

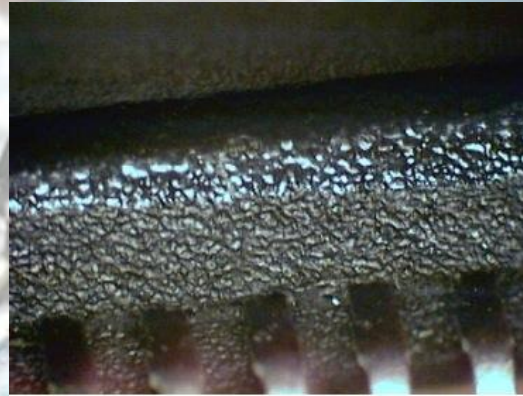


# Counterfeits in A Nutshell

The Counterfeit Electronic  
Components Problem  
and Prevention Possibilities

# Blacktopping and Labeling

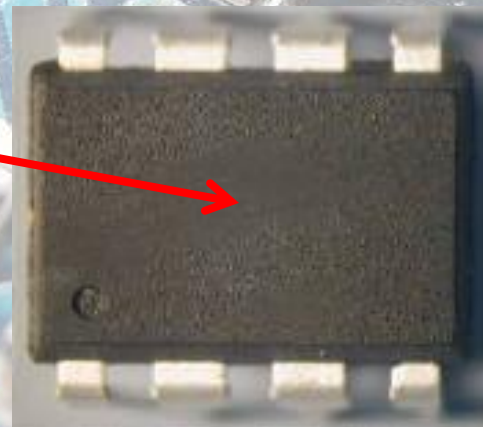
The cover peel



Blacktopping

