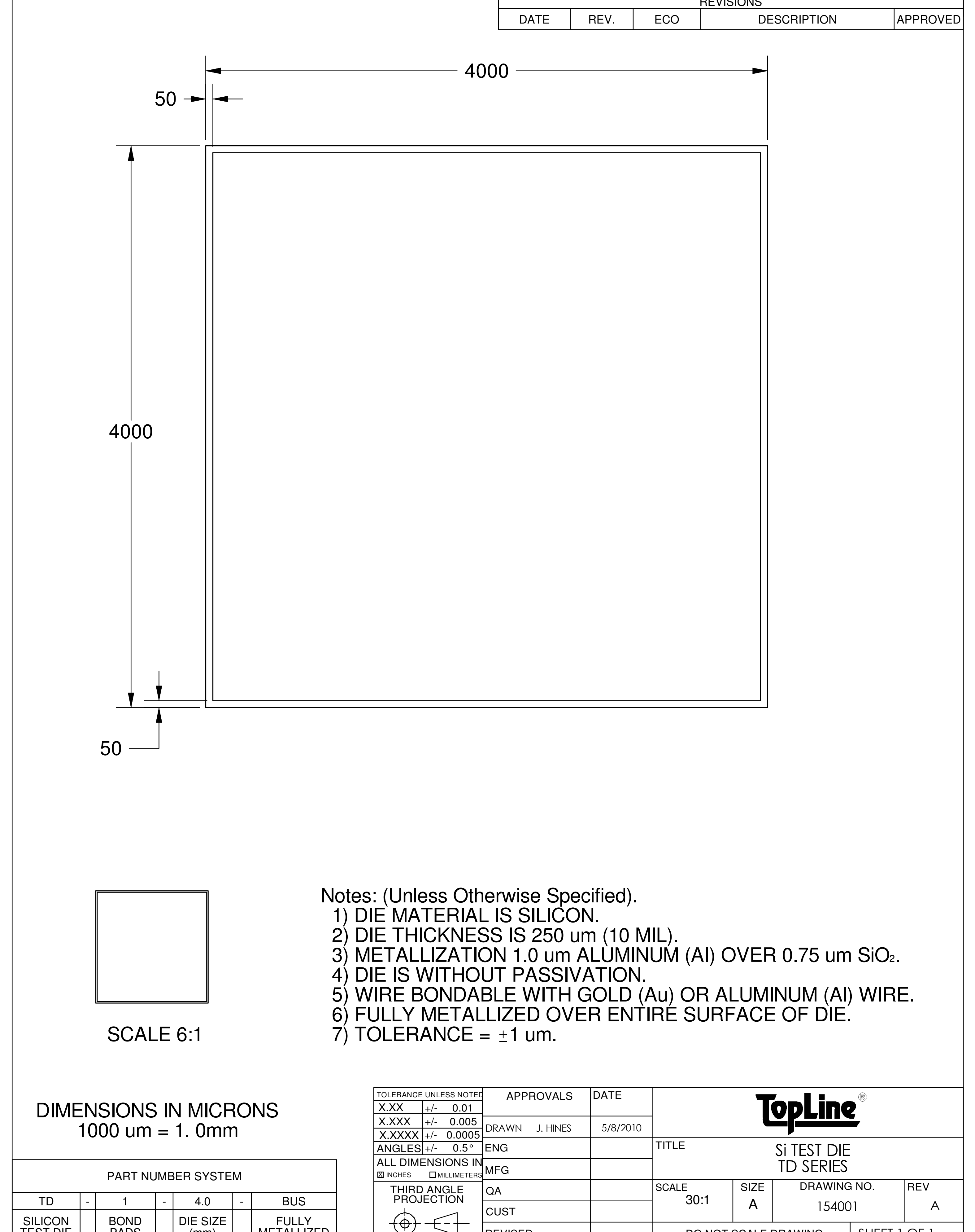
REVISIONS
DATE
REV.
ECO
DESCRIPTION
APPROVED
2500
50
2500
50
Notes: (Unless Otherwise Specified).
1) DIE MATERIAL IS SILICON.
2) DIE THICKNESS IS 250 um (10 MIL).
3) METALLIZATION 1.0 um ALUMINUM (Al) OVER 0.75 um SiO2.
