ON Semiconductor

FINAL PRODUCT/PROCESS CHANGE NOTIFICATION #16445

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07-Apr-2010

TITLE: Final Notification Goodark Qualification of Axial-Lead Products

PROPOSED FIRST SHIP DATE: 07-Jul-2010

AFFECTED CHANGE CATEGORY(S): Wafer, Assembly, & Test Site

FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:
Contact your local ON Semiconductor Sales Office or
Rectifier Devices - Mike Schager < mike.schager@onsemi.com >
Zener/TVS & Thyristor Devices - Eben Lim < eben.lim@onsemi.com >

SAMPLES: Contact your local ON Semiconductor Sales Office
Rectifier Devices - Mike Schager < mike.schager@onsemi.com >
Zener/TVS & Thyristor Devices - Eben Lim < eben.lim@onsemi.com >

ADDITIONAL RELIABILITY DATA: Available
Contact your local ON Semiconductor Sales Office or Laura Rivers< laura.rivers@onsemi.com >

NOTIFICATION TYPE:

Final Product/Process Change Notification (FPCN)

Final change notification sent to customers. FPCNs are issued at least 90 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 <quality@onsemi.com>.

DESCRIPTION AND PURPOSE:

ON Semiconductor has qualified Goodark Electronics Co. Ltd for halide-free Axial-Lead devices in the following technologies: OJR/Schottky Rectifiers; Zeners/TVS; Thyristors. Goodark is located in Suzhou, China and is TS16949, ISO-9001 and ISO-14001 certified.

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RELIABILITY DATA SUMMARY:

Devices selected with highest voltages and largest die sizes.

Reliability Test Results:

Test	Condition	Interval	Results
HTRB	TA=100C,80% Rated Voltage	504 hrs	0/240
Autoclave	Ta=121C RH=100% ~15 psig	96 hrs	0/240
H3TRB	Ta=85C RH=85% bias=80% rated V or100V Max	504 hrs	0/240
IOL	Ta=25C, Delta TJ = 100 C, Ton/off = 2 min.	7500 cyc	0/240
TC	Ta= -65 C to 150 C	500 cyc	0/240
RSH	Ta=260C, 10 sec dwell		0/90
SD	Ta = 245, 10 sec dwell		0/66
Resistance to Solvents	Marking Perm per JESD22 B107		0/90
Terminal Strength	MIL STD 750 Method 2036		0/135

MBR3100RLG Rectifier Schottky

Test	Condition	Interval	Results
HTRB	TA=150C,80% Rated Voltage	1008 hrs	0/80
Autoclave	Ta=121C RH=100% ~15 psig	96 hrs	0/80
H3TRB	Ta=85C RH=85% bias=80% rated V or100V Max	1008 hrs	0/80
IOL	Ta=25C, Delta TJ = 100 C, Ton/off = 2 min.	15000 cyc	0/80
TC	Ta= -65 C to 150 C	1000 cyc	0/80
RSH	Ta=260C, 10 sec dwell		0/80
SD	Ta = 245, 10 sec dwell		0/30
Resistance to Solvents	Marking Perm per JESD22 B107		0/10
Terminal Strength	MIL STD 750 Method 2036		0/15
DPA	post H3TRB		0/2

1.5KE91ARL4G Zener Mosorb

Test	Condition	Interval	Results
HTRB	TA=150C,80% Rated Voltage	1008 hrs	0/160
Autoclave	Ta=121C RH=100% ~15 psig	96 hrs	0/160
H3TRB	Ta=85C RH=85% bias=80% rated V or100V Max	1008 hrs	0/160
IOL	Ta=25C, Delta TJ = 100 C, Ton/off = 2 min.	15000 cyc	0/160
TC	Ta= -65 C to 150 C	1000 cyc	0/160
RSH	Ta=260C, 10 sec dwell		0/160
SD	Ta = 245, 10 sec dwell		0/60
Resistance to Solvents	Marking Perm per JESD22 B107		0/20
Terminal Strength	MIL STD 750 Method 2036		0/30

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SA36ARLG Zener Mosorb

Test	Condition	Interval	Results
HTRB	TA=150C,80% Rated Voltage	1008 hrs	0/80
Autoclave	Ta=121C RH=100% ~15 psig	96 hrs	0/80
H3TRB	Ta=85C RH=85% bias=80% rated V or100V Max	1008 hrs	0/80
IOL	Ta=25C, Delta TJ = 100 C, Ton/off = 2 min.	15000 cyc	0/80
TC	Ta= -65 C to 150 C	1000 cyc	0/80
RSH	Ta=260C, 10 sec dwell		0/80
SD	Ta = 245, 10 sec dwell		0/30
Resistance to Solvents	Marking Perm per JESD22 B107		0/10
Terminal Strength	MIL STD 750 Method 2036		0/15

