



October 6, 2011

CN Number: 1107

CN Change Level: Minor

Subject: RTAX-S/SL/DSP datasheet updates

Dear Customer,

Microsemi has updated the RTAX[®]-S/SL/DSP datasheet. The latest version can be downloaded at http://www.microsemi.com/soc/documents/RTAXS_DS.pdf.

Some of the major updates in this revision include:

1. RTAX-DSP Device Status:
RTAX2000D and RTAX4000D are in Production status with completed characterization on DC, timing and power characteristics.
2. RTAX-DSP –1 speed grade is added:
 - RTAX2000D FPGA logic in –1 speed grade is approximately 15% faster than standard speed grade.
 - RTAX4000D FPGA logic in –1 speed grade is approximately 10% faster than standard speed grade.
3. The RTAX-DSP low power option (-DL) is added.
4. The Calculating Power Dissipation section is updated:
 - Table 2-6 and Table 2-7 are completed with RTAX-D and RTAX-DL standby current values.
 - The Mathblock power component is added.
5. Table 2-2 Absolute Maximum Ratings is updated:
 - The VCCA limit changed from “–0.3 to 1.6” to “–0.3 to 1.7”
 - The VI limit changed from “–0.5 to 3.75” to “–0.5 to 4.1”
6. DC Input and Output Levels for 1.5 V LVCMOS and 3.3 V PCI are updated:
 - Table 2-32: The minimum VIL for 1.5 V LVCMOS changed from –0.5 to –0.3
 - Table 2-35: The minimum VIL for 3.3 V PCI changed from –0.5 to –0.3

For a complete list of changes made in this revision of the RTAX-S/SL/DSP datasheet, refer to the List of Changes on page 5-1:

http://www.microsemi.com/soc/documents/RTAXS_DS.pdf



If you have any questions, please contact Microsemi's SoC Products Group ITAR Technical Support at soc_tech_itar@microsemi.com.

Regards,

Microsemi Corporation

Appendix

The affected part numbers are listed in Table 1.

Table 1: Affected Part Numbers

| RTAX250S/SL | | |
|-------------------|----------------------|----------------------|
| RTAX250S-CG624B | RTAX250S-CQ208EV | 5962-0421907QXC |
| 5962-0421901QUA | RTAX250S-1CQ208EV | RTAX250SL-1CQ352E |
| RTAX250S-1CG624B | RTAX250SL-CQ208B | 5962-0421908QXC |
| 5962-0421902QUA | 5962-0421905QYC | RTAX250SL-CQ352EV |
| RTAX250S-CG624E | RTAX250SL-1CQ208B | RTAX250SL-1CQ352EV |
| 5962-0421903QUA | 5962-0421906QYC | RTAX250S-CQ352PROTO |
| RTAX250S-1CG624E | RTAX250SL-CQ208E | RTAX250S-1CQ352PROTO |
| 5962-0421904QUA | 5962-0421907QYC | RTAX250S-LG624B |
| RTAX250S-CG624EV | RTAX250SL-1CQ208E | 5962-0421901QZC |
| RTAX250S-1CG624EV | 5962-0421908QYC | RTAX250S-1LG624B |
| RTAX250SL-CG624B | RTAX250SL-CQ208EV | 5962-0421902QZC |
| 5962-0421905QUA | RTAX250SL-1CQ208EV | RTAX250S-LG624E |
| RTAX250SL-1CG624B | RTAX250S-CQ208PROTO | 5962-0421903QZC |
| 5962-0421906QUA | RTAX250S-1CQ208PROTO | RTAX250S-1LG624E |
| RTAX250SL-CG624E | RTAX250S-CQ352B | 5962-0421904QZC |
| 5962-0421907QUA | 5962-0421901QXC | RTAX250S-LG624EV |
| RTAX250SL-1CG624E | RTAX250S-1CQ352B | RTAX250S-1LG624EV |
| 5962-0421908QUA | 5962-0421902QXC | RTAX250SL-LG624B |
| RTAX250SL-CG624EV | RTAX250S-CQ352E | 5962-0421905QZC |



