AEGIS
SEMICONDUTORES LTDA.

# A1A:260.XX

## VOLTAGE RATINGS

| Part Number | $V_{RRM}$ , $V_R$ (V) Max. rep. peak reverse voltage | | $V_{RSM}$ , $V_R$ (V) Max. non-rep. peak reverse voltage |
|---|---|---|---|
| | $T_J$ = 0 to 180°C | $T_J$ = -40 to 0°C | $T_J$ = 25 to 180°C |
| A1A:260.02 | 200 | 200 | 300 |
| A1A:260.04 | 400 | 400 | 500 |
| A1A:260.06 | 600 | 600 | 700 |
| A1A:260.08 | 800 | 800 | 900 |
| A1A:260.10 | 1000 | 1000 | 1100 |
| A1A:260.12 | 1200 | 1200 | 1300 |
| A1A:260.14 | 1400 | 1400 | 1500 |
| A1A:260.16 | 1600 | 1600 | 1700 |

**This datasheet applies to:**

**Metric thread: A1A:260.XX, A1B:260.XX**

**Inch thread: A2A:260.XX, A2B:260.XX**

## MAXIMUM ALLOWABLE RATINGS

| PARAMETER | VALUE | UNITS | NOTES |
|---|---|---|---|
| $T_J$ Junction Temperature | -40 to 180 | °C | - |
| $T_{stg}$ Storage Temperature | -40 to 180 | °C | - |
| $I_{F(AV)}$ Max. Av. current | 260 | A | 180° half sine wave |
| $I_{F(AV)}$ @ Max. $T_C$ | 125 | °C | 180° half sine wave |
| $I_{F(RMS)}$ Nom. RMS current | 530 | A | - |
| $I_{FSM}$ Max. Peak non-rep. surge current | 5046 | A | 50 Hz half cycle sine wave; Initial $T_J$ = 180°C, rated $V_{RRM}$ applied after surge. |
| | 5500 | | 60 Hz half cycle sine wave; Initial $T_J$ = 180°C, rated $V_{RRM}$ applied after surge. |
| | 6000 | | 50 Hz half cycle sine wave; Initial $T_J$ = 180°C, no voltage applied after surge. |
| | 6540 | | 60 Hz half cycle sine wave; Initial $T_J$ = 180°C, no voltage applied after surge. |
| $I^2t$ Max. $I^2t$ capability | 116 | $kA^2s$ | t = 10ms; Initial $T_J$ = 180°C, rated $V_{RRM}$ applied after surge. |
| | 126 | | t = 8.3 ms; Initial $T_J$ = 180°C, rated $V_{RRM}$ applied after surge. |
| | 163 | | t = 10ms; Initial $T_J$ = 180°C, no voltage applied after surge. |
| | 178 | | t = 8.3 ms; Initial $T_J$ = 180°C, no voltage applied after surge. |
| $I^2t^{1/2}$ Max. $I^2t^{1/2}$ capability | 1350 | $kA^2s^{1/2}$ | Initial $T_J$ = 180°C, no voltage applied after surge. $I^2t$ for time $t_x = I^2t^{1/2} * t_x^{1/2}$. (0.1 < tx < 10ms). |
| F Mounting Force | 30(~267) | N.m(Lbf.in) | - |

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## CHARACTERISTICS

| PARAMETER | MIN. | TYP. | MAX. | UNITS | TEST CONDITIONS |
|---|---|---|---|---|---|
| $V_{FM}$ Peak forward voltage | --- | 1.15 | 1.37 | V | Initial $T_J$ = 25°C, sinusoidal wave, $I_{peak}$ = 440A. |
| $V_{F(TO)}$ Threshold voltage | --- | --- | 0.82 | V | $T_J$ = 180°C, Av. Power = $V_{F(TO)}*I_{F(AV)}+r_F*[I_{F(RMS)}]^2$, sine. |
| $r_{F1}$ Forward slope resistance | --- | --- | 0.45 | m | Use low values for $I_{FM}$ < $I_{F(AV)}$ |
| $I_{RM}$ Peak reverse current | --- | 10 | 15.00 | mA | $T_J$ = 180°C. Max. Rated $V_{RRM}$ |
| $R_{thJC}$ Thermal resistance, junction-to-case | --- | --- | 0.20 | °C/W | DC operation |
| | --- | --- | 0.20 | °C/W | 180° sine wave |
| | --- | --- | 0.24 | °C/W | 120° rectangular wave |
| $R_{thCS}$ Thermal resistance, case-to-sink | --- | --- | 0.03 | °C/W | Mtg. Surface smooth, flat and greased. Single side. |
| wt Weight | --- | 250(8.75) | --- | g(oz.) | --- |
| Case Style | DO-205AB (DO-9) | | | JEDEC | --- |