P6KE200ARLG Zener TVS

Test	Condition	Interval	Results
HTRB	TA=150C,80% Rated Voltage	1008 hrs	0/80
Autoclave	Ta=121C RH=100% ~15 psig	96 hrs	0/80
H3TRB	Ta=85C RH=85% bias=80% rated V or100V Max	1008 hrs	0/80
IOL	Ta=25C, Delta TJ = 100 C, Ton/off = 2 min.	15000 cyc	0/80
TC	Ta= -65 C to 150 C	1000 cyc	0/80
RSH	Ta=260C, 10 sec dwell		0/80
SD	Ta = 245, 10 sec dwell		0/30
Resistance to Solvents	Marking Perm per JESD22 B107		0/10
Terminal Strength	MIL STD 750 Method 2036		0/15

1N5913BRLG Zener Regulator

Test	Condition	Interval	Results
HTRB	TA=150C,80% Rated Voltage	1008 hrs	0/80
Autoclave	Ta=121C RH=100% ~15 psig	96 hrs	0/80
H3TRB	Ta=85C RH=85% bias=80% rated V or100V Max	1008 hrs	0/80
IOL	Ta=25C, Delta TJ = 100 C, Ton/off = 2 min.	15000 cyc	0/80
TC	Ta= -65 C to 150 C	1000 cyc	0/80
RSH	Ta=260C, 10 sec dwell		0/80
SD	Ta = 245, 10 sec dwell		0/30
Resistance to Solvents	Marking Perm per JESD22 B107		0/10
Terminal Strength	MIL STD 750 Method 2036		0/15

1N5956BRLG Zener Regulator

Test	Condition	Interval	Results
HTRB	TA=150C,80% Rated Voltage	1008 hrs	0/160
Autoclave	Ta=121C RH=100% ~15 psig	96 hrs	0/160
H3TRB	Ta=85C RH=85% bias=80% rated V or100V Max	1008 hrs	0/160
IOL	Ta=25C, Delta TJ = 100 C, Ton/off = 2 min.	15000 cyc	0/160
TC	Ta= -65 C to 150 C	1000 cyc	0/160
RSH	Ta=260C, 10 sec dwell		0/160
SD	Ta = 245, 10 sec dwell		0/60
Resistance to Solvents	Marking Perm per JESD22 B107		0/20
Terminal Strength	MIL STD 750 Method 2036		0/30

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MKP3V240RLG Thyristor Sidac

Test	Condition	Interval	Results
HTRB	TA=100C,80% Rated Voltage	1008 hrs	0/80
Autoclave	Ta=121C RH=100% ~15 psig	96 hrs	0/80
H3TRB	Ta=85C RH=85% bias=80% rated V or100V Max	1008 hrs	0/80
IOL	Ta=25C, Delta TJ = 100 C, Ton/off = 2 min.	15000 cyc	0/80
TC	Ta= -65 C to 150 C	1000 cyc	0/80
RSH	Ta=260C, 10 sec dwell		0/30
SD	Ta = 245, 10 sec dwell		0/15
Resistance to Solvents	Marking Perm per JESD22 B107		0/10
Terminal Strength	MIL STD 750 Method 2036		0/15

ELECTRICAL CHARACTERISTIC SUMMARY:

There are no changes in electrical characteristics and product performance meets data sheet specifications.

CHANGED PART IDENTIFICATION:

Devices from Goodark, identified with GA site code marking, may be produced starting with date code 1026.

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List of affected General Parts:

1.5KE10AG	1N4005G	1N5350BG	1N5377BRLG	1N5921BRLG
1.5KE10ARL4G	1N4005RLG	1N5350BRLG	1N5378BG	1N5923BRLG
1.5KE11ARL4G	1N4006FFG	1N5351BG	1N5378BRLG	1N5924BRLG
1.5KE12ARL4G	1N4006G	1N5351BRLG	1N5380BG	1N5925BRLG
1.5KE13ARL4G	1N4006RLG	1N5352BG	1N5380BRLG	1N5927BG
1.5KE15AG	1N4007FFG	1N5352BRLG	1N5381BRLG	1N5927BRLG
1.5KE15ARL4G	1N4007G	1N5353BG	1N5383BG	1N5929BG
1.5KE16AG	1N4007RLG	1N5353BRLG	1N5383BRLG	1N5929BRLG
1.5KE16ARL4G	1N4933G	1N5354BG	1N5384BG	1N5931BRLG
1.5KE18AG	1N4933RLG	1N5354BRLG	1N5384BRLG	1N5932BRLG
1.5KE18ARL4G	1N4934G	1N5355BG	1N5386BG	1N5934BG
1.5KE20AG	1N4934RLG	1N5355BRLG	1N5386BRLG	1N5934BRLG
1.5KE20ARL4G	1N4935G	1N5356BRLG	1N5387BRLG	1N5935BRLG
1.5KE24ARL4G	1N4935RLG	1N5357BG	1N5388BG	1N5937BRLG
1.5KE27AG	1N4936G	1N5357BRLG	1N5388BRLG	1N5938BRLG
1.5KE27ARL4G	1N4936RLG	1N5358BG	1N5400G	1N5940BRLG
1.5KE30AG	1N4937G	1N5358BRLG	1N5400RLG	1N5941BRLG
1.5KE30ARL4G	1N4937RLG	1N5359BG	1N5401G	1N5942BRLG
1.5KE33AG	1N5333BG	1N5359BRLG	1N5401RLG	1N5946BRLG
1.5KE33ARL4G	1N5333BRLG	1N5360BG	1N5402G	1N5948BRLG
1.5KE36AG	1N5334BRLG	1N5360BRLG	1N5402RLG	1N5952BRLG
1.5KE36ARL4G	1N5335BG	1N5361BG	1N5404G	1N5953BG
1.5KE39ARL4G	1N5335BRLG	1N5361BRLG	1N5404RLG	1N5953BRLG
1.5KE43AG	1N5336BG	1N5362BG	1N5406G	1N5955BRLG
1.5KE43ARL4G	1N5336BRLG	1N5362BRLG	1N5406RLG	1N5956BG
1.5KE47AG	1N5337BG	1N5363BG	1N5407G	1N5956BRLG
1.5KE47ARL4G	1N5337BRLG	1N5363BRLG	1N5407RLG	1N6267AG
1.5KE51ARL4G	1N5338BG	1N5364BG	1N5408G	1N6267ARL4G
1.5KE56AG	1N5338BRLG	1N5364BRLG	1N5408RLG	1N6271AG
1.5KE56ARL4G	1N5339BG	1N5365BG	1N5817G	1N6274AG
1.5KE6.8AG	1N5339BRLG	1N5365BRLG	1N5817RLG	1N6275AG
1.5KE6.8ARL4G	1N5340BG	1N5366BG	1N5818G	1N6275ARL4G
1.5KE62AG	1N5340BRLG	1N5366BRLG	1N5818RLG	1N6276AG
1.5KE62ARL4G	1N5341BG	1N5367BG	1N5819G	1N6276ARL4G
1.5KE68AG	1N5341BRLG	1N5367BRLG	1N5819RLG	1N6277AG
1.5KE68ARL4G	1N5342BG	1N5368BG	1N5820G	1N6277ARL4G
1.5KE7.5AG	1N5342BRLG	1N5368BRLG	1N5820RLG	1N6278AG
1.5KE75ARL4G	1N5343BG	1N5369BG	1N5821G	1N6278ARL4G
1.5KE8.2AG	1N5343BRLG	1N5369BRLG	1N5821RLG	1N6279AG
1.5KE82ARL4G	1N5344BG	1N5370BG	1N5822G	1N6280ARL4G
1.5KE9.1ARL4G	1N5344BRLG	1N5370BRLG	1N5822RLG	1N6281AG
1.5KE91ARL4G	1N5345BRLG	1N5371BRLG	1N5908G	1N6282AG
1N4001G	1N5346BG	1N5372BG	1N5908RL4G	1N6282ARL4G
1N4001RLG	1N5346BRLG	1N5372BRLG	1N5913BRLG	1N6283AG
1N4002G	1N5347BG	1N5373BG	1N5917BRLG	1N6283ARL4G
1N4002RLG	1N5347BRLG	1N5373BRLG	1N5919BG	1N6284AG
1N4003G	1N5348BG	1N5374BG	1N5919BRLG	1N6284ARL4G
1N4003RLG	1N5348BRLG	1N5374BRLG	1N5920BG	1N6285AG
1N4004G	1N5349BG	1N5375BG	1N5920BRLG	1N6285ARL4G
1N4004RLG	1N5349BRLG	1N5375BRLG	1N5921BG	1N6286AG