4) DIE IS WITHOUT PASSIVATION.
5) WIRE BONDABLE WITH GOLD (Au) OR ALUMINUM (Al) WIRE.
6) FULLY METALLIZED OVER ENTIRE SURFACE OF DIE.
7) TOLERANCE = ±1 um.
SCALE 10:1
DIMENSIONS IN MICRONS
1000 um = 1. 0mm
PART NUMBER SYSTEM
TD - 1 - 2.5 - BUS
SILICON TEST DIE
BOND PADS
DIE SIZE (mm)
FULLY METALLIZED
TOLERANCE UNLESS NOTED
X.XX +/- 0.01
X.XXX +/- 0.005
X.XXXX +/- 0.0005
ANGLES +/- 0.5°
ALL DIMENSIONS IN
INCHES
MILLIMETERS
THIRD ANGLE PROJECTION
APPROVALS
DATE
DRAWN J. HINES 5/8/2010
ENG
MFG
QA
CUST
REVISED
TopLine
TITLE
Si TEST DIE
TD SERIES
SCALE 50:1
SIZE A
DRAWING NO. 152501
REV A
DO NOT SCALE DRAWING
SHEET 1 OF 1

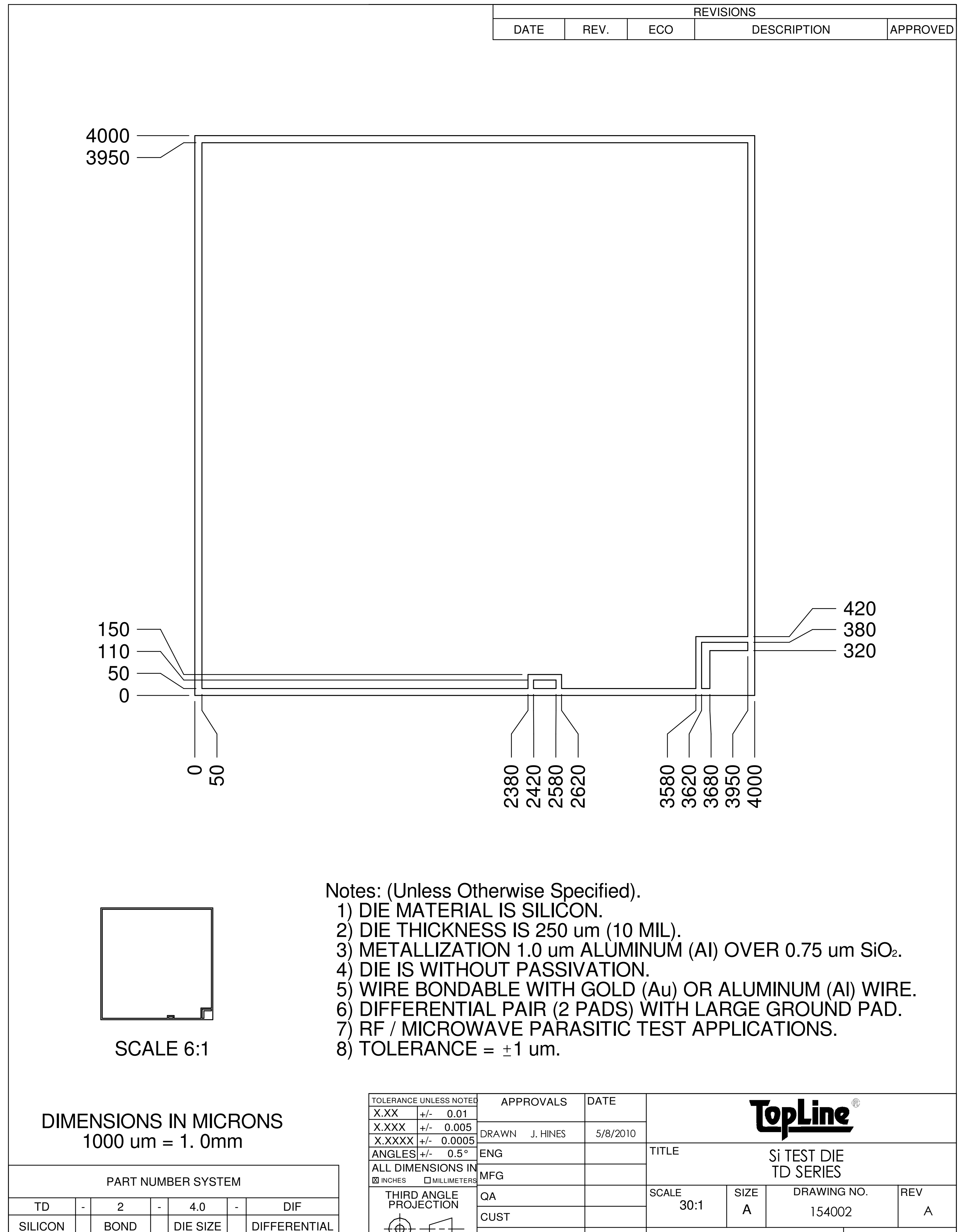


REVISIONS
DATE
REV.
