



A5A:2800.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 |
| A5A:2800.02 | 200 | 200 | 300 |
| A5A:2800.04 | 400 | 400 | 500 |
| A5A:2800.06 | 600 | 600 | 700 |
| A5A:2800.08 | 800 | 800 | 900 |
| A5A:2800.10 | 1000 | 1000 | 1100 |
| A5A:2800.12 | 1200 | 1200 | 1300 |

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 @ Max. T _C | 2300 | A | 180° half sine wave |
| | 125 | °C | |
| I _{F(RMS)} Nom. RMS current | 4420 | A | - |
| I _{FSM} Max. Peak non-rep. surge current | 28.7 | kA | 50 Hz half cycle sine wave |
| | 30.0 | | 60 Hz half cycle sine wave |
| | 34.1 | | 50 Hz half cycle sine wave |
| | 35.7 | | 60 Hz half cycle sine wave |
| I ² t Max. I ² t capability | 4110 | kA ² s | t = 10ms |
| | 3750 | | t = 8.3 ms |
| | 5810 | | t = 10ms |
| | 5300 | | t = 8.3 ms |
| I ² t ^{1/2} Max. I ² t ^{1/2} capability | 58100 | kA ² s ^{1/2} | Initial T _J = 180° C, no voltage applied after surge. I ² t for time t _x = I ² t ^{1/2} * t _x ^{1/2} . (0.1 < t _x < 10ms). |
| F Mounting Force | 2500 | N.m | - |



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CHARACTERISTICS

| PARAMETER | MIN. | TYP. | MAX. | UNITS | TEST CONDITIONS |
|--|------|---------|-------|--------|--|
| V _{FM} Peak forward voltage | --- | 1.35 | 1.53 | V | Initial T _J = 25°C, 50-60Hz half sine, I _{peak} = 7225A. |
| V _{F(TO)1} Low-level threshold | --- | --- | 0.786 | V | T _J = 180°C |
| V _{F(TO)2} High-level threshold | --- | --- | 0.805 | | Av. power = V _{F(TO)} * I _{F(AV)} + r _F * [I _{F(RMS)}] ² |
| r _{F1} Low-level resistance | --- | --- | 0.1 | m | Use low values for I _{FM} < I _{F(AV)} |
| r _{F2} High-level resistance | --- | --- | 0.086 | | |
| I _{RM} Peak reverse current | --- | 30 | 100 | mA | T _J = 180°C. Max. rated V _{RRM} |
| R _{thJC} Thermal resistance, junction-to-case | --- | --- | 0.023 | °C/W | DC operation, double side |
| | --- | --- | 0.025 | °C/W | 180° sine wave, double side |
| | --- | --- | 0.025 | °C/W | 120° rectangular wave, duple side |
| R _{thCS} Thermal resistance, case-to-sink | --- | --- | 0.02 | °C/W | Mtg. Surface smooth, flat and greased. Double side cooled. |
| wt Weight | --- | 425(15) | --- | g(oz.) | --- |
| Case Style | A-24 | | | | --- |