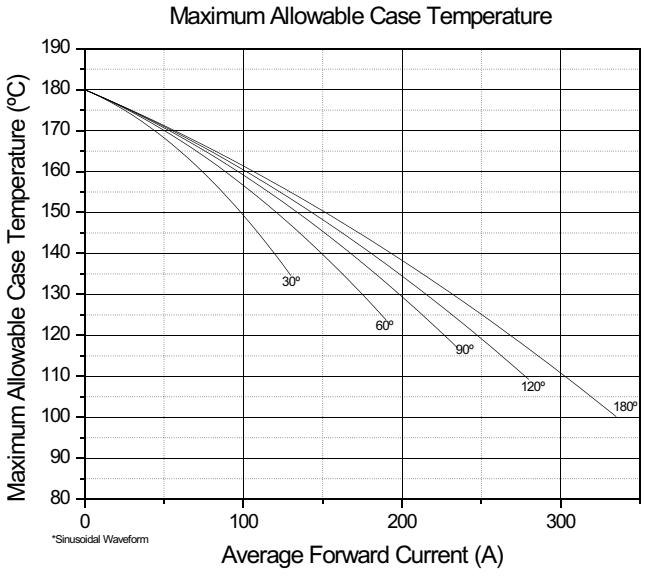


**Fig. 1 - Current Ratings Characteristics**

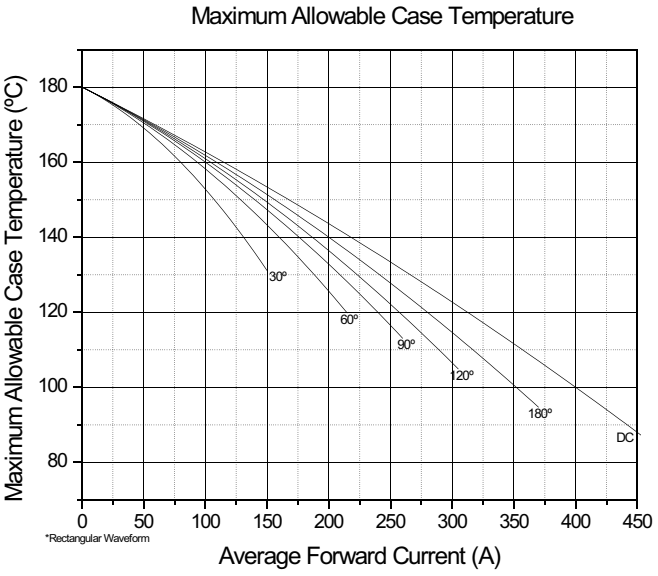


**Fig. 2 - Current Ratings Characteristics**

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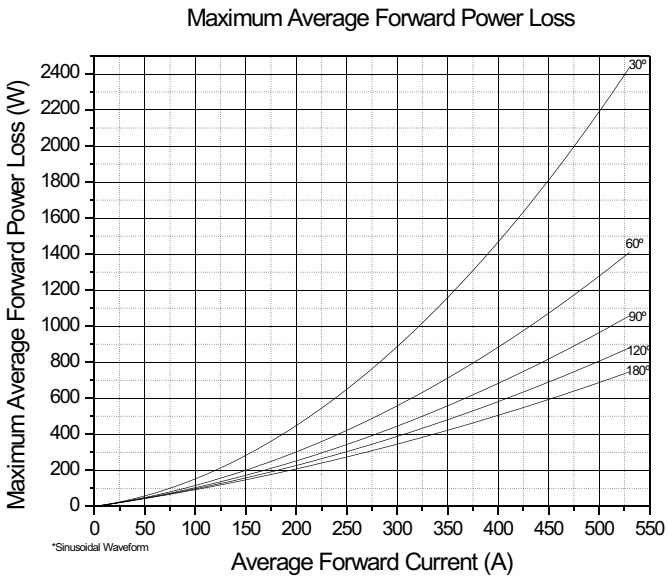


