ON Semiconductor

FINAL PRODUCT/PROCESS CHANGE NOTIFICATION
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28-JUN-2002

SUBJECT: ON Semiconductor Final Product/Process Change Notification #12475

TITLE: Final Notification - Motorola BMC to TESLA: MC33161, TL431B, MC33166, NCP1117 SERIES

EFFECTIVE DATE: 27-Aug-2002

AFFECTED CHANGE CATEGORY: On Semiconductor Fab Site

AFFECTED PRODUCT DIVISION: Analog Products

ADDITIONAL RELIABILITY DATA: Available
Contact your local ON Semiconductor Sales Office or Joe Duffalo <FFBH9W @onsemi.com>

SAMPLES: Contact your local ON Semiconductor Sales Office or
Alan Garlington <RPR180@onsemi.com>

FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:
Contact Sales Office or Alan Garlington <RPR180 @onsemi.com>

DISCLAIMER:
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:
This is a Final PCN (Product Change Notice) to notify customers of the qualification of certain Analog devices being transferred to the Tesla Wafer Fab in the Czech Republic. An initial PCN (# 11528) was published on 19 July 2001 providing information on all the devices being transferred and the overall scope of the program.

The devices listed below have been fully qualified and are now ready to transfer to Tesla from the Motorola BMC wafer fab. The existing design database in use at BMC was transferred to Tesla with no change to the to the functional circuit design. No change in the device functionality nor electrical distributions have been found but it is recommended that customers evaluate the devices in their applications to insure proper operation.

Samples are available upon request. At the expiration of this PCN (60 Days), fabrication of these devices will occur at either the Tesla Wafer Fab or the BMC Fab depending on capacity and demand requirements.

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RELIABILITY DATA SUMMARY:

Technology	Flow	Device Types	Fab	Test	Conditions		Rej	Sample Size
Std Linear	EPI 85/92	MC33033P	Tesla	HTOL	150C;Biased	1008 Hrs	0	240
Std Linear	EPI 85/92	MC33033P	Tesla	TC	-65C to +150C	1000 Cyc	0	240
Std Linear	EPI 85/92	MC33033P	Tesla	HTS	150C; No Bias	1008 Hrs	0	80
Std Linear	EPI 85/92	MC33033P	Tesla	AC	121C; 100% RH	144 Hrs	0	240
Std Linear	EPI 85/92	MC33064D	Tesla	HTOL	150C; Biased	1008 Hrs	0	240
Std Linear	EPI 85/92	MC33064D	Tesla	TC	-65C to +150C	1000 Cyc	0	240
Std Linear	EPI 85/92	MC33064D	Tesla	HTS	150C; No Bias	1008 Hrs	0	80
Std Linear	EPI 85/92	MC33064D	Tesla	AC	121C; 100% RH	144 Hrs	0	240
Std Linear	Epi 85 DL	MC44603A	Tesla	HTOL	125C; Biased	1000 Hr	0	231
Std Linear	Epi 85 DL	MC44603A	Tesla	TC	-65C to +150C	500 Cyc	0	231
Std Linear	Epi 85 DL	MC44603A	Tesla	AC	121C;100%RH;15psi	96Hrs	0	231
Std Linear	Epi 85 DL	MC44603A	Tesla	HAST	130C;85%RH biased	96Hrs	0	231
Std Linear	Epi 78/79	MC1413D	Tesla	HTOL	150C; Biased	1008 Hrs	0	154
Std Linear	Epi 78/79	MC1413	Tesla	TC	-65C to +150C	500 Cyc	0	154
Std Linear	Epi 78/79	MC1413	Tesla	AC	121C; 100% RH	96 Hrs	0	154
Std Linear	Epi 78/79	MC1413	Tesla	HAST	130C;85%RH;Biased	96 Hrs	0	154
Std Linear	Epi 78/79	MC1413	Tesla	THB	85C;85%RH;Biased	1008 Hrs	0	154
Std Linear	Epi 78/79	MC1413	Tesla	HTS	150C;No Bias	1008 Hrs	0	154
Std Linear	Epi 78/79	MC33079P	Tesla	HTOL	150C; Biased	1008 Hrs	0	240
Std Linear	Epi 78/79	MC33079P	Tesla	TC	-65C to +150C	1000 Cyc	0	240
Std Linear	Epi 78/79	MC33079P	Tesla	HTS	150C; No Bias	1008 Hrs	0	240
Std Linear	Epi 78/79	MC33079P	Tesla	AC	121C; 100% RH	96 Hrs	0	240
Std Linear	Epi 78/79	MC33079P	Tesla	HAST	130C;85%RH;Biased	96 Hrs	0	240
Std Linear	Epi 78/79	MC33079P	Tesla	THB	85C;85%RH;Biased	1008 Hrs	0	240
Std Linear	Epi 78/79	UC3843AN	Tesla	HTOL	150C; Biased	1008 Hrs	0	240
Std Linear	Epi 78/79	UC3843AN	Tesla	TC	-65C to +150C	1000 Cyc	0	240
Std Linear	Epi 78/79	UC3843AN	Tesla	HTS	150C; No Bias	1008 Hrs	0	240
Std Linear	Epi 78/79	UC3843AN	Tesla	AC	121C; 100% RH	96 Hrs	0	240
Std Linear	Epi 78/79	UC3843AN	Tesla	HAST	130C;85%RH;Biased	96 Hrs	0	240
Std Linear	Epi 78/79	UC3843AN	Tesla	THB	85C;85%RH;Biased	1008 Hrs	0	240
Std Linear	Epi 44	MC33269T	Tesla	HTOL	125C; Biased	504 Hrs	0	231
Std Linear	Epi 44	MC33269T	Tesla	TC	-65C to +150C	500 Cyc	0	77
Std Linear	Epi 44	TL431BCP	Tesla	HTOL	150C; Biased	504 Hrs	0	80
Std Linear	Epi 44	TL431BCP	Tesla	TC	-65C to +150C	500 Cyc	0	80
Std Linear	Epi 44	MC33161P	Tesla	HTOL	150C; Biased	504 Hrs	0	70