ECO
DESCRIPTION
APPROVED
2500
2450
150
110
50
0
250
210
150
0
50
1130
1170
1330
1370
2250
2290
2350
2450
2500
SCALE 10:1
Notes: (Unless Otherwise Specified).
1) DIE MATERIAL IS SILICON.
2) DIE THICKNESS IS 250 um (10 MIL).
3) METALLIZATION 1.0 um ALUMINUM (Al) OVER 0.75 um SiO2.
4) DIE IS WITHOUT PASSIVATION.
5) WIRE BONDABLE WITH GOLD (Au) OR ALUMINUM (Al) WIRE.
6) DIFFERENTIAL PAIR (2 PADS) WITH LARGE GROUND PAD.
7) RF / MICROWAVE PARASITIC TEST APPLICATIONS.
8) TOLERANCE = ±1 um.
DIMENSIONS IN MICRONS
1000 um = 1. 0mm
PART NUMBER SYSTEM
TD - 2 - 2.5 - DIF
SILICON TEST DIE
BOND PADS
DIE SIZE (mm)
DIFFERENTIAL PAIR
TOLERANCE UNLESS NOTED
X.XX +/- 0.01
X.XXX +/- 0.005
X.XXXX +/- 0.0005
ANGLES +/- 0.5°
ALL DIMENSIONS IN
INCHES
MILLIMETERS
