



---

PRODUCT / PROCESS CHANGE NOTIFICATION  
Generic Copy

---

19-DEC-2000

**SUBJECT:** Product/Process Change Notification #10512

**TITLE:** Zener D035/41 Package Piece Parts Change

**EFFECTIVE DATE:** 28-Mar-2001

**AFFECTED CHANGE CATEGORY:** PACKAGE

**AFFECTED PRODUCT DIVISION:** Bipolar Discretes Products Division

**ADDITIONAL RELIABILITY DATA:** None

**SAMPLES:** No

**FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:**

Contact Sales Office or Kim Hyungsup <R16342@onsemi.com>

**DISCLAIMER:**

ON Semiconductor will consider this change approved unless specific conditions of acceptance are provided in writing within 30 days of receipt of this notice. To do so, contact your local ON Semiconductor sales office.

**DESCRIPTION AND PURPOSE:**

ON Semiconductor is pleased to announce that it has qualified two new package piece-parts for Hermetically sealed glass DO-35 and DO-41 Zener diodes. This qualification will allow ON Semiconductor to convert to commercial standard piece parts, designed for DO-35 and DO-41 Zener diodes.

ON Semiconductor continues to make substantial investments in both packages and improve manufacturing capabilities to provide the highest quality and most reliable products in the industry. We believe that these actions will provide the capability to provide a continuous supply of quality. There will be no change to the function of the devices. Device parameters will continue to meet all Data Book specifications, and reliability will continue to meet or exceed ON Semiconductor standards.



Product/Process Change Notification #10512

**QUALIFICATION PLAN:**

Test	Conditions	Exceptions
HTRB	Vr=80% rated, Ta=150degC , 1000 hrs.	
Temp Cycle	Air to Air, -65 to +150 C, 1000 cycles	
Autoclave	Ta=121 C, RH= 100%, PSig=15, 96 hrs.	
H3TRB	Vr=80% rated, Ta=85 C, RH= 85%, 1000 hrs.	
IOL	Ta=25 C, delta Tj =>100 C, 2 minutes on/off, 15000 cycles	
High Temp Storage	150 degC, 1000 hrs.	
D.P.A.	Post H3TRB and Temp Cycle	
Physical Dimension	Per Case Outline Drawing	
Terminal Strength	Force required to separate solder joints	Lead Pull
Res. to Solvents	Verify Marking	Permanency
Res. To Solder Heat	270 C, Td=10s	
Solderability	245 C Td= 5s	
Thermal Resistance	Measure Rjc	

**QUALIFICATION VEHICLE JUSTIFICATION:**

Family	Device	Reason(s) Chosen
Hermetically glass sealed DO-35 Zener Voltage Regulator	1N5231B	Low-voltage, Alloy Junction and Smallest die.
Hermetically glass sealed DO-41 Zener Voltage Regulator	1N4742A	Mid-Voltage and diffused junction.
Hermetically glass sealed DO-41 Zener Voltage Regulator	1N4760A	Highest-voltage, biggest die and biggest package.

**RELIABILITY DATA SUMMARY:**

Interim Reliability Tests, Results : Standard Recovery Products

Test	Interval	1N4742A		1N5231B		1N4760A	
		Control	Qual lot	Control	Qual lot	Control	Qual lot
HTRB	1008 hrs	0/77	0/77	0/77	0/77	0/77	0/77
Temp Cycle	500 cyc	1/77*	1/77*	0/77	0/77	0/77	0/77
Autoclave	96 hrs	0/77	0/77	0/77	0/77	0/77	0/77
H3TRB	1008 hrs	0/77	0/77	0/77	0/77	0/77	0/77
IOL	15000 cyc	0/77	0/77	0/77	0/77	0/77	0/77
High Temp Storage	500 hrs	0/77	0/77	0/77	0/77	0/77	0/77
D.P.A.	-	15Jan01	15Jan01	15Jan01	15Jan01	15Jan01	15Jan01
Physical Dimension	-	15Jan01	15Jan01	15Jan01	15Jan01	15Jan01	15Jan01
Terminal Strength	-	Pass	Pass	Pass	Pass	Pass	Pass
Resist. to Solvents	-	Pass	Pass	Pass	Pass	Pass	Pass
Res. To Solder Heat	-	Pass	Pass	Pass	Pass	Pass	Pass
Solderability	-	Pass	Pass	Pass	Pass	Pass	Pass
Thermal Resistance	-	15Jan01	15Jan01	15Jan01	15Jan01	15Jan01	15Jan01

**RELIABILITY TESTING CONCLUSIONS:**

Reliability Testing shows new package piece parts materials of Glass sleeve and stud-leads meet ON Semiconductor requirements. A copy of the full Reliability Report will be available upon request. \*None of the failures observed during the Reliability Testing were related to the new piece parts. Product analysis was performed on each failure and determined to be assembly process related, with corrective actions implemented.