Table 1: Affected Part Numbers

| | | |
|----------------------|--------------------|----------------------|
| RTAX250SL-1CG624EV | 5962-0421903QXC | RTAX250SL-1LG624B |
| RTAX250S-CG624PROTO | RTAX250S-1CQ352E | 5962-0421906QZC |
| RTAX250S-1CG624PROTO | 5962-0421904QXC | RTAX250SL-LG624E |
| RTAX250S-CQ208B | RTAX250S-CQ352EV | 5962-0421907QZC |
| 5962-0421901QYC | RTAX250S-1CQ352EV | RTAX250SL-1LG624E |
| RTAX250S-1CQ208B | RTAX250SL-CQ352B | 5962-0421908QZC |
| 5962-0421902QYC | 5962-0421905QXC | RTAX250SL-LG624EV |
| RTAX250S-CQ208E | RTAX250SL-1CQ352B | RTAX250SL-1LG624EV |
| 5962-0421903QYC | 5962-0421906QXC | RTAX250S-LG624PROTO |
| RTAX250S-1CQ208E | RTAX250SL-CQ352E | RTAX250S-1LG624PROTO |
| 5962-0421904QYC | | |
| RTAX1000S/SL | | |
| RTAX1000S-CGS624B | RTAX1000S-CQ352B | RTAX1000S-LG624B |
| 5962-0422001QUA | 5962-0422001QXC | 5962-0422001QYC |
| RTAX1000S-1CGS624B | RTAX1000S-1CQ352B | RTAX1000S-1LG624B |
| 5962-0422002QUA | 5962-0422002QXC | 5962-0422002QYC |
| RTAX1000S-CGS624E | RTAX1000S-CQ352E | RTAX1000S-LG624E |
| 5962-0422003QUA | 5962-0422003QXC | 5962-0422003QYC |
| RTAX1000S-1CGS624E | RTAX1000S-1CQ352E | RTAX1000S-1LG624E |
| 5962-0422004QUA | 5962-0422004QXC | 5962-0422004QYC |
| RTAX1000S-CGS624EV | RTAX1000S-CQ352EV | RTAX1000S-LG624EV |
| RTAX1000S-1CGS624EV | RTAX1000S-1CQ352EV | RTAX1000S-1LG624EV |
| RTAX1000SL-CGS624B | RTAX1000SL-CQ352B | RTAX1000SL-LG624B |
| 5962-0422005QUA | 5962-0422005QXC | 5962-0422005QYC |
| RTAX1000SL-1CGS624B | RTAX1000SL-1CQ352B | RTAX1000SL-1LG624B |
| 5962-0422006QUA | 5962-0422006QXC | 5962-0422006QYC |
| RTAX1000SL-CGS624E | RTAX1000SL-CQ352E | RTAX1000SL-LG624E |
| 5962-0422007QUA | 5962-0422007QXC | 5962-0422007QYC |
| RTAX1000SL-1CGS624E | RTAX1000SL-1CQ352E | RTAX1000SL-1LG624E |



Table 1: Affected Part Numbers

| | | |
|------------------------|-----------------------|------------------------|
| 5962-0422008QUA | 5962-0422008QXC | 5962-0422008QYC |
| RTAX1000SL-CGS624EV | RTAX1000SL-CQ352EV | RTAX1000SL-LG624EV |
| RTAX1000SL-1CGS624EV | RTAX1000SL-1CQ352EV | RTAX1000SL-1LG624EV |
| RTAX1000S-CG624PROTO | RTAX1000S-CQ352PROTO | RTAX1000S-LG624PROTO |
| RTAX1000S-1CG624PROTO | RTAX1000S-1CQ352PROTO | RTAX1000S-1LG624PROTO |
| RTAX2000S/SL | | |
| RTAX2000S-CG1152B | RTAX2000S-CQ256B | RTAX2000S-LG1152B |
| 5962-0422101QTA | 5962-0422101QUC | 5962-0422101QMC |
| RTAX2000S-1CG1152B | RTAX2000S-1CQ256B | RTAX2000S-1LG1152B |
| 5962-0422102QTA | 5962-0422102QUC | 5962-0422102QMC |
| RTAX2000S-CG1152E | RTAX2000S-CQ256E | RTAX2000S-LG1152E |
| 5962-0422103QTA | 5962-0422103QUC | 5962-0422103QMC |
| RTAX2000S-1CG1152E | RTAX2000S-1CQ256E | RTAX2000S-1LG1152E |
| 5962-0422104QTA | 5962-0422104QUC | 5962-0422104QMC |
| RTAX2000S-CG1152EV | RTAX2000S-CQ256EV | RTAX2000S-LG1152EV |
| RTAX2000S-1CG1152EV | RTAX2000S-1CQ256EV | RTAX2000S-1LG1152EV |
| RTAX2000SL-CG1152B | RTAX2000SL-CQ256B | RTAX2000SL-LG1152B |
| 5962-0422105QTA | 5962-0422105QUC | 5962-0422105QMC |
| RTAX2000SL-1CG1152B | RTAX2000SL-1CQ256B | RTAX2000SL-1LG1152B |
| 5962-0422106QTA | 5962-0422106QUC | 5962-0422106QMC |
| RTAX2000SL-CG1152E | RTAX2000SL-CQ256E | RTAX2000SL-LG1152E |
| 5962-0422107QTA | 5962-0422107QUC | 5962-0422107QMC |
| RTAX2000SL-1CG1152E | RTAX2000SL-1CQ256E | RTAX2000SL-1LG1152E |
| 5962-0422108QTA | 5962-0422108QUC | 5962-0422108QMC |
| RTAX2000SL-CG1152EV | RTAX2000SL-CQ256EV | RTAX2000SL-LG1152EV |
| RTAX2000SL-1CG1152EV | RTAX2000SL-1CQ256EV | RTAX2000SL-1LG1152EV |
| RTAX2000S-CG1152PROTO | RTAX2000S-CQ256PROTO | RTAX2000S-LG1152PROTO |
| RTAX2000S-1CG1152PROTO | RTAX2000S-1CQ256PROTO | RTAX2000S-1LG1152PROTO |
| RTAX2000S-CGS624B | RTAX2000S-CQ352B | RTAX2000S-LG624B |