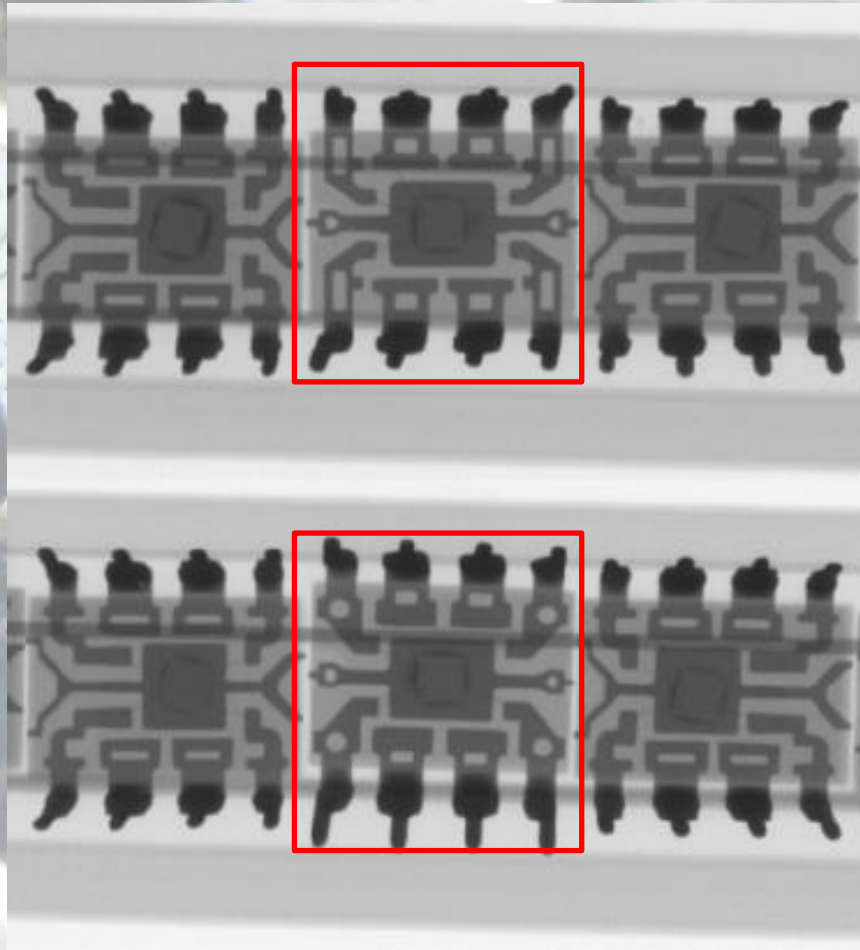


Solvent application

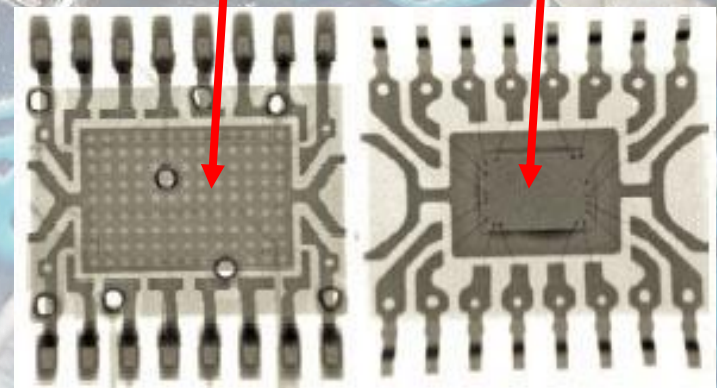
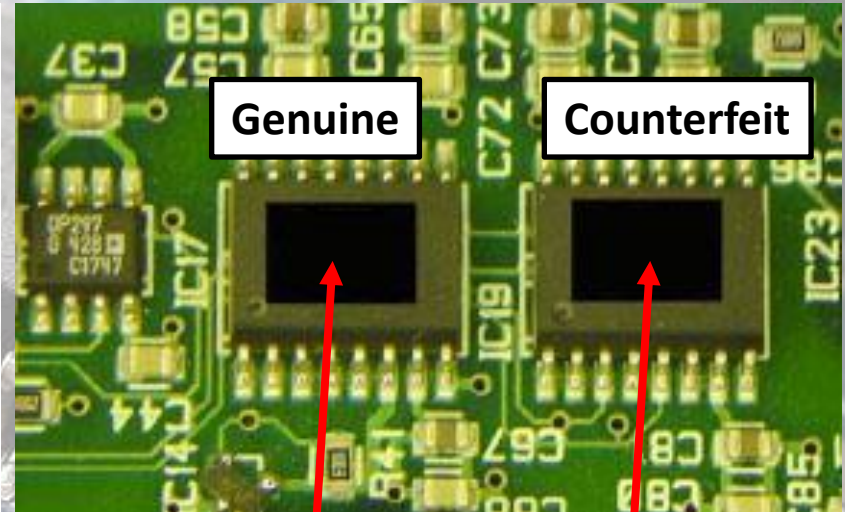


Source: AERI,  
Process Sciences, Inc.

# The package content X-ray check

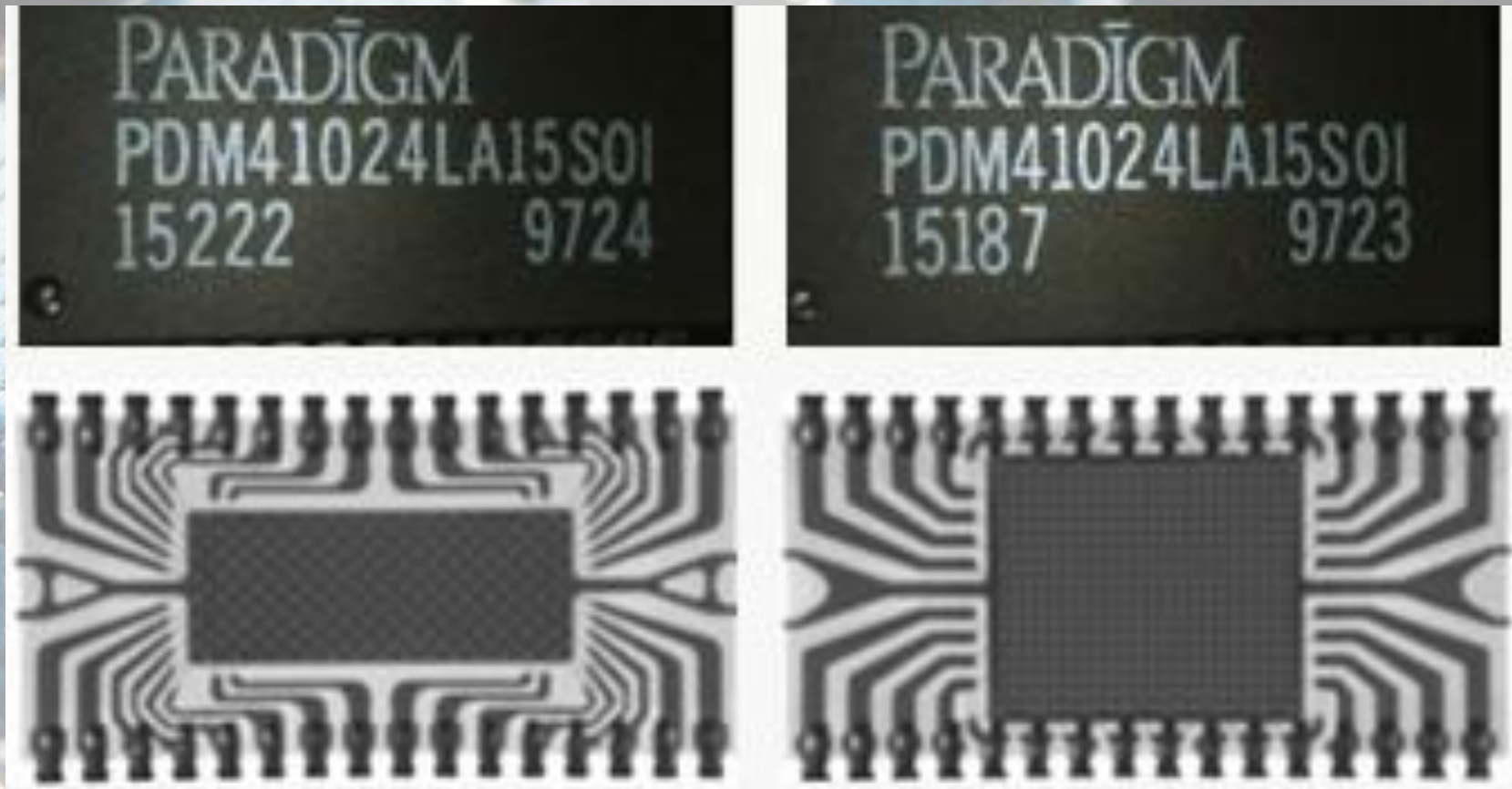


Source: Process Sciences, Inc.

