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**FINAL PRODUCT/PROCESS CHANGE NOTIFICATION**  
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**31-JUL-2001**

**SUBJECT: ON Semiconductor Product/Process Change Notification #11594**

**TITLE: Final Notification – Phase#2 - Bipolar Power Fab Transfer TLS-BP6 to PHX-BP/ZR Fab**

**EFFECTIVE DATE: 29-Sep-2001**

**AFFECTED CHANGE CATEGORY: On Semiconductor Fab Site**

**AFFECTED PRODUCT DIVISION: Bipolar Discrete Products**

**ADDITIONAL RELIABILITY DATA:** Available  
Contact your local ON Semiconductor Sales Office or Terry Franks <RDMM60@onsemi.com>

**SAMPLES:** Contact your local ON Semiconductor Sales Office or  
Pat Gormley <RYEC60@onsemi.com>

**FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:**  
Contact Sales Office or Jose Ramirez <RVEG40@onsemi.com>

**DISCLAIMER:**  
Initial Product/Process Change Notification (IPCN) - First Notification distributed to customers.  
Distributed at least 120 days from the effective date of the change.

Final Product/Process Change Notification (FPCN) - Final Notification completing the notification process. Distributed at least 60 days from the effective date 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:**  
ON Semiconductor wishes to notify its Customers that the 2nd Phase of the Bipolar Power Wafer Manufacturing Operation Transfer from Toulouse-France to Phoenix-Arizona is taking place as announced in IPCN # 10863, and Product Lines using the Low Voltage Planar Technology will be transferred as indicated. ON Semiconductor continues to make substantial investments in both new technologies and improved manufacturing capabilities to provide you the highest quality and reliability in the Semiconductor industry. We believe these actions will also improve our ability to serve you better in the future.



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**RELIABILITY DATA SUMMARY:**

Interim Reliability Tests results after completion of 504 hrs. Final Reliability Report available after completion of 1000 hours.

Test Desc.	Interval	D44H11				D45H11			
		Lot#1	Lot#2	Lot#3	Control	Lot#1	Lot#2	Lot#3	Control
HTRB	504 hrs	0/77	0/77	0/77	0/77	0/77	0/77	0/77	0/77
H3TRB	504 hrs	0/77	0/77	0/77	0/77	0/77	0/77	0/77	0/77
Autoclave	96 hrs	0/77	0/77	0/77	0/77	0/77	0/77	0/77	0/77
IOL	4286 cyc	0/77	0/77	0/77	0/77	0/77	0/77	0/77	0/77
Temp Cyc	500 cyc	0/77	0/77	0/77	0/77	0/77	0/77	0/77	0/77