Table 1: Affected Part Numbers

| | | |
|-----------------------|-----------------------|-----------------------|
| 5962-0422101QNA | 5962-0422101QXC | 5962-0422101QYC |
| RTAX2000S-1CGS624B | RTAX2000S-1CQ352B | RTAX2000S-1LG624B |
| 5962-0422102QNA | 5962-0422102QXC | 5962-0422102QYC |
| RTAX2000S-CGS624E | RTAX2000S-CQ352E | RTAX2000S-LG624E |
| 5962-0422103QNA | 5962-0422103QXC | 5962-0422103QYC |
| RTAX2000S-1CGS624E | RTAX2000S-1CQ352E | RTAX2000S-1LG624E |
| 5962-0422104QNA | 5962-0422104QXC | 5962-0422104QYC |
| RTAX2000S-CGS624EV | RTAX2000S-CQ352EV | RTAX2000S-LG624EV |
| RTAX2000S-1CGS624EV | RTAX2000S-1CQ352EV | RTAX2000S-1LG624EV |
| RTAX2000SL-CGS624B | RTAX2000SL-CQ352B | RTAX2000SL-LG624B |
| 5962-0422105QNA | 5962-0422105QXC | 5962-0422105QYC |
| RTAX2000SL-1CGS624B | RTAX2000SL-1CQ352B | RTAX2000SL-1LG624B |
| 5962-0422106QNA | 5962-0422106QXC | 5962-0422106QYC |
| RTAX2000SL-CGS624E | RTAX2000SL-CQ352E | RTAX2000SL-LG624E |
| 5962-0422107QNA | 5962-0422107QXC | 5962-0422107QYC |
| RTAX2000SL-1CGS624E | RTAX2000SL-1CQ352E | RTAX2000SL-1LG624E |
| 5962-0422108QNA | 5962-0422108QXC | 5962-0422108QYC |
| RTAX2000SL-CGS624EV | RTAX2000SL-CQ352EV | RTAX2000SL-LG624EV |
| RTAX2000SL-1CGS624EV | RTAX2000SL-1CQ352EV | RTAX2000SL-1LG624EV |
| RTAX2000S-CG624PROTO | RTAX2000S-CQ352PROTO | RTAX2000S-LG624PROTO |
| RTAX2000S-1CG624PROTO | RTAX2000S-1CQ352PROTO | RTAX2000S-1LG624PROTO |
| RTAX4000S/SL | | |
| RTAX4000S-CG1272B | RTAX4000S-CQ352B | RTAX4000S-LG1272B |
| 5962-0822401QZA | 5962-0822401QXC | 5962-0822401QYC |
| RTAX4000S-1CG1272B | RTAX4000S-1CQ352B | RTAX4000S-1LG1272B |
| 5962-0822402QZA | 5962-0822402QXC | 5962-0822402QYC |
| RTAX4000S-CG1272E | RTAX4000S-CQ352E | RTAX4000S-LG1272E |
| 5962-0822403QZA | 5962-0822403QXC | 5962-0822403QYC |
| RTAX4000S-1CG1272E | RTAX4000S-1CQ352E | RTAX4000S-1LG1272E |