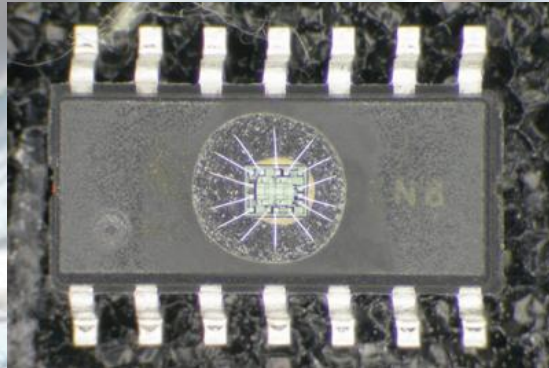


Source: Dage Precision Industries,  
Nordson Company

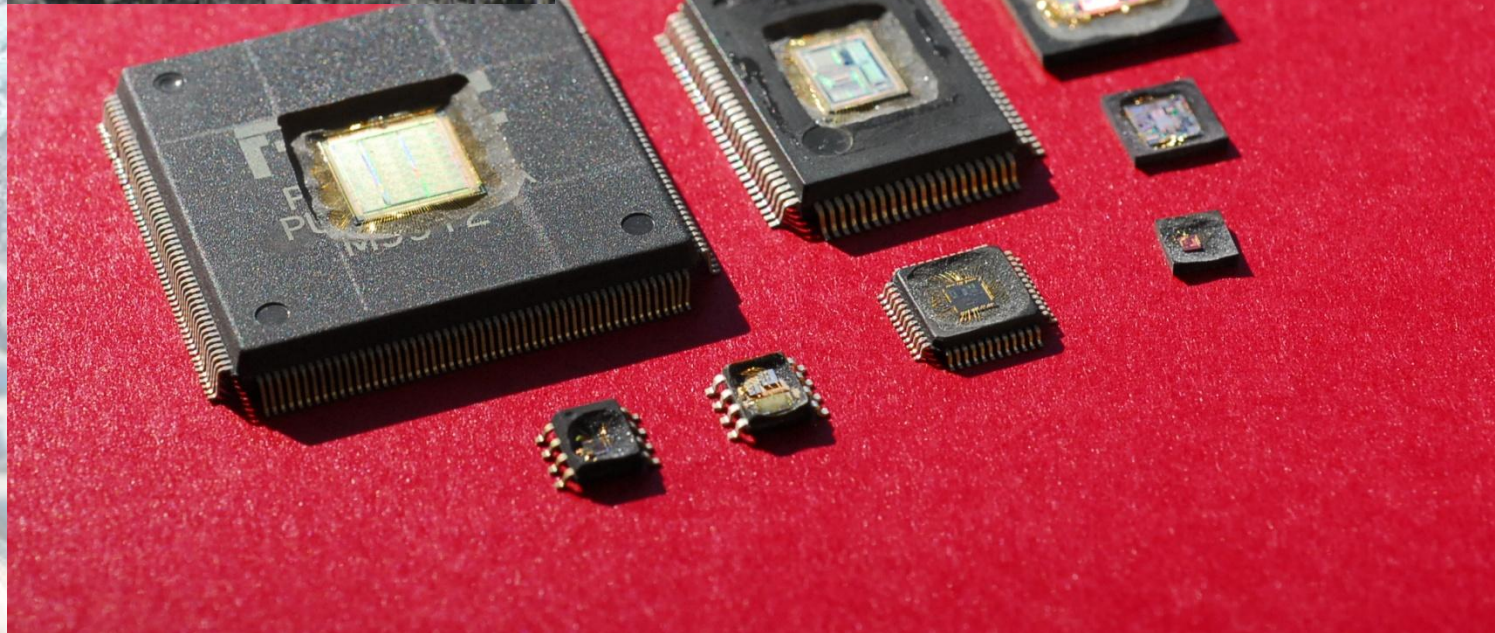
# The package content X-ray check



# Decapsulation – Chip direct check



The package spot etching  
in the chip area



# The lead appearance



Source: Sonoscan, SMT Corp.

