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MIL STD 883 TM 2017 Certification Test

Student Assessment

(Revised MAR 2020)

Name: ______________________________ Date: ____________________

PART 1 – True/False Questions

		TRUE	FALSE
1.	Test Method 2017 is part of Mil-Std-883 visual inspection criteria	X	
2.	Metallization voids on IC greater than 75 % are acceptable		X
3.	A 100% epoxy fillet is required around the entire perimeter of an epoxy die bond		X
4.	A heel crack at the junction of a wire bond is OK		X
5.	1.5X squash out on a 1 mil gold wire ball bond is ideal		X
6.	Loose foreign material or particles are acceptable at Pre Cap		X
7.	A crack at the edge of the die pointing away from the active area is acceptable	X	
8.	All wires must have some loop for stress relief, unless noted on the drawing	X	
9.	Lifted or peeling metal in a non-active area is acceptable		X
10.	Bonds that are not completely within the boundaries of the package post are OK		X
11.	A laser trim cut into a resistor more than 50% of the width is a reject	X	
12.	A glassivation void that exposes two or more active metallization paths is OK		X
13.	Residual epoxy on the surface of the IC or MMIC is acceptable		X
14.	The diode inspection criteria is found in TM 2017		X
15.	Inspection criteria for capacitors and resistors is found in TM 2010 Low Mag		X
16.	Voids greater than 50% on an IC Metal run is cause for reject	X	
17.	ESD precautions are not required at Pre Cap		X
18.	Cracks in epoxy are OK provided they are less than 5 mils in length	X	
19.	At Pre Cap high mag inspection must be performed first followed by low mag		X
20.	High magnification IC inspection criteria is found in MIL-STD-750		X

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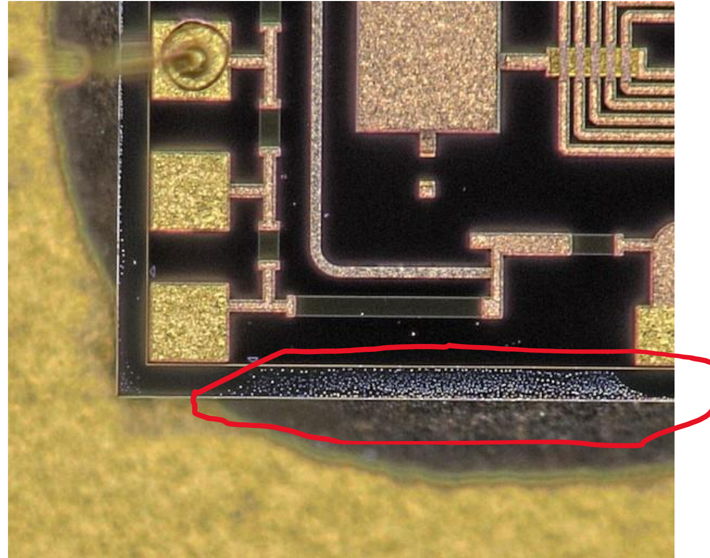
PART 2 – Multiple Choice/Essay Questions

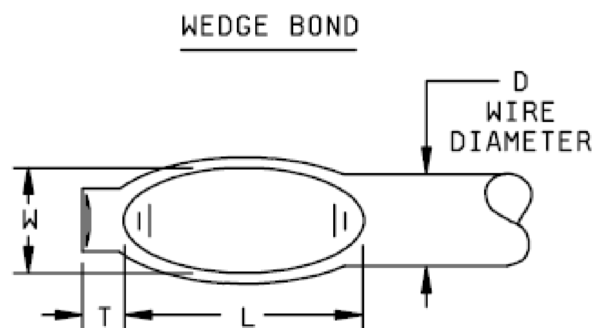
1. ACCEPT REJECT (Circle one and briefly explain why below.)

REASON: Resin bleed out wicked up onto MMIC



2. The maximum deformation on a thermosonic wedge bond (W) per TM 2017 is:

A. 1.5 X the wire diameter
B. 3.0 X the wire diameter
C. 2.0 X the wire diameter
D. None of the above



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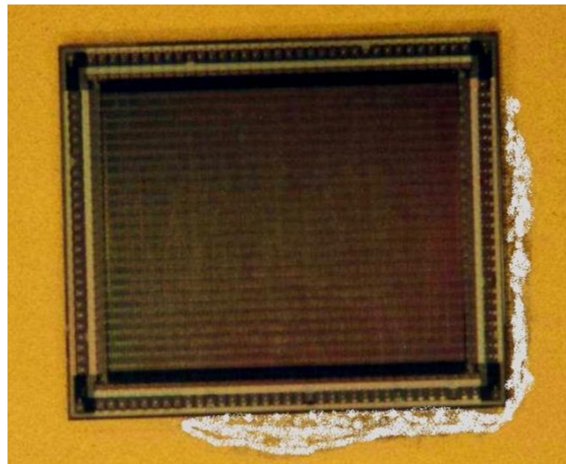
3. Below is a photo of a silicon die with silver epoxy die attach material visible at the perimeter. Choose the following:

   A. ACCEPT: Epoxy visible around 50% of the perimeter
   B. REJECT: Too much epoxy visible
   C. REJECT: Insufficient die attach material visible
   D. ACCEPT: Epoxy visible on two non-adjacent sides



4. Draw a line from the device on the left matching the appropriate test method on the right :

A. DIODES	TM 2010
B. MMICS AND ICS	TM 2073
C. RESISTORS	TM 2069
D. WIREBONDS	TM 2017
E. POWER MOSFETS	TM 2032

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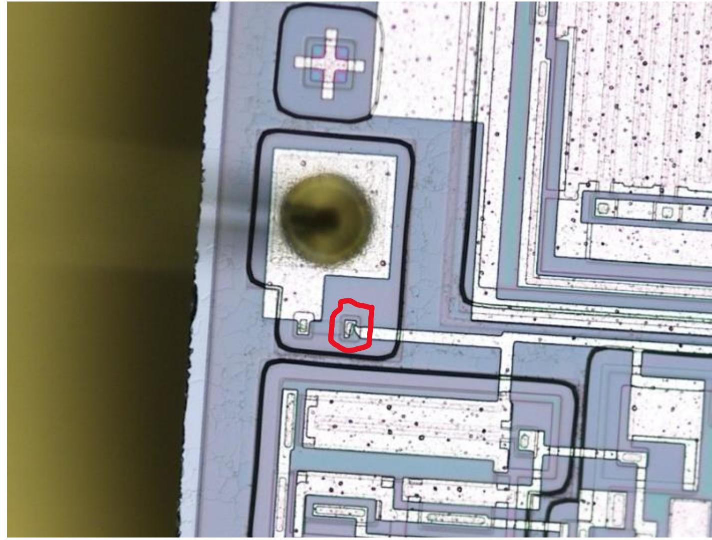
5. ACCEPT REJECT (Circle one and briefly explain why below.)

REASON:

METAL REDUCED 90% AT TOP OF VIA



6. ACCEPT REJECT (Circle one and briefly explain why below.)

REASON: Wedge bond more than 50% off pad and shorted.

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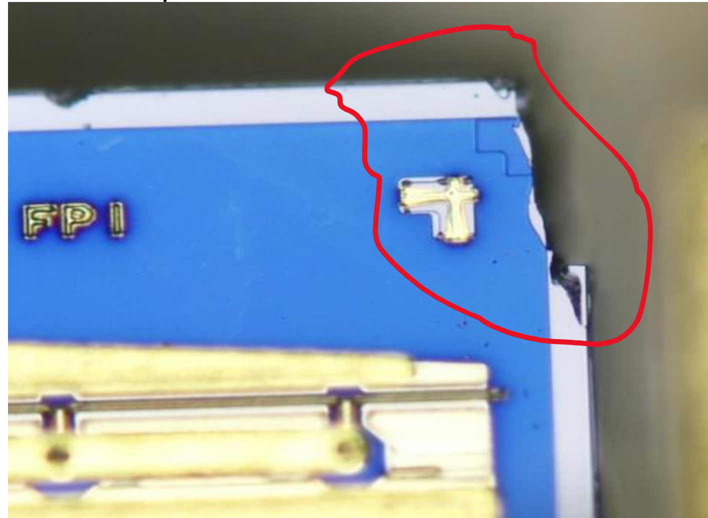
7. ACCEPT (circled) REJECT (Circle one and briefly explain why below.)

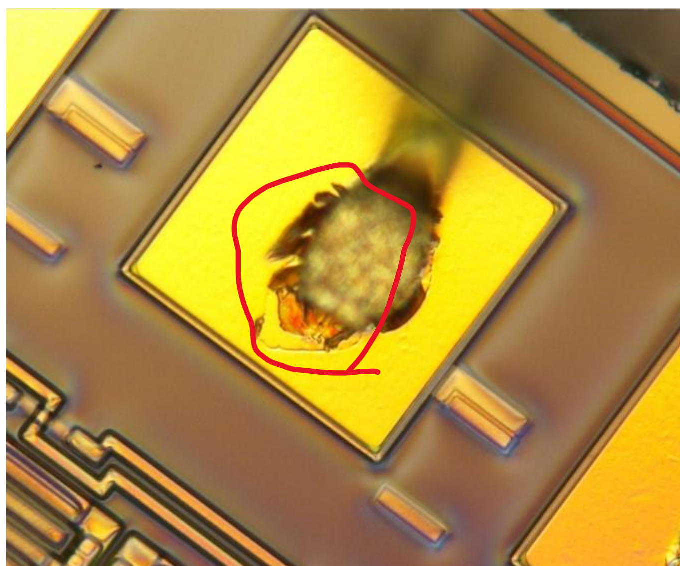
REASON:

Corner chipout OK not into active metal



8. ACCEPT REJECT (circled) (Circle one and briefly explain why below.)

REASON: Wirebond on top of disturbed metal and bond pad crater.