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1N6287AG	MKP1V160RL	P6KE13AG	SA17ARLG
1N6287ARL4G	MKP1V160RLG	P6KE13ARLG	SA18ARLG
1N6288AG	MKP1V240	P6KE150AG	SA20ARLG
1N6288ARL4G	MKP1V240G	P6KE150ARLG	SA24AG
1N6289ARL4G	MKP1V240RLG	P6KE15AG	SA24ARLG
1N6290AG	MKP3V120	P6KE15ARLG	SA26ARLG
1N6290ARL4G	MKP3V120G	P6KE160ARLG	SA28ARLG
1N6291AG	MKP3V120RLG	P6KE16ARLG	SA30ARLG
1N6291ARL4G	MKP3V240	P6KE180ARLG	SA33ARLG
1N6292AG	MKP3V240G	P6KE18AG	SA36AG
1N6292ARL4G	MKP3V240RL	P6KE18ARLG	SA36ARLG
1N6294ARL4G	MKP3V240RLG	P6KE200AG	SA5.0AG
1N6373G	MKP9V160RL	P6KE200ARLG	SA5.0ARLG
1N6373RL4G	MKP9V160RLG	P6KE20ARLG	SA6.0AG
1N6376G	MR851G	P6KE22ARLG	SA6.0ARLG
1N6376RL4G	MR851RLG	P6KE24AG	SA7.0ARLG
1N6377G	MR852G	P6KE24ARLG	SZ1N5333BG
1N6377RL4G	MR852RLG	P6KE27ARLG	SZ1N5333BRLG
1N6380G	MR854G	P6KE30AG	SZ1N5336BG
1N6380RL4G	MR854RLG	P6KE30ARLG	SZ1N5336BRLG
1N6381G	MR856G	P6KE33AG	SZ1N5337BG
3EZ13D5G	MR856RLG	P6KE33ARLG	SZ1N5338BG
3EZ13D5RLG	MZP4729ARLG	P6KE36AG	SZ1N5338BRLG
3EZ16D5RLG	MZP4735ARLG	P6KE36ARLG	SZ1N5339BG
3EZ18D5RLG	MZP4746ARLG	P6KE39AG	SZ1N5339BRLG
3EZ6.2D5RLG	MZP4749ARLG	P6KE39ARLG	SZ1N5340BRLG
80SQ045NG	MZP4749ATAG	P6KE43AG	SZ1N5341BRLG
80SQ045NRLG	MZP4750ARLG	P6KE43ARLG	SZ1N5342BRLG
ICTE-018G	NRVB150G	P6KE47AG	SZ1N5344BG
ICTE-12RL4G	NRVB160G	P6KE47ARLG	SZ1N5344BRLG
ICTE-15RL4G	NRVB160RLG	P6KE51AG	SZ1N5346BRLG
ICTE-18RL4G	NRVB1N5817G	P6KE51ARLG	SZ1N5347BRLG
ICTE-36RL4G	NRVB1N5817RLG	P6KE56AG	SZ1N5364BRLG
ICTE-5RL4G	NRVB1N5818G	P6KE56ARLG	SZ1N5368BRLG
MBR1100G	NRVB1N5818RLG	P6KE6.8AG	SZ1N5919BRLG
MBR1100RLG	NRVB1N5819G	P6KE6.8ARLG	SZ1N5920BRLG
MBR150G	NRVB1N5819RLG	P6KE62ARLG	SZ1N5921BRLG
MBR150RLG	NRVB1N5820G	P6KE68AG	SZ1N5923BRLG
MBR160G	NRVB1N5820RLG	P6KE68ARLG	SZ1N5932BRLG
MBR160RLG	NRVB1N5821G	P6KE7.5ARLG	SZ1N5941BRLG
MBR3100G	NRVB1N5821RLG	P6KE75ARLG	SZ1N6285ARL4G
MBR3100RLG	NRVB1N5822G	P6KE82ARLG	SZ1N6290ARL4G
MBR340G	NRVB1N5822RLG	P6KE91ARLG	SZ3EZ16D5RLG
MBR340RLG	NRVB3100G	SA10AG	SZMZP4746ARLG
MBR350RLG	NRVB360G	SA10ARLG	SZMZP4749ARLG
MBR360G	NRVB360RLG	SA12AG	SZMZP4749ATAG
MBR360RLG	P6KE100ARLG	SA12ARLG	SZP30253RLG
MKP1V120RL	P6KE10AG	SA13AG	SR4004ARL
MKP1V120RLG	P6KE10ARLG	SA13ARLG	SR4004ARLG
MKP1V130RL	P6KE120ARLG	SA15AG	SR5401ARL
MKP1V130RLG	P6KE12AG	SA15ARLG	SR5401ARLG
MKP1V160	P6KE12ARLG	SA16AG	
MKP1V160G	P6KE130AG	SA16ARLG	

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List of affected Customer Specific Parts:

NRVB3100RLG
SBR5319RLCG
SBR5442RLCG
SK2P102RL
SK2P102RLG
SR6133RL
SR6133RLG
SZ14095RLG
SZ2169RL
SZ2189RL
SZ2229RL
SZ2586RL
SZP30082RLG
SZP30274RLG
SZP30339RL
SZP30370RLG
SZP40199RLG