# Power transistor example



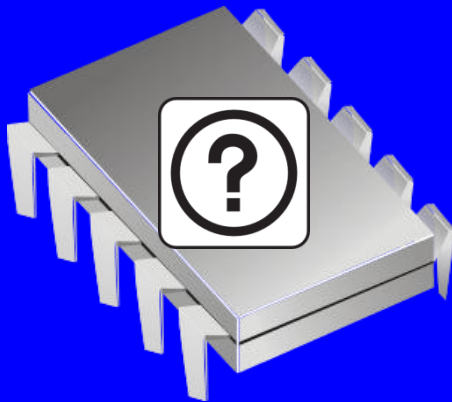
**Authentic**

**Counterfeit**

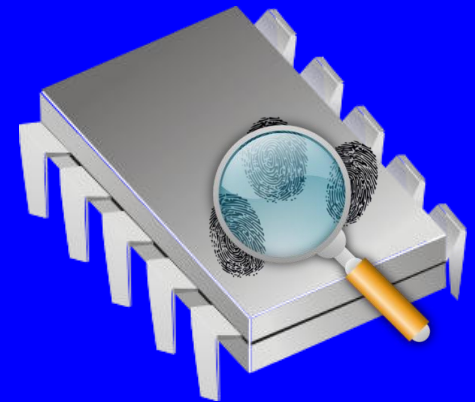
# AMTEST

Test & Measurements

## SENTRY Counterfeit IC Detector

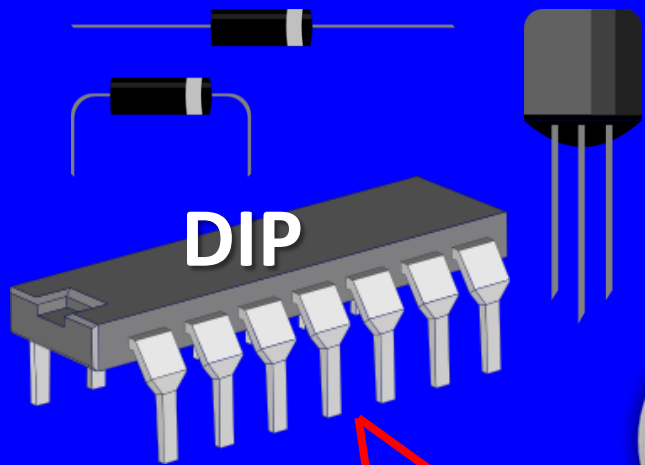


abi

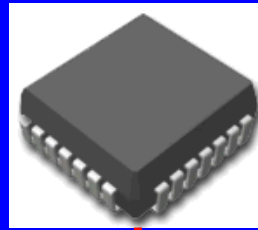


The counterfeit electronic component  
non-destructive detection method  
application example

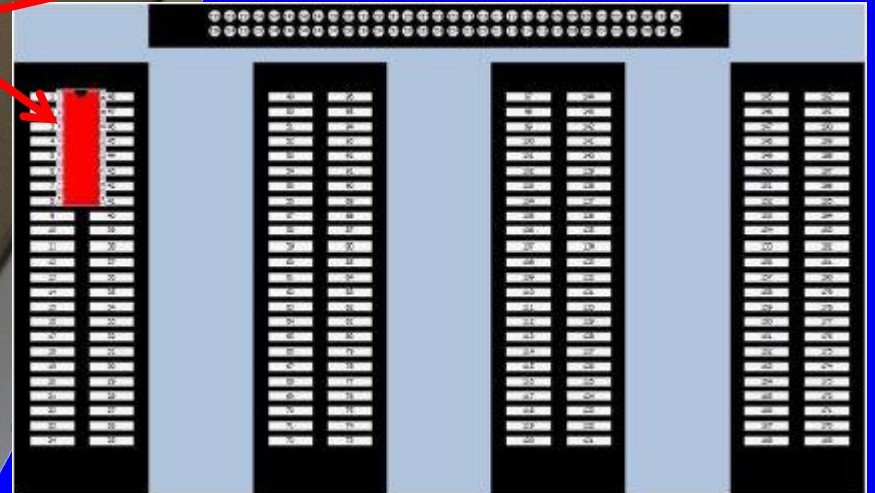
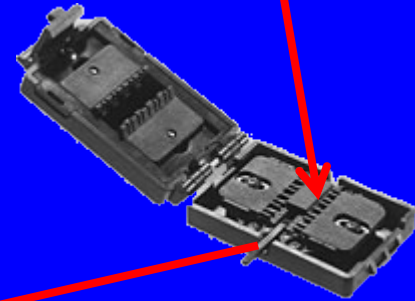
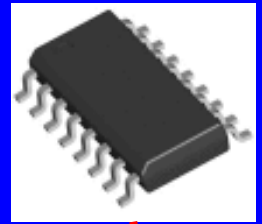




DIP



SMD



WELCOME

LEARN

TEST

LIBRARY

HARDWARE

Select Device

Device Details

Component Reference:

AT27C256\_Normal

Manufacturer:

Atmel

Package:

28 pin DIL wide

Adapter:

28 pin DIL wide in 48 pin ZIF

Device Testing

Scan Mode: Single

TEST

REPORT

Completed

100%

SUSPECT

Results

Reset	Pin	Overall
Passes	24	0
Suspects	4	1
Fails	0	0
Cycles	1	

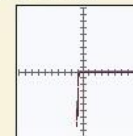
Device Result Documentation

Zoom x 7.76



Pin Details

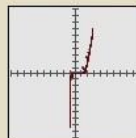
Device: AT27C256\_Normal  
 Pin Name : A10  
 Pin Number: 21  
 Channel: 41  
 Package: 28 pin DIL wide  
 Scan Profile: Normal Digital  
 Overall Result: SUSPECT  
 Operator: Administrator  
 Scan Date: 2011-05-19  
 Pin Status: SUCCESS  
 Pin Percentage: 100% match



PinPrint:

Pin Details

Device: AT27C256\_Normal  
 Pin Name : O2  
 Pin Number: 13  
 Channel: 13  
 Package: 28 pin DIL wide  
 Scan Profile: Normal Digital  
 Overall Result: SUSPECT  
 Operator: Administrator  
 Scan Date: 2011-05-19  
 Pin Status: SUSPECT  
 Pin Percentage: 93% match



PinPrint:

Socket 1

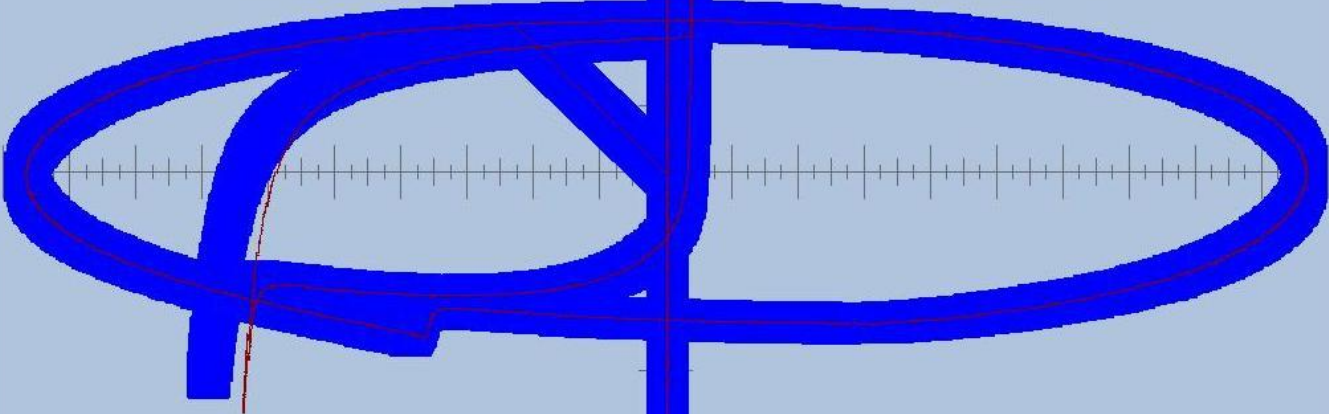
Administration

Log Out

Pin 3

SOURCE

# MOSFET power transistor



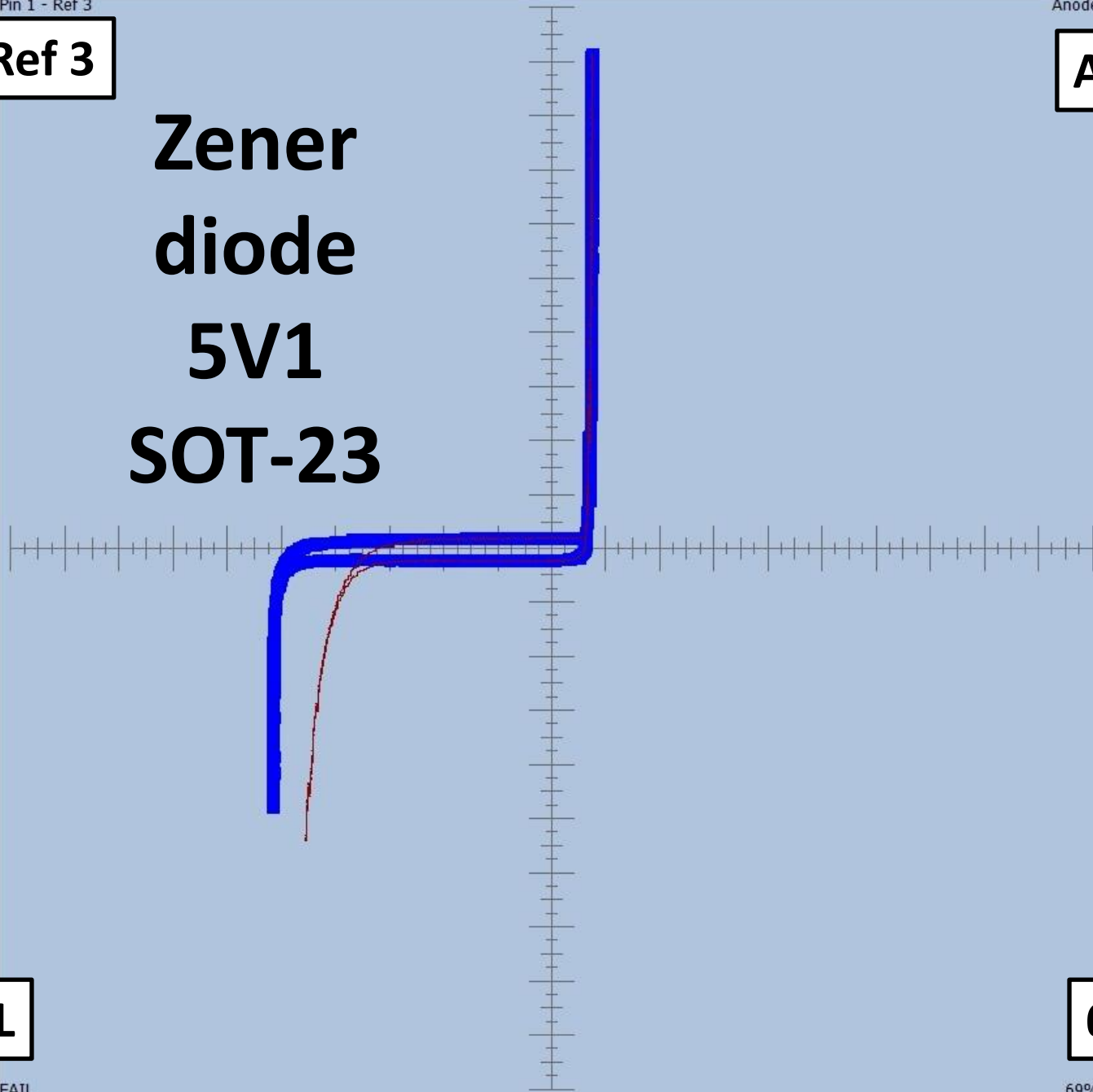
SUSPECT

95%

**Pin 1 - Ref 3**

**Anode**

**Zener  
diode  
5V1  
SOT-23**



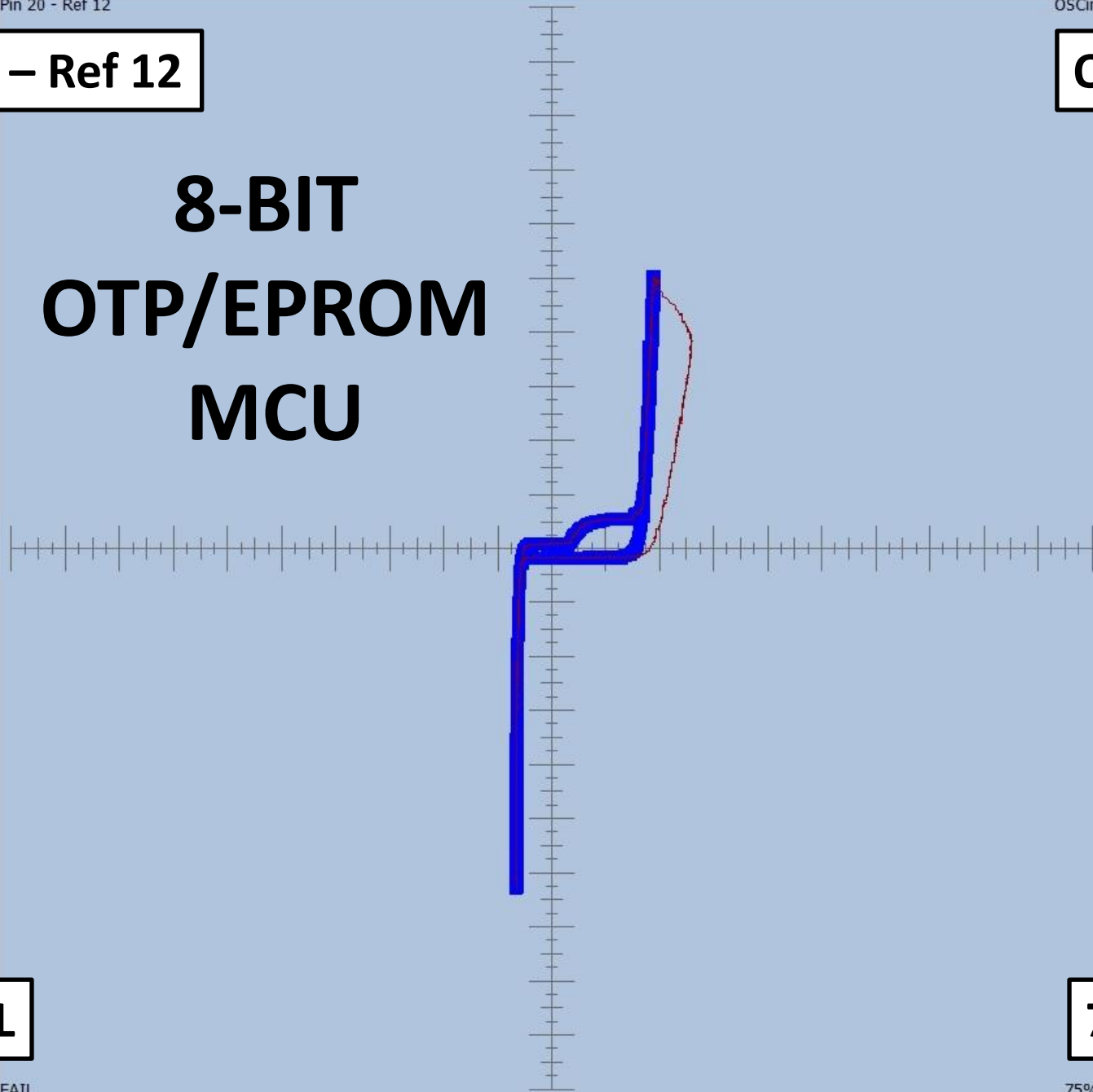
**FAIL**

**69%**

**Pin 20 – Ref 12**

**OSCin**

# 8-BIT OTP/EPROM MCU



**FAIL**

**75%**



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South Yorkshire  
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Fax +44 (0) 1226 207 620  
Website [www.abielectronics.co.uk](http://www.abielectronics.co.uk)

## SENTRY - Component Test Report

### COMPONENT DETAILS

Component Reference : AT27C256\_Normal  
Package : 28 pin DIL wide  
Adapter : 28 pin DIL wide in 48 pin ZIF  
Manufacturer : Atmel

Operator : Administrator  
Date : 19. května 2011  
Time : 02:44 odp.