Product/Process Change Notification #10512

**ELECTRICAL CHARACTERISTIC SUMMARY:**

No significant change in electrical characteristic between control and Qualification group.  
A summary will be available upon request.

**CHANGED PART IDENTIFICATION:**

Customers may receive these products manufactured with change of piece parts materials of Glass sleeve and stud-leads with Date Code 0113 or later.

**ADDITIONAL INFORMATION:**

Contact(s) at ON Semiconductor:

	Americas	Asia-Pacific	Europe
Name	Hyung Kim	Thomas Chan	Nathalie Dunouau
Email	R16342@onsemi.com	Thmas.Chan@onsemi.com	Nathalie.dunouau@onsemi.com
Phone	602 244-4857	852-26890234	33-534611277
Country	USA	Hong Kong	France



Product/Process Change Notification #10512

**AFFECTED DEVICE LIST:**

- PART**  
1N4370ARL  
1N4371ARL  
1N4371ATA  
1N4372ARL  
1N4678  
1N4678RL  
1N4679RL  
1N4680  
1N4685RL  
1N4688RL  
1N4689RL  
1N4690RL  
1N4702TA2  
1N4728A  
1N4728ARL  
1N4728ATA  
1N4729A  
1N4729ARL  
1N4730A  
1N4730ARL  
1N4730ATA  
1N4731A  
1N4731ARL  
1N4732A  
1N4732ARL  
1N4732ATA  
1N4733A  
1N4733ARL  
1N4733ATA  
1N4733DRL  
1N4734A  
1N4734ARL  
1N4735A  
1N4735ARL  
1N4735ATA  
1N4736A  
1N4736ARL  
1N4736ATA  
1N4737A  
1N4737ARL  
1N4737ATA  
1N4738A  
1N4738ARL  
1N4738ATA  
1N4739A  
1N4744A  
1N4744ARL  
1N4744ATA  
1N4745A  
1N4745ARL  
1N4745ATA  
1N4746A  
1N4746ARL  
1N4746ATA  
1N4747A  
1N4747ARL  
1N4747ATA  
1N4748A  
1N4748ARL



1N4748ATA  
1N4749A  
1N4749ARL  
1N4749ATA  
1N4750A  
1N4750ARL  
1N4750ATA  
1N4751A  
1N4751ARL  
1N4751ATA  
1N4752A  
1N4752ARL  
1N4753A  
1N4753ARL  
1N4753ATA  
1N4754A  
1N4754ARL  
1N4754ATA  
1N4755A  
1N4763A  
1N4763ARL  
1N4764ARL  
1N5221B  
1N5221BRL  
1N5222B  
1N5222BRL  
1N5223B  
1N5223BRL  
1N5223BTA2  
1N5224BRL  
1N5225B  
1N5225BRL  
1N5226B  
1N5226BRL  
1N5226C  
1N5227B  
1N5227BRL  
1N5228B  
1N5228BRL  
1N5228BTA  
1N5229B  
1N5229BRL  
1N5230B  
1N5230BRL  
1N5230BTA  
1N5230BTA2  
1N5231B  
1N5231BRA1  
1N5231BRL  
1N5231BTA  
1N5231CRL  
1N5232B  
1N5232BRL  
1N5232BTA  
1N5232CRL  
1N5233B  
1N5233BRL  
1N5233D  
1N5234B  
1N5234BRL  
1N5234BRR1  
1N5234CRL  
1N5235B  
1N5235BRL  
1N5236B  
1N5236BRL