THIRD ANGLE PROJECTION
APPROVALS
DATE
DRAWN J. HINES 5/8/2010
ENG
MFG
QA
CUST
REVISED
TopLine
TITLE
Si TEST DIE
TD SERIES
SCALE 50:1
SIZE A
DRAWING NO. 152502
REV A
DO NOT SCALE DRAWING
SHEET 1 OF 1

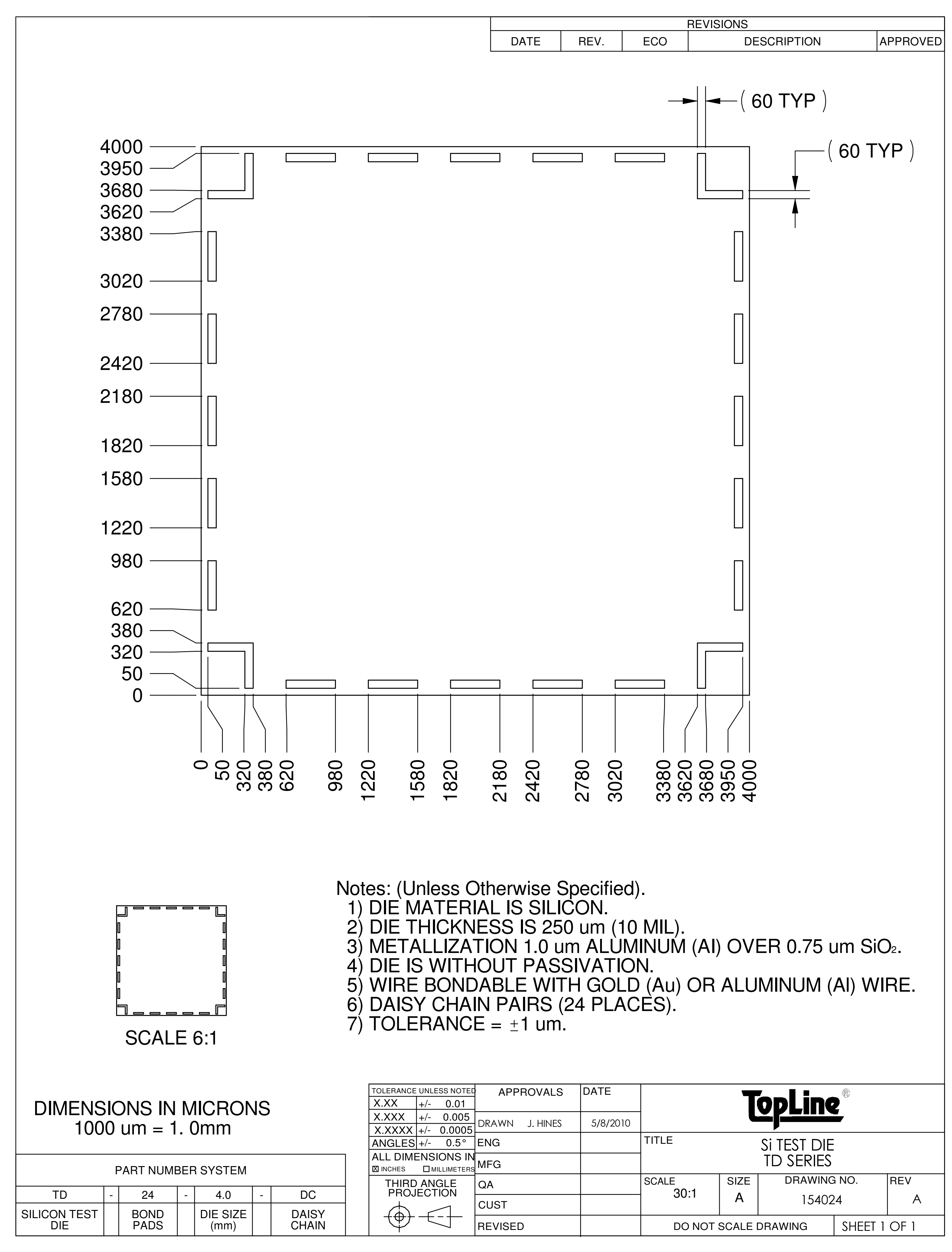

REVISIONS
DATE
REV.
ECO
DESCRIPTION
APPROVED
(60 TYP)
(60 TYP)
2500
2450
2390
2350
2290
1530
1370
1330
1170
1130
970
210
150
110
50
0
0
50
110
150
210
970
1130
1170
1330
1370
1530
2290
2350
2390
2450
2500
SCALE 10:1
Notes: (Unless Otherwise Specified).
1) DIE MATERIAL IS SILICON.
2) DIE THICKNESS IS 250 um (10 MIL).
3) METALLIZATION 1.0 um ALUMINUM (Al) OVER 0.75 um SiO2.
4) DIE IS WITHOUT PASSIVATION.
5) WIRE BONDABLE WITH GOLD (Au) OR ALUMINUM (Al) WIRE.
6) DAISY CHAIN PAIRS (16 PLACES).
7) TOLERANCE = ±1 um.