### Comparison Tolerances

Horizontal Tolerance : 0.1  
Vertical Tolerance : 0.1  
Pin Fail Tolerance : 75  
Pin Suspect Tolerance : 95  
Fail if Fails Tolerance : 5  
Fail if Suspects Tolerance : 15  
Suspect if Fails Tolerance : 3  
Suspect if Fails Tolerance : 10

**0,1% to 5%**

### OVERALL RESULT

# SUSPECT

### IMAGE - Component Under Test

Date :  
Operator :  
Comments :

### IMAGE - Reference Component

Date :  
Operator :  
Comments :

## OVERALL RESULT

# SUSPECT

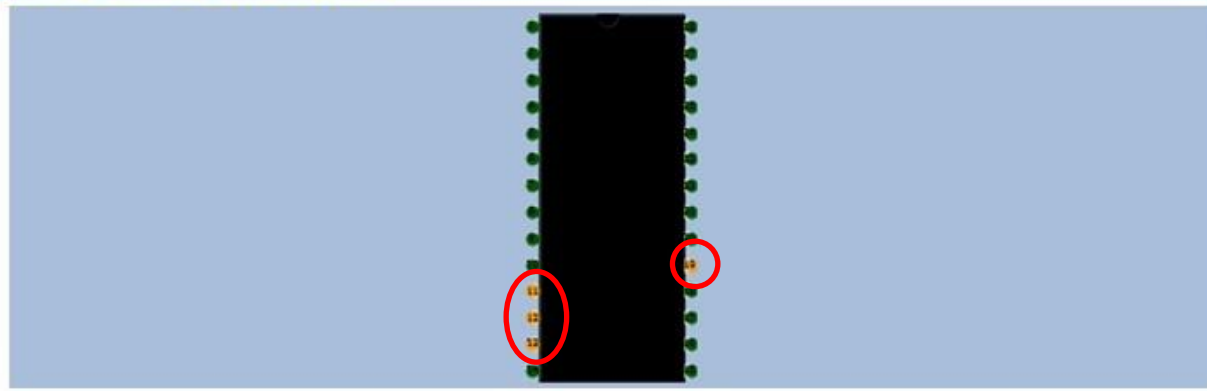
### IMAGE - Component Under Test

### IMAGE - Reference Component

Date :  
Operator :  
Comments :

Date :  
Operator :  
Comments :

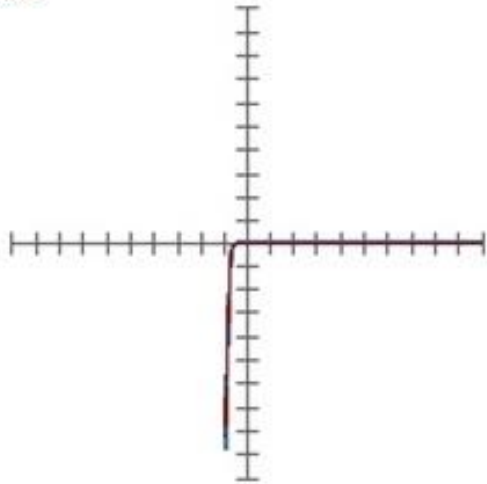
### COMPONENT UNDER TEST



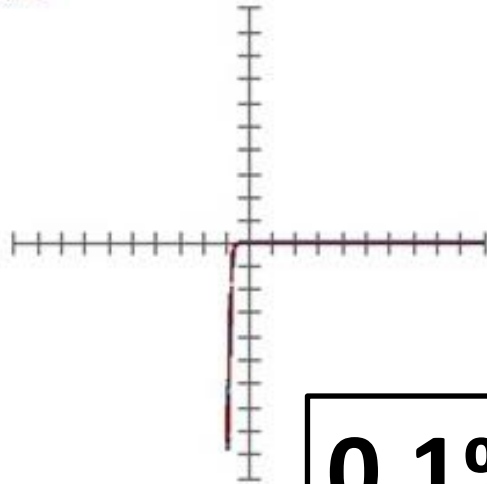
### PIN SUMMARY

Pin 1: 100% SUCCESS	Pin 2: 100% SUCCESS	Pin 3: 99% SUCCESS
Pin 4: 100% SUCCESS	Pin 5: 100% SUCCESS	Pin 6: 100% SUCCESS
Pin 7: 100% SUCCESS	Pin 8: 100% SUCCESS	Pin 9: 100% SUCCESS
Pin 10: 100% SUCCESS	Pin 11: 93% SUSPECT	Pin 12: 95% SUSPECT
Pin 13: 93% SUSPECT	Pin 14: 100% SUCCESS	Pin 15: 99% SUCCESS
Pin 16: 99% SUCCESS	Pin 17: 99% SUCCESS	Pin 18: 99% SUCCESS
Pin 19: 88% SUSPECT	Pin 20: 100% SUCCESS	Pin 21: 100% SUCCESS
Pin 22: 100% SUCCESS	Pin 23: 99% SUCCESS	Pin 24: 100% SUCCESS
Pin 25: 100% SUCCESS	Pin 26: 100% SUCCESS	Pin 27: 100% SUCCESS
Pin 28: 98% SUCCESS		