**Fig. 3 - Forward Power Loss Characteristics**

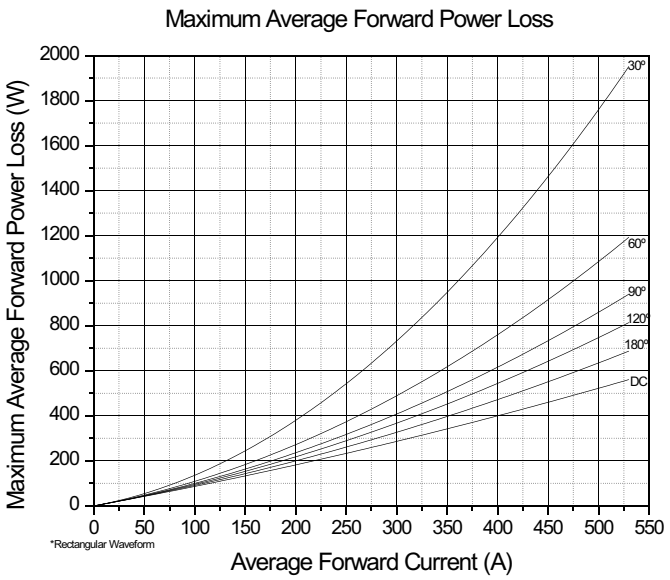


**Fig. 4 - Forward Power Loss Characteristics**

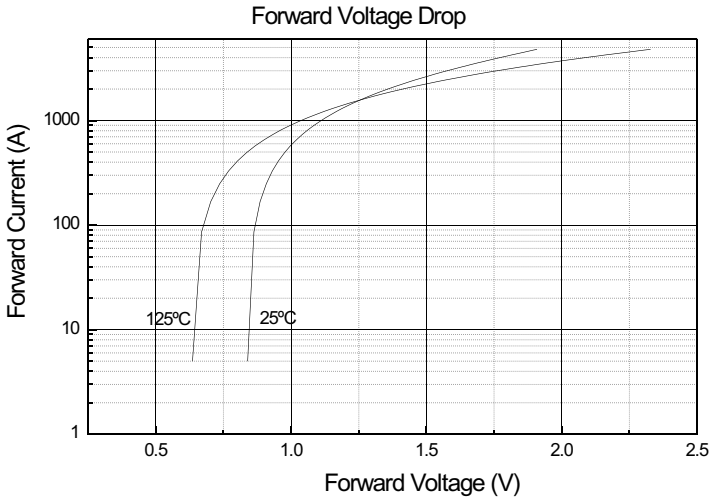


**Fig. 5 - Forward Voltage Drop Characteristics**

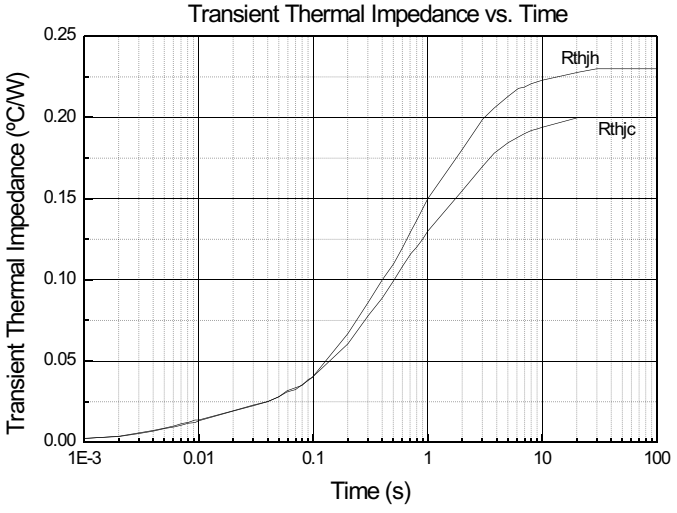


**Fig. 6 - Transient Thermal Impedance Characteristics**

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## DO-205AB (DO-9)