DIMENSIONS IN MICRONS
1000 um = 1. 0mm
PART NUMBER SYSTEM
TD - 16 - 2.5 - DC
SILICON TEST DIE
BOND PADS
DIE SIZE (mm)
DAISY CHAIN
TOLERANCE UNLESS NOTED
X.XX +/- 0.01
X.XXX +/- 0.005
X.XXXX +/- 0.0005
ANGLES +/- 0.5°
ALL DIMENSIONS IN
INCHES
MILLIMETERS
THIRD ANGLE PROJECTION
APPROVALS
DATE
DRAWN J. HINES 5/7/2010
ENG
MFG
QA
CUST
REVISED
TopLine
TITLE
Si TEST DIE
TD SERIES
SCALE 50:1
SIZE A
DRAWING NO. 152516
REV A
DO NOT SCALE DRAWING
SHEET 1 OF 1

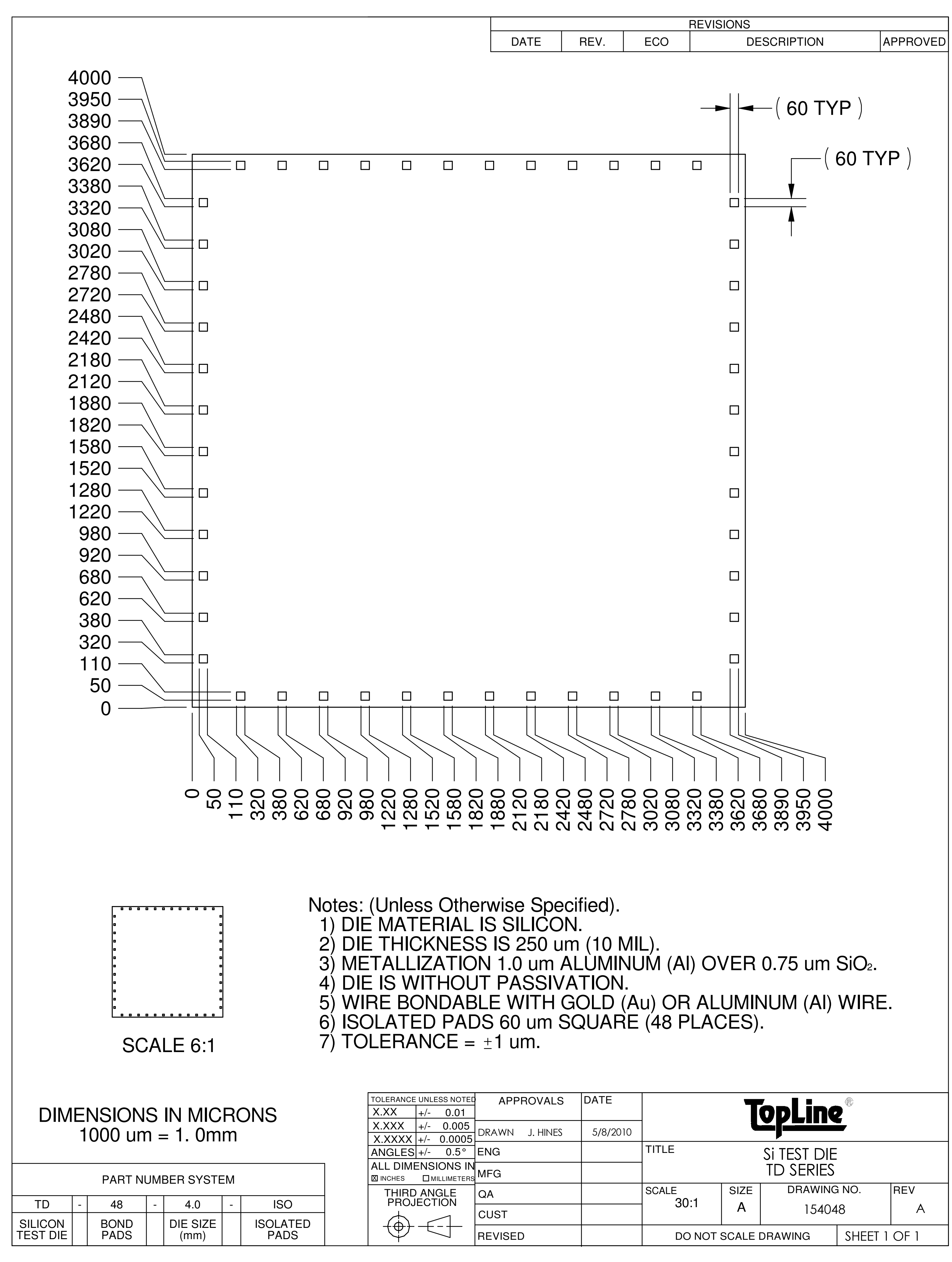

REVISIONS
DATE
REV.
ECO
DESCRIPTION
APPROVED
(32X 60)
(32X 60)
2500
2450
2390
2350
2290
2250
2190
1430
1370
1330
1270
1230
1170
1130
1070
310
250
210
150
110
50
0
0 50 110 150 210 250 310
1070 1130 1170 1230 1270 1330 1370 1430
2190 2250 2290 2350 2390 2450 2500
SCALE 10:1
Notes: (Unless Otherwise Specified).