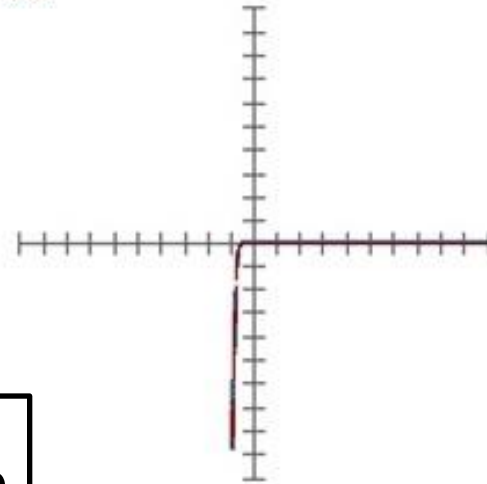
Pin 7: SUCCESS  
A3



Pin 8: SUCCESS  
A2

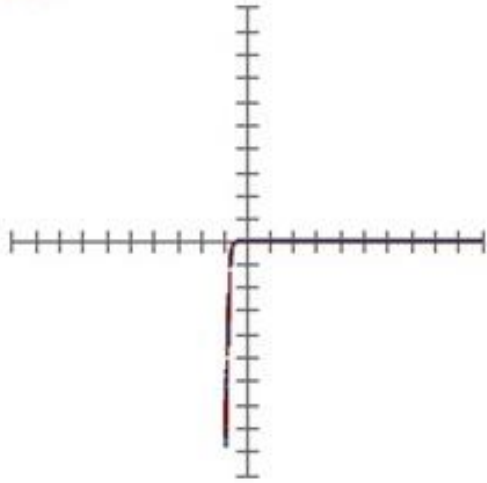


Pin 9: SUCCESS  
A1

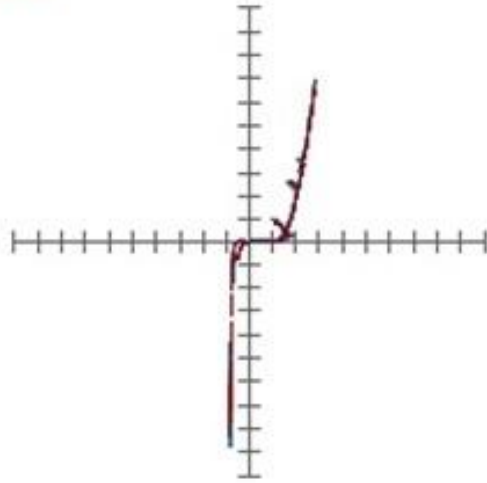


**0,1%**

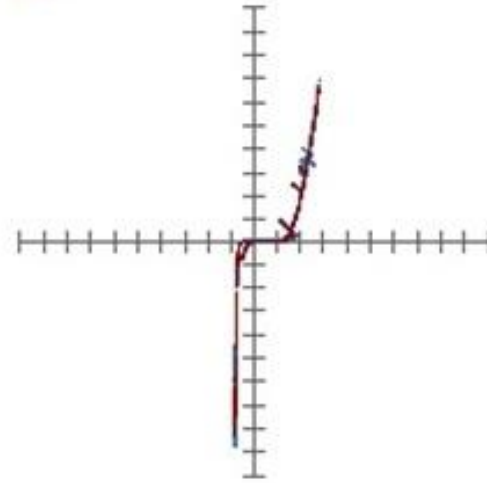
Pin 10: SUCCESS  
A0



Pin 11: SUSPECT  
O0



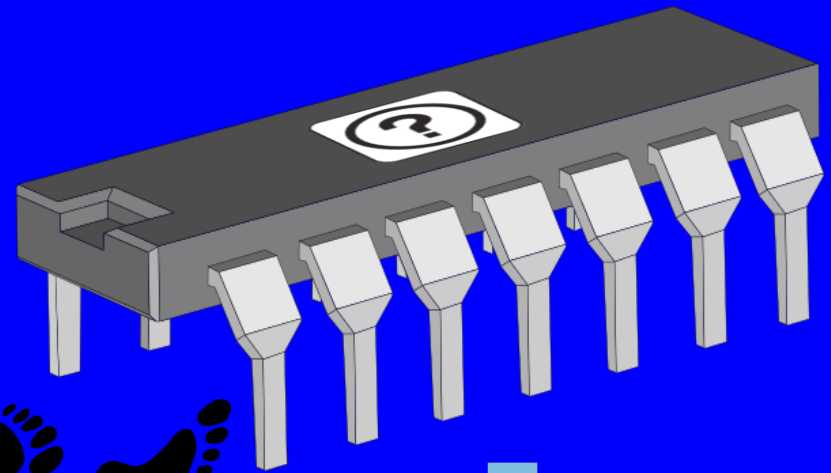
Pin 12: SUSPECT  
O1





Přejeme vám jen výhradně  
autentické otisky...

**AMTEST**  
Test & Measurements



**abi**

We wish you  
exclusively genuine pin prints...