1N5236CRL  
1N5237B  
1N5237BRL  
1N5237BRR1  
1N5237C  
1N5238B  
1N5238BRL  
1N5239B  
1N5239BRL  
1N5239C  
1N5239CRL  
1N5240B  
1N5240BRL  
1N5240CRL  
1N5241B  
1N5241BRL  
1N5241CRL  
1N5242B  
1N5242BRL  
1N5243B  
1N5243BRL  
1N5243BTA  
1N5244B  
1N5244BRL  
1N5245B  
1N5245BRL  
1N5245BTA  
1N5245CRL  
1N5246B  
1N5246BRL  
1N5246CRL  
1N5247B  
1N5247BRL  
1N5248B  
1N5248BRL  
1N5248BTA  
1N5249B  
1N5249BRL  
1N5250B  
1N5250BRL  
1N5251B  
1N5251BRL  
1N5252B  
1N5252BRL  
1N5252BRL2  
1N5252BTA  
1N5253B  
1N5253BRL  
1N5254B  
1N5254BRL  
1N5254BTA  
1N5255B  
1N5255BRL  
1N5256B  
1N5256BRL  
1N5256CRL  
1N5257B  
1N5257BRL  
1N5258B  
1N5258BRL  
1N5259B  
1N5259BRL  
1N5259BTA2  
1N5259CRL  
1N5260B  
1N5260BRL



1N5261B  
1N5261BRL  
1N5262B  
1N5262BRL  
1N5263B  
1N5263BRL  
1N5264BRL  
1N5265B  
1N5265BRL  
1N5266B  
1N5266BRL  
1N5267B  
1N5267BRL  
1N5268B  
1N5269BRL  
1N5270B  
1N5270BRL  
1N5270CRL  
1N5273CRL  
1N6004BRL  
1N746A  
1N746ARL  
1N746ATA  
1N747A  
1N747ARL  
1N748A  
1N748ARL  
1N749A  
1N749ARL  
1N749ATA  
1N749DRL  
1N750A  
1N750ARL  
1N750DRL  
1N751A  
1N751ARL  
1N751ATA  
1N751D  
1N751DRL  
1N752A  
1N752ARL  
1N752ATA  
1N753A  
1N753ARL  
1N753ATA  
1N753DRL  
1N754A  
1N754ARL  
1N755A  
1N755ARL  
1N756A  
1N756ARL  
1N757A  
1N757ARL  
1N758A  
1N758ARL  
1N759A  
1N759ARL  
1N759ATA  
1N961BRL  
1N961BRR1  
1N962BRL  
1N962BTA  
1N963BRL  
1N963BRR1  
1N964BRL



1N965BRL  
1N965BTA  
1N966BRL  
1N966BTA  
1N967BRL  
1N968BRL  
1N969BRL  
1N970BRL  
1N971BRL  
1N971BTA  
1N972BRL  
1N972BTA  
1N973BRL  
1N974BRL  
1N975BRL  
1N979BRL  
1N986BRL  
1N991BRL  
BZX55C10RL  
BZX55C12RL  
BZX55C15RL  
BZX55C2V7RL  
BZX55C3V0RL  
BZX55C3V3RL  
BZX55C3V6RL  
BZX55C3V9RL  
BZX55C4V3RL  
BZX55C4V7RL  
BZX55C5V1RL  
BZX55C5V6RL  
BZX55C6V2RL  
BZX55C6V8RL  
BZX55C7V5RL  
BZX55C8V2RL  
BZX55C9V1RL  
BZX79B6V2RL  
BZX79C10RL  
BZX79C12RL  
BZX79C15RL  
BZX79C16RL  
BZX79C18RL  
BZX79C22RL  
BZX79C24RL  
BZX79C27RL  
BZX79C2V4RL  
BZX79C2V7RL  
BZX79C33RL  
BZX79C3V3RL  
BZX79C3V6RL  
BZX79C3V9RL  
BZX79C4V7RL  
BZX79C5V1RL  
BZX79C5V6RL  
BZX79C6V2RL  
BZX79C6V8RL  
BZX79C7V5RL  
BZX79C8V2RL  
BZX85C10RL  
BZX85C12RL  
BZX85C13RL  
BZX85C15RL  
BZX85C16RL  
BZX85C18RL  
BZX85C22RL  
BZX85C24RL  
BZX85C27RL





BZX85C30RL  
BZX85C33RL  
BZX85C36RL  
BZX85C3V3RL  
BZX85C3V6RL  
BZX85C3V9RL  
BZX85C43RL  
BZX85C47RL  
BZX85C4V3RL  
BZX85C4V7RL  
BZX85C5V1RL  
BZX85C5V6RL  
BZX85C62RL  
BZX85C6V2RL  
BZX85C6V8RL  
BZX85C75RL  
BZX85C7V5RL  
BZX85C82RL  
BZX85C8V2RL  
BZX85C9V1RL  
MZ4615  
MZ4616  
MZ4620  
MZ4620RL  
MZ4624  
MZ4626