1) DIE MATERIAL IS SILICON.
2) DIE THICKNESS IS 250 um (10 MIL).
3) METALLIZATION 1.0 um ALUMINUM (Al) OVER 0.75 um SiO2.
4) DIE IS WITHOUT PASSIVATION.
5) WIRE BONDABLE WITH GOLD (Au) OR ALUMINUM (Al) WIRE.
6) ISOLATED PADS 60 um SQUARE (32 PLACES).
7) TOLERANCE = ±1 um.
DIMENSIONS IN MICRONS
1000 um = 1. 0mm
PART NUMBER SYSTEM
TD - 32 - 2.5 - ISO
SILICON TEST DIE
BOND PADS
DIE SIZE (mm)
ISOLATED PADS
TOLERANCE UNLESS NOTED
X.XX +/- 0.01
X.XXX +/- 0.005
X.XXXX +/- 0.0005
ANGLES +/- 0.5°
ALL DIMENSIONS IN
INCHES
MILLIMETERS
THIRD ANGLE PROJECTION
APPROVALS
DATE
DRAWN J. HINES 5/8/2010
ENG
MFG
QA
CUST
REVISED
TopLine
TITLE
Si TEST DIE
TD SERIES
SCALE 50:1
SIZE A
DRAWING NO. 152533
REV A
DO NOT SCALE DRAWING
SHEET 1 OF 1


REVISIONS
DATE
REV.
ECO
DESCRIPTION
APPROVED
4000
50
4000
50
SCALE 6:1
Notes: (Unless Otherwise Specified).
1) DIE MATERIAL IS SILICON.
2) DIE THICKNESS IS 250 um (10 MIL).
3) METALLIZATION 1.0 um ALUMINUM (Al) OVER 0.75 um SiO2.
4) DIE IS WITHOUT PASSIVATION.
5) WIRE BONDABLE WITH GOLD (Au) OR ALUMINUM (Al) WIRE.
6) FULLY METALLIZED OVER ENTIRE SURFACE OF DIE.
7) TOLERANCE = ±1 um.
DIMENSIONS IN MICRONS
1000 um = 1. 0mm
PART NUMBER SYSTEM
TD - 1 - 4.0 - BUS
SILICON TEST DIE
BOND PADS
DIE SIZE (mm)
FULLY METALLIZED
TOLERANCE UNLESS NOTED
X.XX +/- 0.01
X.XXX +/- 0.005
X.XXXX +/- 0.0005
ANGLES +/- 0.5°
ALL DIMENSIONS IN
INCHES
MILLIMETERS
THIRD ANGLE PROJECTION
APPROVALS
DATE
DRAWN J. HINES 5/8/2010
ENG
MFG
QA
CUST
REVISED
TopLine
TITLE
Si TEST DIE
TD SERIES
SCALE 30:1
SIZE A
DRAWING NO. 154001
REV A
DO NOT SCALE DRAWING
SHEET 1 OF 1



REVISIONS
DATE
REV.
ECO
DESCRIPTION
APPROVED
4000
3950
150
110
50
0
420
380
320
0
50
2380
2420
2580
2620
3580
3620
3680
3950
4000
Notes: (Unless Otherwise Specified).
1) DIE MATERIAL IS SILICON.
2) DIE THICKNESS IS 250 um (10 MIL).
3) METALLIZATION 1.0 um ALUMINUM (Al) OVER 0.75 um SiO2.
4) DIE IS WITHOUT PASSIVATION.
5) WIRE BONDABLE WITH GOLD (Au) OR ALUMINUM (Al) WIRE.
6) DIFFERENTIAL PAIR (2 PADS) WITH LARGE GROUND PAD.
7) RF / MICROWAVE PARASITIC TEST APPLICATIONS.
8) TOLERANCE = ±1 um.
