



FINAL PRODUCT/PROCESS CHANGE NOTIFICATION #16885Generic Copy

Issue Date: 27-Jul-2012**TITLE:** Qualification of Good-Ark Electronics for SMA/SMB Power Rectifier Products**PROPOSED FIRST SHIP DATE:** 27-Oct-2012**AFFECTED CHANGE CATEGORY(S):** Power Discrete Division (PDD) of the Standard Product Group**FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:**Contact your local ON Semiconductor Sales Office or
Don Knudsen < don.knudsen@onsemi.com >**SAMPLES:** Contact your local ON Semiconductor Sales Office or
Norfizah Mohd Ariffin < norfizah.mohdariffin@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:**

This FPCN announces the planned capacity expansion of ON Semiconductor's SMA/SMB products currently built at Seeful LiteON Shanghai facility, to Good-Ark electronics Co., Ltd. at Suzhou facility.

Upon the expiration of this FPCN, these Power Rectifiers devices may be processed at either location. These products have been qualified to AEC-Q101 requirements. Good-Ark Electronics is a current ON Semiconductor supplier of other power packages and is ISO9002, ISO14001 and TS16949 certified. These products will continue being Pb-free, Halide free and RoHS compliant. Included in this notification are slight modifications to non-critical dimensions on the SMA and SMB case outlines to match current JEDEC standards.



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RELIABILITY DATA SUMMARY:

Package: **SMA**

Qualification Vehicle:

MRA4007T3G

Reliability Test Results:

| Test | Conditions | Results | |
|---------------|--|-----------|-------|
| HTRB | Ta=150°C, 80% Rated Voltage | 1008 hrs | 0/240 |
| Autoclave+PC | Ta=121°C RH=100% ~15 psig | 96 hrs | 0/240 |
| H3TRB+PC | Ta=85°C RH=85% | 1008 hrs | 0/240 |
| | bias=80% rated V or 100V Max | | |
| | DPA | 1008 hrs | Pass |
| IOL+PC | Ta=25°C, Delta TJ = 100°C, Ton/off = 2 min. | 15000 cyc | 0/240 |
| TC+PC | Ta= -65°C to 150°C | 1000 cyc | 0/240 |
| | DPA | 1008 hrs | Pass |
| HTSL | Ta=150°C | 1008 hrs | 0/240 |
| RSH | Ta=260°C, 10 sec dwell | | 0/90 |
| Solderability | Ta=245°C, 10sec dwell | | 0/45 |

Package: **SMB**

Qualification Vehicle:

MRS1504T3G

Reliability Test Results:

| Test | Conditions | Results | |
|---------------|--|-----------|-------|
| HTRB | Ta=150°C, 80% Rated Voltage | 1008 hrs | 0/252 |
| Autoclave+PC | Ta=121°C RH=100% ~15 psig | 96 hrs | 0/252 |
| H3TRB+PC | Ta=85°C RH=85% | 1008 hrs | 0/252 |
| | bias=80% rated V or 100V Max | | |
| | DPA | 1008 hrs | Pass |
| IOL+PC | Ta=25°C, Delta TJ = 100°C, Ton/off = 2 min. | 15000 cyc | 0/252 |
| TC+PC | Ta= -65°C to 150°C | 1000 cyc | 0/252 |
| | DPA | 1008 hrs | Pass |
| HTSL | Ta=150°C | 1008 hrs | 0/252 |
| RSH | Ta=260°C, 10 sec dwell | | 0/90 |
| Solderability | Ta=245°C, 10sec dwell | | 0/45 |



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ELECTRICAL CHARACTERISTIC SUMMARY:

There are no changes in electrical characteristics and product performance meets data sheet Specifications. Characterization data is available upon request.

CHANGED PART IDENTIFICATION:

Product from Good-Ark Electronics will be identified by "g" site code marking.



