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**FINAL PRODUCT/PROCESS CHANGE NOTIFICATION**  
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**25-AUG-2003**

**SUBJECT: ON Semiconductor Final Product/Process Change Notification #13015**

**TITLE: Final Notification for IPCN#12477 - Switching Diode Transfer to ISMF Fab**

**EFFECTIVE DATE: 25-Oct-2003**

**AFFECTED CHANGE CATEGORY:**

**ON Semiconductor Fab Site  
Subcontractor Fab Site  
Die Shrink**

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

**ADDITIONAL RELIABILITY DATA:** Available

Contact your local ON Semiconductor Sales Office or Laura Rivers <S20636@onsemi.com>

**SAMPLES:** Contact your local ON Semiconductor Sales Office  
or Dianne Von Borstel <RPDR20@onsemi.com>

**FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:**

Contact Sales Office or Brenda Cunningham <FFNNMJ@onsemi.com>

**NOTIFICATION TYPE:**

Final Product/Process Change Notification (FPCN)

Final change notification sent to customers. FPCNs are issued at least 60 days prior to implementation of the change.

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:**

This is the second of three FPCNs that will be issued to complete the changes stated in IPCN #12477 - High Frequency, High Voltage NPN Transistors and Switching Diode Transfer from Primarion Fab to ISMF Fab.

This notification applies only to the finished goods affected device list below. The list is comprised of Switching Diodes only. In order to continue to fully support our customer's requirements for Switching Diodes, the fabrication of these devices is being moved from ON Semiconductor's current subcontractor wafer fab, Primarion in Phoenix Arizona to ON Semiconductor's internal wafer fab ISMF in Seremban, Malaysia. The Seremban site is TS16949 and ISO9001:2000 certified. A non-active area die size reduction will take place to optimize our assembly process. Power handling and surge capability will not be affected by this reduction. See data below for verification.



**Final Product/Process Change Notification #13015**

**RELIABILITY DATA SUMMARY:**

Qualification Vehicle: [Qualification by die similarity]  
 BAS16LT1 [Die Qualified in SOT-23 package in SBN, Malaysia, and LPS,China]

Qual Vehicle	Technology	Reason Chosen
BAS16LT1	Switching Diode	Similarity to transferring device, BAS116LT1.

**Device = BAS16LT1**

TEST:	CONDITIONS	INTERVAL	SIZE	FAILURES
A/clave	Ta = 121 deg C, P =15 psig, RH = 100%	0 hrs	231	0
		96 hrs	231	0
TC	Ta = -65/150 deg C, Air to Air Dwell >= 10 min.	0 hrs	231	0
		500 cyc	231	0
		1000 cyc	231	0
H3TRB	Ta = 85 deg C, RH = 85%, VR = 0.8V	0 hrs	231	0
		504 hrs	231	0
		1008 hrs	231	0
HTRB	Ta = 150 deg C, VR = 0.8V	0 hrs	231	0
		504 hrs	231	0
		1008 hrs	231	0
IOL	Ta = 25 deg C, delta Tj => 100 deg C, 2 minutes on/off	0 cyc	231	0
		7500 cyc	231	0
		15000 cyc	231	0
Electro Static Discharge	Human Body Model	N/A	6	Class 1 <2kV
	Machine Model	N/A	6	Class C >400V

**ELECTRICAL CHARACTERISTIC SUMMARY:**

**CHARACTERIZATION DATA SUMMARY:**

BAS116LT1

Temp:	25C	25C	25C	25C	25C
Parameter:	VF1	VF2	VF3	VF4	IR1
Condition:	@IF=1mA	@IF=10mA	@IF=50mA	@IF=150mA	@VR=75V
Max Limit:	9.00E-01	1.00E+00	1.10E+00	1.25E+00	5.00E-12
Min Limit:	--	--	--	--	--

**CONTROL**

Min:	7.57E-01	8.38E-01	9.05E-01	9.78E-01	1.63E-11
Max:	7.62E-01	8.42E-01	9.08E-01	9.83E-01	4.07E-11
Average:	7.59E-01	8.40E-01	9.06E-01	9.81E-01	2.63E-11
Std Dev:	1.05E-03	8.75E-04	7.45E-04	1.33E-03	6.29E-12

**QUAL LOT - A**

Min:	7.55E-01	8.37E-01	8.99E-01	9.63E-01	2.97E-11
Max:	7.58E-01	8.40E-01	9.03E-01	9.74E-01	5.32E-11
Average:	7.57E-01	8.38E-01	9.01E-01	9.68E-01	4.26E-11
Std Dev:	7.54E-04	8.01E-04	1.33E-03	3.51E-03	7.15E-12

**Final Product/Process Change Notification #13015**

## QUAL LOT - B

Min:	7.55E-01	8.38E-01	9.00E-01	9.66E-01	4.37E-11
Max:	7.58E-01	8.40E-01	9.04E-01	9.75E-01	7.19E-11
Average:	7.56E-01	8.39E-01	9.02E-01	9.70E-01	5.56E-11
Std Dev:	8.75E-04	8.13E-04	1.27E-03	2.70E-03	8.24E-12

## QUAL LOT - C

Min:	7.57E-01	8.39E-01	9.00E-01	9.63E-01	2.53E-11
Max:	7.59E-01	8.40E-01	9.03E-01	9.72E-01	5.47E-11
Average:	7.58E-01	8.39E-01	9.02E-01	9.69E-01	4.11E-11
Std Dev:	4.89E-04	4.89E-04	8.94E-04	2.48E-03	7.79E-12

## SURGE DATA SUMMARY:

Parameter	Spec Min.	Control Max	Lot A Max	Lot B Max	Lot C Max
IF (A)	0.2	0.749	0.747	0.557	0.974
IFSM (A)	0.5	2.499	2.537	2.499	2.503

**CHANGED PART IDENTIFICATION:**

No Physical marking change. Beginning with date code 0342, customers may receive units from either site.

**AFFECTED DEVICE LIST (WITHOUT SPECIALS):****PART**

BAS116LT1  
BAV199LT1