**ELECTRICAL CHARACTERISTIC SUMMARY:**

D44H11 Test		IEBO	ICBO	ICES	BVCEO	HFE	HFE	VBE(sat)	VCE(sat)
Group	Cond1					Ic=2A	Ic=4A	Ic=8A	Ic=8A
	Cond2	Vbe=5V	Vce=100V	Vce=100V	Ic=30mA	Vce=1V	Vce=1V	Ib=0.8A	Ib=0.4A
	Limit=	<100uA	<10uA	<10uA	>80V	>60	>40	<1.5V	<1.0V
	Mean	2.1 E-9	2.3 E-8	1.4 E-7	104.2	276.1	181.3	0.998	0.235
Lot #1	StDev	5.4 E-9	5.6 E-8	5.7 E-7	1.9	39.8	17.3	0.002	0.003
	Cpk	616		5.8	4.2	1.81	2.72	87.1	93.7
	Mean	6.4 E-9	1.5 E-8	1.3 E-8	113.0	224.2	149.9	1.003	0.242
Lot #2	StDev	1.9 E-8	5.1 E-8	3.9 E-8	6.3	43.4	22.0	0.002	0.003
	Cpk	180		85.3	1.8	1.26	1.67	69.2	87.2
	Mean	3.6 E-9	9.3 E-9	1.2 E-8	111.6	210.4	141.9	1.004	0.248
Lot #3	StDev	6.8 E-9	1.4 E-8	1.6 E-8	5.2	41.6	18.4	0.003	0.004
	Cpk	487		203.0	2.0	1.20	1.84	61.0	71.3
	Mean	3.3 E-10	2.6 E-10	2.1 E-8	113.8	203.1	135.7	1.010	0.385
Control	StDev	1.2 E-10	2.9 E-10	1.1 E-7	4.4	24.6	11.9	0.003	0.008
	Cpk	27201		30.1	2.6	1.94	2.68	66.3	26.1
D45H11 Test		IEBO	ICBO	ICES	BVCEO	HFE	HFE	VBE(sat)	VCE(sat)
Group	Cond1					Ic=2A	Ic=4A	Ic=8A	Ic=8A
	Cond2	Vbe=5V	Vce=100V	Vce=100V	Ic=30mA	Vce=1V	Vce=1V	Ib=0.8A	Ib=0.4A
	Limit=	<100uA	<10uA	<10uA	>80V	>60	>40	<1.5V	<1.0V
	Mean	3.5 E-10	2.8 E-09	2.8 E-09	116.7	119.3	85.8	1.0645	0.0140
Lot #1	StDev	1.5 E-10	3.2 E-09	2.9 E-09	4.8	4.0	4.0	0.0036	0.4612
	Cpk	22620		1167	2.55	4.97	3.82	40.2	12.8
	Mean	2.9 E-10	9.4 E-10	2.5 E-07	118.9	113.8	82.0	1.0683	0.4754
Lot #2	StDev	9.4 E-11	1.0 E-10	1.2 E-06	4.6	5.1	4.1	0.0050	0.0270
	Cpk	35558		2.4	2.80	3.48	3.42	28.7	6.5
	Mean	2.6 E-10	1.3 E-09	1.4 E-09	118.1	103.8	75.8	1.0670	0.4880
Lot #3	StDev	9.9 E-11	1.8 E-10	2.4 E-10	4.4	3.6	3.0	0.0035	0.0212
	Cpk	33600		14178	2.91	4.07	3.99	41.5	8.0
	Mean	4.0 E-11	6.0 E-10	6.1 E-10	109.7	123.3	92.0	1.0669	0.3621
Control	StDev	9.7 E-12	2.0 E-10	2.0 E-10	3.3	14.0	9.3	0.0028	0.0097
	Cpk	345216		16902	2.97	1.51	1.87	50.7	21.8

**CHANGED PART IDENTIFICATION:**

Customers may receive Bipolar Power Low Voltage Planar Products with the silicon Chip manufactured at the Phoenix BP/ZR Fab starting with product marked with Date Code 0140.

**Product/Process Change Notification #11594****ADDITIONAL INFORMATION:**

Contact(s) at ON Semiconductor :

	<u>Americas</u>	<u>Europe</u>
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Phone	(602) 244 - 4819	33534611194
Country	USA	France

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

2N5038  
2N5655  
2N5657  
2N6338  
2N6341  
BD135  
BD136  
BD137  
BD138  
BD139  
BD140  
BD159  
BD785  
BD787  
BD788  
BD791  
BD791T  
BU406  
BU407  
BUV20  
BUV21  
BUV22  
BUV26  
BUV27  
BUV60  
D44C12  
D44H11  
D44H8  
D44VH10  
D45C12  
D45H11  
D45H8  
D45VH10  
MJ15020  
MJ15021  
MJB44H11  
MJB44H11T4  
MJB45H11  
MJB45H11T4  
MJD200  
MJD200-001  
MJD200RL  
MJD200T4  
MJD210  
MJD210RL

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MJD210T4  
MJD243  
MJD243-001  
MJD243T4  
MJD253  
MJD253-001  
MJD253T4  
MJD340  
MJD340RL  
MJD340T4  
MJD350  
MJD350T4  
MJD44E3T4  
MJD44H11  
MJD44H11-001  
MJD44H11RL  
MJD44H11T4  
MJD44H11T5  
MJD45H11  
MJD45H11-001  
MJD45H11RL  
MJD45H11T4  
MJD5731T4  
MJE15028  
MJE15029  
MJE15030  
MJE15031  
MJE15032  
MJE15033  
MJE170  
MJE171  
MJE172  
MJE180  
MJE181  
MJE182  
MJE200  
MJE210  
MJE210T  
MJE243  
MJE253  
MJE270  
MJE271  
MJE340  
MJE3439  
MJE344  
MJE350  
MJE5730  
MJE5731  
MJE5731A  
MJE5850  
MJE5851  
MJE5852  
MJEC15030WP  
MJEC15031WP  
MJEC340WP  
MJEC350WP



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MJEC44H11WP  
MJF15030  
MJF15031  
MJF44H11  
MJF45H11  
MMDJ3N03BJTR2  
MMDJ3P03BJTR2  
MMJT350T1  
MMJT350T3  
MMJT9410T1  
MMJT9435T1  
MMJT9435T3