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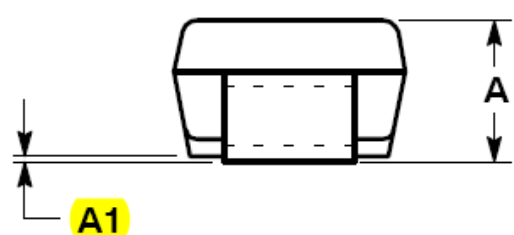
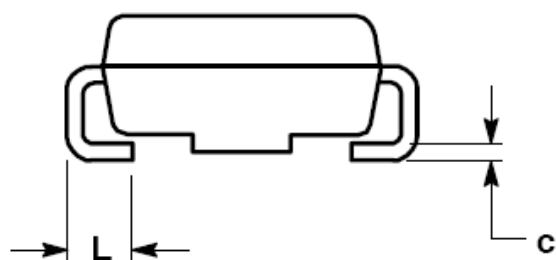
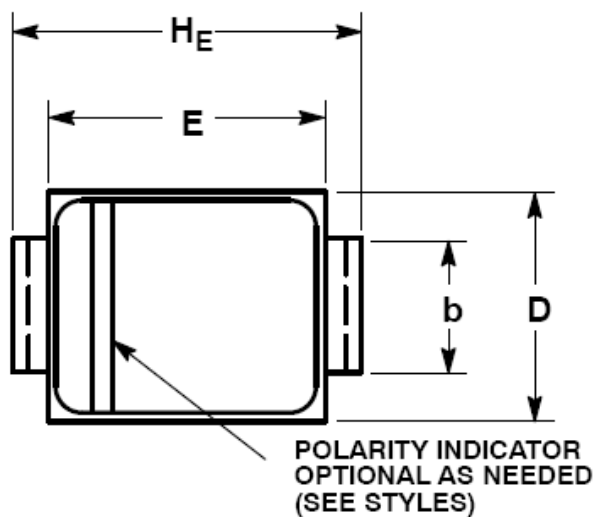
NEW CASE OUTLINE DIMENSIONS:

SMA

NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. DIMENSION b SHALL BE MEASURED WITHIN DIMENSION L.

| DIM | MILLIMETERS | | | INCHES | | |
|----------------|-------------|------|------|--------|-------|-------|
| | MIN | NOM | MAX | MIN | NOM | MAX |
| A | 1.97 | 2.10 | 2.20 | 0.078 | 0.083 | 0.087 |
| A1 | 0.05 | 0.10 | 0.20 | 0.002 | 0.004 | 0.008 |
| b | 1.27 | 1.45 | 1.63 | 0.050 | 0.057 | 0.064 |
| c | 0.15 | 0.28 | 0.41 | 0.006 | 0.011 | 0.016 |
| D | 2.29 | 2.60 | 2.92 | 0.090 | 0.103 | 0.115 |
| E | 4.06 | 4.32 | 4.57 | 0.160 | 0.170 | 0.180 |
| H _E | 4.83 | 5.21 | 5.59 | 0.190 | 0.205 | 0.220 |
| L | 0.76 | 1.14 | 1.52 | 0.030 | 0.045 | 0.060 |





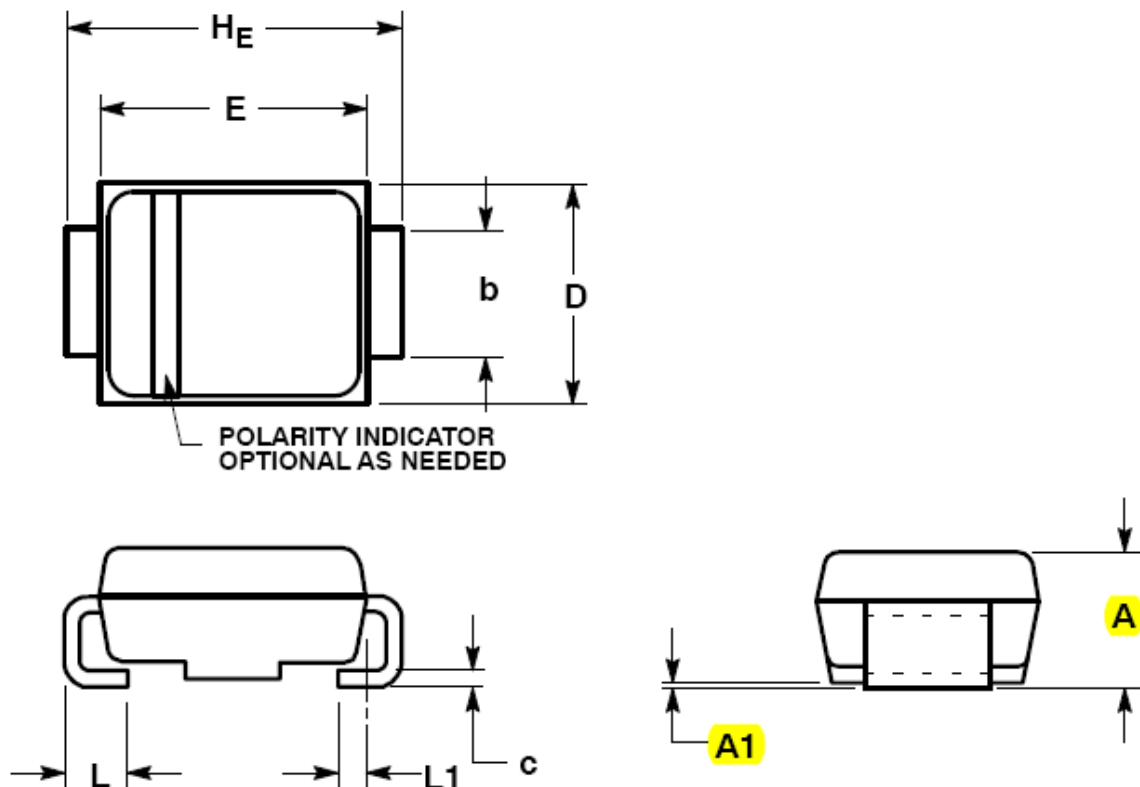
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SMB

NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. DIMENSION b SHALL BE MEASURED WITHIN DIMENSION L1.

| DIM | MILLIMETERS | | | INCHES | | |
|----------------------|-------------|------|------|-----------|-------|-------|
| | MIN | NOM | MAX | MIN | NOM | MAX |
| A | 1.95 | 2.30 | 2.47 | 0.077 | 0.091 | 0.097 |
| A1 | 0.05 | 0.10 | 0.20 | 0.002 | 0.004 | 0.008 |
| b | 1.96 | 2.03 | 2.20 | 0.077 | 0.080 | 0.087 |
| c | 0.15 | 0.23 | 0.31 | 0.006 | 0.009 | 0.012 |
| D | 3.30 | 3.56 | 3.95 | 0.130 | 0.140 | 0.156 |
| E | 4.06 | 4.32 | 4.60 | 0.160 | 0.170 | 0.181 |
| H_E | 5.21 | 5.44 | 5.60 | 0.205 | 0.214 | 0.220 |
| L | 0.76 | 1.02 | 1.60 | 0.030 | 0.040 | 0.063 |
| L1 | 0.51 REF | | | 0.020 REF | | |





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List of affected General Parts:

SMA PART#s

MRA4003T3G
MRA4004T3G
MRA4005T1G
MRA4005T3G
MRA4006T3G
MRA4007T3G
NRVA4004T3G
NRVA4007T3G

SMB PART#s

MRS1504T3G
NRVS1504T3G



If no Customer Part Number is on file, the CPN Part Number is marked “CPN Unassigned”.

| MPN | CPN | Company Name | Company Code | Division Name | Division Code |
|------------|----------------------|----------------------|--------------|----------------------|---------------|
| MRA4004T3G | 70100-469-R098 | BENCHMARK ELECTRONIC | cn | BENCHMARK ELECT INC | AVMEX |
| MRA4004T3G | CAT1110-6483-LF | BENCHMARK ELECTRONIC | cn | BENCHMARK ELECT INC | AVMEX |
| MRA4004T3G | ENT04004004-01-N-LF | BENCHMARK ELECTRONIC | cn | BENCHMARK ELECT INC | AVMEX |
| MRA4004T3G | STT077-315048-002-R5 | BENCHMARK ELECTRONIC | cn | BENCHMARK ELECT INC | AVMEX |
| MRA4003T3G | 70060-720-9073 | BENCHMARK ELECTRONIC | cn | BENCHMARK ELECT INC | AVMEX |
| MRA4003T3G | 70100-403-9176 | BENCHMARK ELECTRONIC | cn | BENCHMARK ELECT INC | AVMEX |
| MRA4003T3G | EML160720P1 | BENCHMARK ELECTRONIC | cn | BENCHMARK ELECT INC | AVMEX |
| MRA4003T3G | IR0000203-LF | BENCHMARK ELECTRONIC | cn | BENCHMARK ELECT INC | AVMEX |
| MRA4003T3G | ROSC540010001 | BENCHMARK ELECTRONIC | cn | BENCHMARK ELECT INC | AVMEX |
| MRA4003T3G | 70060-720-9073 | BENCHMARK ELECTRONIC | cn | BENCHMARK ELECTRONIC | BEHST |
| MRA4003T3G | 70100-403-9176 | BENCHMARK ELECTRONIC | cn | BENCHMARK ELECTRONIC | BEHST |
| MRA4003T3G | EML160720P1 | BENCHMARK ELECTRONIC | cn | BENCHMARK ELECTRONIC | BEHST |
| MRA4003T3G | IR0000203-LF | BENCHMARK ELECTRONIC | cn | BENCHMARK ELECTRONIC | BEHST |
| MRA4003T3G | ROSC540010001 | BENCHMARK ELECTRONIC | cn | BENCHMARK ELECTRONIC | BEHST |
| MRA4007T3G | CPN Unassigned | BENCHMARK ELECTRONIC | cn | BENCHMARK | BEKME |
| MRA4004T3G | CPN Unassigned | BENCHMARK ELECTRONIC | cn | BENCHMARK | BEKME |
| MRA4003T3G | CPN Unassigned | BENCHMARK ELECTRONIC | cn | BENCHMARK | BEKME |