SCALE 6:1
DIMENSIONS IN MICRONS
1000 um = 1. 0mm
PART NUMBER SYSTEM
TD - 2 - 4.0 - DIF
SILICON TEST DIE
BOND PADS
DIE SIZE (mm)
DIFFERENTIAL PAIR
TOLERANCE UNLESS NOTED
X.XX +/- 0.01
X.XXX +/- 0.005
X.XXXX +/- 0.0005
ANGLES +/- 0.5°
ALL DIMENSIONS IN
INCHES
MILLIMETERS
THIRD ANGLE PROJECTION
APPROVALS
DATE
DRAWN J. HINES 5/8/2010
ENG
MFG
QA
CUST
REVISED
TopLine
TITLE
Si TEST DIE
TD SERIES
SCALE 30:1
SIZE A
DRAWING NO. 154002
REV A
DO NOT SCALE DRAWING
SHEET 1 OF 1


REVISIONS
DATE
REV.
ECO
DESCRIPTION
APPROVED
(60 TYP)
(60 TYP)
4000
3950
3680
3620
3380
3020
2780
2420
2180
1820
1580
1220
980
620
380
320
50
0
0
50
320
380
620
980
1220
1580
1820
2180
2420
2780
3020
3380
3620
3680
3950
4000
SCALE 6:1
Notes: (Unless Otherwise Specified).
1) DIE MATERIAL IS SILICON.
2) DIE THICKNESS IS 250 um (10 MIL).
3) METALLIZATION 1.0 um ALUMINUM (Al) OVER 0.75 um SiO2.
4) DIE IS WITHOUT PASSIVATION.
5) WIRE BONDABLE WITH GOLD (Au) OR ALUMINUM (Al) WIRE.
6) DAISY CHAIN PAIRS (24 PLACES).
7) TOLERANCE = ±1 um.
DIMENSIONS IN MICRONS
1000 um = 1. 0mm
PART NUMBER SYSTEM
TD
-
24
-
4.0
-
DC
SILICON TEST DIE
BOND PADS
DIE SIZE (mm)
DAISY CHAIN
TOLERANCE UNLESS NOTED
X.XX +/- 0.01
X.XXX +/- 0.005
X.XXXX +/- 0.0005
ANGLES +/- 0.5°
ALL DIMENSIONS IN
INCHES
MILLIMETERS
THIRD ANGLE PROJECTION
APPROVALS
DATE
DRAWN J. HINES 5/8/2010
ENG
MFG
QA
CUST
REVISED
TopLine
TITLE
Si TEST DIE
TD SERIES
SCALE 30:1
SIZE A
DRAWING NO. 154024
REV A
DO NOT SCALE DRAWING
SHEET 1 OF 1


REVISIONS
DATE
REV.
ECO
DESCRIPTION
APPROVED
(60 TYP)
(60 TYP)
4000
3950
3890
3680
3620
3380
3320
3080
3020
2780
2720
2480
2420
2180
2120
1880
1820
1580
1520
1280
1220
980
920
680
620
380
320
110
50
0
0
50
110
320
380
620
680
920
980
1220
1280
1520
1580
1820
1880
2120
2180
2420
2480
2720
2780
3020
3080
3320
3380
3620
3680
3890
3950
4000
SCALE 6:1
Notes: (Unless Otherwise Specified).
1) DIE MATERIAL IS SILICON.
2) DIE THICKNESS IS 250 um (10 MIL).
3) METALLIZATION 1.0 um ALUMINUM (Al) OVER 0.75 um SiO2.
4) DIE IS WITHOUT PASSIVATION.
5) WIRE BONDABLE WITH GOLD (Au) OR ALUMINUM (Al) WIRE.
6) ISOLATED PADS 60 um SQUARE (48 PLACES).
7) TOLERANCE = ±1 um.
DIMENSIONS IN MICRONS
1000 um = 1. 0mm
PART NUMBER SYSTEM
TD - 48 - 4.0 - ISO
SILICON TEST DIE
BOND PADS
DIE SIZE (mm)
ISOLATED PADS
TOLERANCE UNLESS NOTED
X.XX +/- 0.01
X.XXX +/- 0.005
X.XXXX +/- 0.0005
ANGLES +/- 0.5°
ALL DIMENSIONS IN
INCHES
MILLIMETERS
THIRD ANGLE PROJECTION
APPROVALS
DATE
DRAWN J. HINES 5/8/2010
ENG
MFG
QA
CUST
REVISED
TopLine
TITLE
Si TEST DIE
TD SERIES
SCALE 30:1
SIZE A
DRAWING NO. 154048
REV A
DO NOT SCALE DRAWING
SHEET 1 OF 1