Table 1: Affected Part Numbers

| | | |
|-------------------------|-------------------------|------------------------|
| 5962-0822404QZA | 5962-0822404QXC | 5962-0822404QYC |
| RTAX4000S-CG1272EV | RTAX4000S-CQ352EV | RTAX4000S-LG1272EV |
| RTAX4000S-1CG1272EV | RTAX4000S-1CQ352EV | RTAX4000S-1LG1272EV |
| RTAX4000SL-CG1272B | RTAX4000SL-CQ352B | RTAX4000SL-LG1272B |
| 5962-0822405QZA | 5962-0822405QXC | 5962-0822405QYC |
| RTAX4000SL-1CG1272B | RTAX4000SL-1CQ352B | RTAX4000SL-1LG1272B |
| 5962-0822406QZA | 5962-0822406QXC | 5962-0822406QYC |
| RTAX4000SL-CG1272E | RTAX4000SL-CQ352E | RTAX4000SL-LG1272E |
| 5962-0822407QZA | 5962-0822407QXC | 5962-0822407QYC |
| RTAX4000SL-1CG1272E | RTAX4000SL-1CQ352E | RTAX4000SL-1LG1272E |
| 5962-0822408QZA | 5962-0822408QXC | 5962-0822408QYC |
| RTAX4000SL-CG1272EV | RTAX4000SL-CQ352EV | RTAX4000SL-LG1272EV |
| RTAX4000SL-1CG1272EV | RTAX4000SL-1CQ352EV | RTAX4000SL-1LG1272EV |
| RTAX4000S-CG1272PROTO | RTAX4000S-CQ352PROTO | RTAX4000S-LG1272PROTO |
| RTAX4000S-1CG1272PROTO | RTAX4000S-1CQ352PROTO | RTAX4000S-1LG1272PROTO |
| RTAX2000D/DL | | |
| RTAX2000D-CGD1272B | RTAX2000D-LGD1272B | RTAX2000D-CQ352B |
| RTAX2000D-1CGD1272B | RTAX2000D-1LGD1272B | RTAX2000D-1CQ352B |
| RTAX2000D-CGD1272E | RTAX2000D-LGD1272E | RTAX2000D-CQ352E |
| RTAX2000D-1CGD1272E | RTAX2000D-1LGD1272E | RTAX2000D-1CQ352E |
| RTAX2000D-CGD1272EV | RTAX2000D-LGD1272EV | RTAX2000D-CQ352EV |
| RTAX2000D-1CGD1272EV | RTAX2000D-1LGD1272EV | RTAX2000D-1CQ352EV |
| RTAX2000D-CGD1272PROTO | RTAX2000D-LGD1272PROTO | RTAX2000D-CQ352PROTO |
| RTAX2000D-1CGD1272PROTO | RTAX2000D-1LGD1272PROTO | RTAX2000D-1CQ352PROTO |
| RTAX4000D/DL | | |
| RTAX4000D-CGD1272B | RTAX4000D-CQ352EV | RTAX2000DL-CQ352EV |
| RTAX4000D-1CGD1272B | RTAX4000D-1CQ352EV | RTAX2000DL-1CQ352EV |
| RTAX4000D-CGD1272E | RTAX4000D-CQ352PROTO | RTAX4000DL-CGD1272B |
| RTAX4000D-1CGD1272E | RTAX4000D-1CQ352PROTO | RTAX4000DL-1CGD1272B |



Table 1: Affected Part Numbers

| | | |
|-------------------------|-----------------------|-----------------------|
| RTAX4000D-CGD1272EV | RTAX2000DL-CGD1272B | RTAX4000DL-CGD1272E |
| RTAX4000D-1CGD1272EV | RTAX2000DL-1CGD1272B | RTAX4000DL-1CGD1272E |
| RTAX4000D-CGD1272PROTO | RTAX2000DL-CGD1272E | RTAX4000DL-CGD1272EV |
| RTAX4000D-1CGD1272PROTO | RTAX2000DL-1CGD1272E | RTAX4000DL-1CGD1272EV |
| RTAX4000D-LGD1272B | RTAX2000DL-CGD1272EV | RTAX4000DL-LGD1272B |
| RTAX4000D-1LGD1272B | RTAX2000DL-1CGD1272EV | RTAX4000DL-1LGD1272B |
| RTAX4000D-LGD1272E | RTAX2000DL-LGD1272B | RTAX4000DL-LGD1272E |
| RTAX4000D-1LGD1272E | RTAX2000DL-1LGD1272B | RTAX4000DL-1LGD1272E |
| RTAX4000D-LGD1272EV | RTAX2000DL-LGD1272E | RTAX4000DL-LGD1272EV |
| RTAX4000D-1LGD1272EV | RTAX2000DL-1LGD1272E | RTAX4000DL-1LGD1272EV |
| RTAX4000D-LGD1272PROTO | RTAX2000DL-LGD1272EV | RTAX4000DL-CQ352B |
| RTAX4000D-1LGD1272PROTO | RTAX2000DL-1LGD1272EV | RTAX4000DL-1CQ352B |
| RTAX4000D-CQ352B | RTAX2000DL-CQ352B | RTAX4000DL-CQ352E |
| RTAX4000D-1CQ352B | RTAX2000DL-1CQ352B | RTAX4000DL-1CQ352E |
| RTAX4000D-CQ352E | RTAX2000DL-CQ352E | RTAX4000DL-CQ352EV |
| RTAX4000D-1CQ352E | RTAX2000DL-1CQ352E | RTAX4000DL-1CQ352EV |