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ELECTRICAL CHARACTERISTIC SUMMARY:

MC33161 -- 1 lot Characterization data, Major parameters

Parameter	Unit	Mean	S.D.	Min.	Max.	Specification Min.	Max.
Vth	V	1.265	0.003	1.26	1.27	1.245	1.295
Vth Hysteresis	mV	26.65	0.334	23.936	25.164	15.	35.
IIb (Vin = 1 v)	na	36.713	2.38	33.354	40.025		200.
Mode Select Vth-Ch 1 Value + Vref	V	0.224	0.002	0.218	0.229	0.15	0.3
Mode Select Vth-Ch 2	V	0.598	0.005	0.589	0.609	0.3	0.9
Vref(Io=0ma;Vcc = 5v)	V	2.535	0.007	2.516	2.55	2.48	2.6
Load Reg(Io=0-2ma)	mV	2.642	0.288	2.036	3.551		15.
Line Reg(Vcc = 4-40v)	mV	2.378	0.389	1.254	3.134		15.
Short Circuit Current-ISC	mA	8.029	0.054	7.932	8.167		30.

MC33166 -- 1 lot Characterization data, Major parameters

Parameter	Unit	Mean	S.D.	Min.	Max.	Specification Min.	Max.
VRef	V	5.049	0.024	4.999	5.103	4.95	5.15
Oscillator frequency	KHZ	72.54	1.105	70.8	75.0	65	79
UVLO	V	5.922	0.051	5.8	6.0	5.5	6.3
I limit (at 12 Volt)	A	4.21	0.091	4.03	4.47	3.3	6.0
Rise Time	nS	64.3	4.75	53.7	73.7		200
Fall Time	nS	24.0	1.82	19.7	27.7		100

TL431B -- 1 lot Characterization data, Major parameters

Parameter	Unit	Mean	S.D.	Min.	Max.	Specification Min.	Max.
VRef	V	2.497	0.003	2.489	2.5	2.483	2.507
Iref (Ik=10ma)	ua	1.661	0.04	1.598	1.739	0.1	2.
Ioff(Vka=36v;Vref=0)	na	23	3	18.	28.		500.
Dynamic Impedance(Zka) Vka = Vref; f<1KHz; Ik = 1-100ma)	ohm	0.167	0.008	0.155	0.19		0.3

NCP1117 (adjustable version) -- 1 lot Characterization data, Major parameters

Parameter	Unit	Mean	S.D.	Min.	Max.	Specification Min.	Max.
Vout(at Vin 2.65Volt)	V	1.249	0.002	1.245	1.253	1.225	1.27
Dropout(Iout =800ma)	V	1.052	0.003	1.029	1.057		1.2
Iout max(Vin=6.25Volt)	A	1.22	0.016	1.17	1.28	1.0	
Iq (Vin=6.25Volt)	UA	51.5	0.77	49.1	53.2		120
Line regulation	mV	0.29	0.11	0.10	0.60		1.25
Load regulation	mV	2.71	0.075	2.5	2.9		3.0

CHANGED PART IDENTIFICATION:
Normal assembly lot traceability codes can be used to identify the wafer fab source.

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AFFECTED DEVICE LIST (WITHOUT SPECIALS):

PART

FMC33161DR2
MC33161D
MC33161DMR2
MC33161DR2
MC33161P
MC33166D2T
MC33166D2TR4
MC33166T
MC33166TH
MC33166TV
MC33269ST-3.3T3
MC34161D
MC34161DMR2
MC34161DR2
MC34161P
MC34166D2T
MC34166D2TR4
MC34166T
MC34166TH
MC34166TV
MC34268STT3
MCW34161
NCP1117DT12
NCP1117DT12RK
NCP1117DT15
NCP1117DT15RK
NCP1117DT18
NCP1117DT18RK
NCP1117DT20
NCP1117DT20RK
NCP1117DT25
NCP1117DT25RK
NCP1117DT285
NCP1117DT285RK
NCP1117DT33
NCP1117DT33RK
NCP1117DT50
NCP1117DT50RK
NCP1117DTA
NCP1117DTARK
NCP1117ST12T3
NCP1117ST15T3
NCP1117ST18T3
NCP1117ST20T3
NCP1117ST25T3
NCP1117ST285T3
NCP1117ST33T3
NCP1117ST50T3
NCP1117STAT3
SC34166TV
TL431ACDMR2

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TL431AIDMR2
TL431BCD
TL431BCDMR2
TL431BCDR2
TL431BCLP
TL431BCLPRA
TL431BCLPRE
TL431BCLPRM
TL431BCP
TL431BID
TL431BIDMR2
TL431BIDR2
TL431BILP
TL431BILPRA
TL431BIP
TL431BVD
TL431BVDMR2
TL431BVLP
TL431BVP
TL431CDMR2
TL431IDMR2
TLW431B