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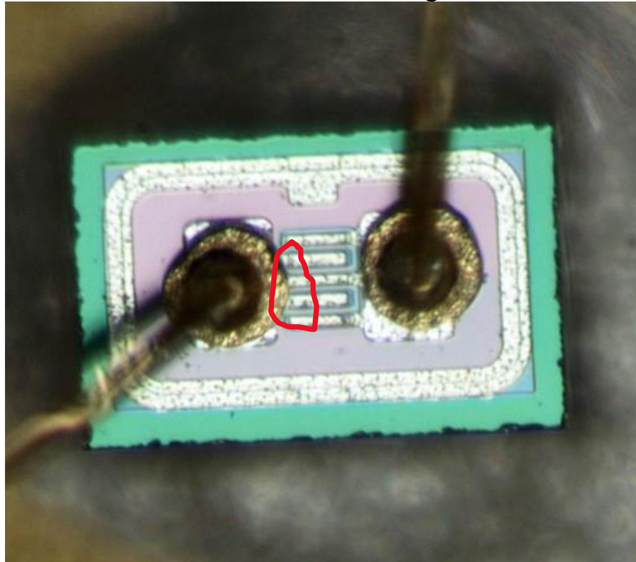
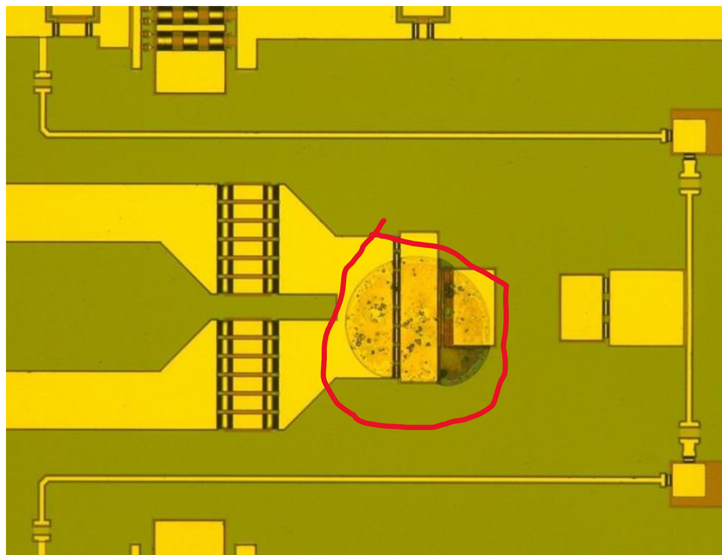
9. ACCEPT REJECT (Circle one and briefly explain why below.)

REASON:
Gold ball bond shorted to finger caused a shorted junction.



10. ACCEPT REJECT (Circle one and briefly explain why below.)

REASON: Human contamination or "spittle "



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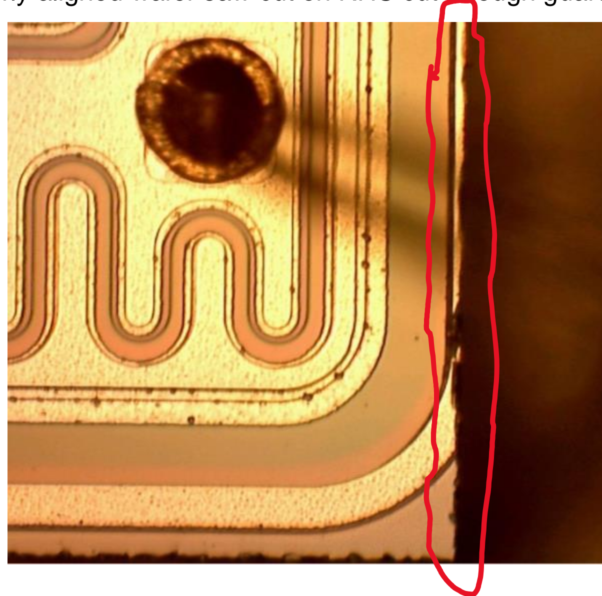
11. ACCEPT REJECT (Circle one and briefly explain why below.)

REASON:

A poorly aligned wafer saw cut on RHS cut through guard ring.



12. ACCEPT REJECT (Circle one and briefly explain why below.)

REASON: A void in metal run greater than 50%