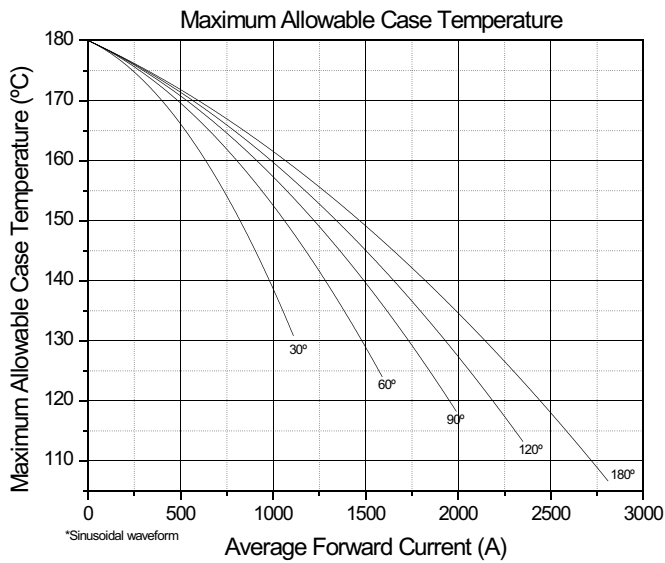


Fig. 1 - Current Ratings Characteristics

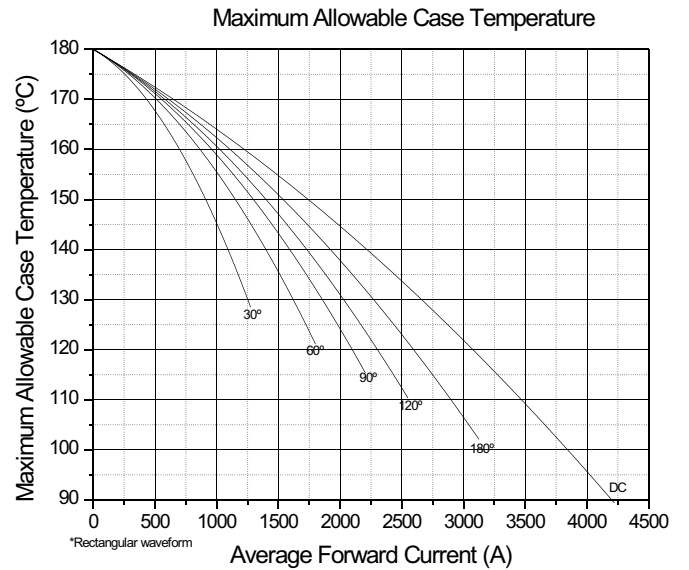


Fig. 2 - Current Ratings Characteristics



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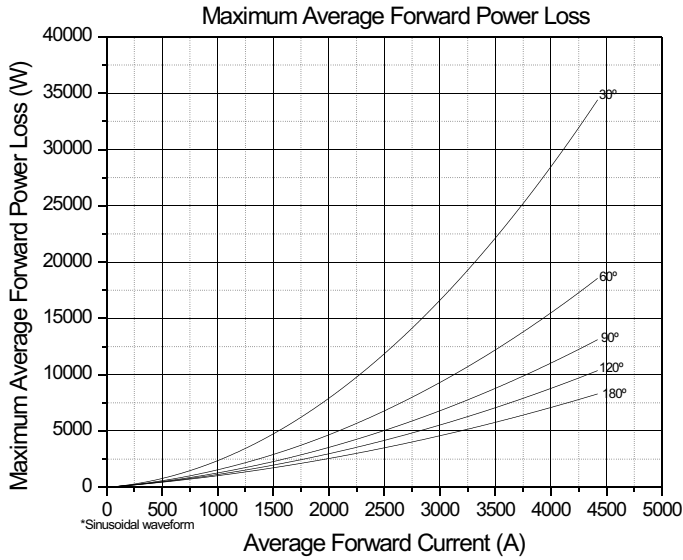


Fig. 3 - Average Forward Power Loss Characteristics

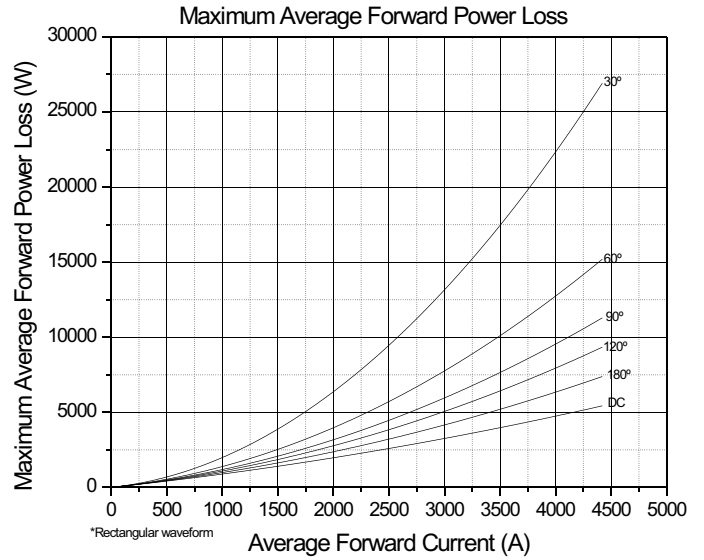


Fig. 4 - Average Forward Power Loss Characteristics

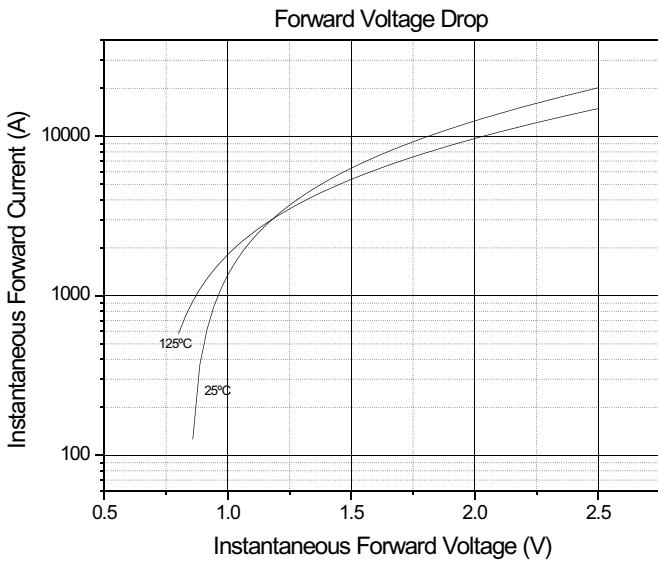


Fig. 5 - Forward Voltage Drop Characteristics

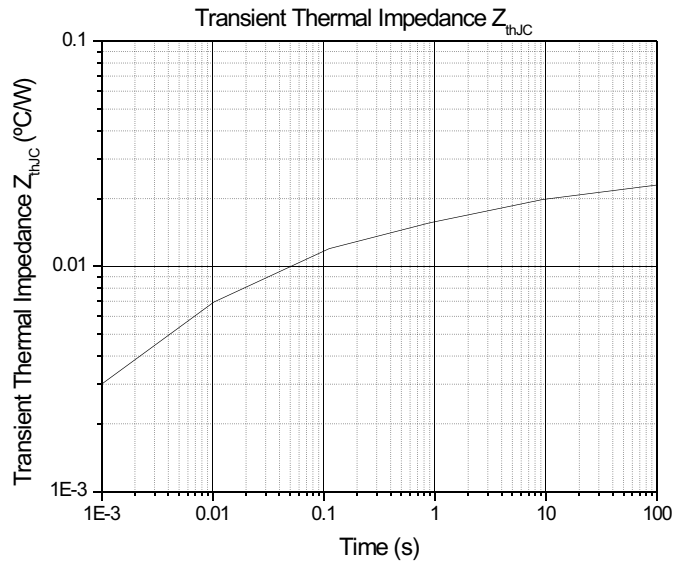


Fig. 6 - Transient Thermal Impedance Z_{thJC} Characteristics



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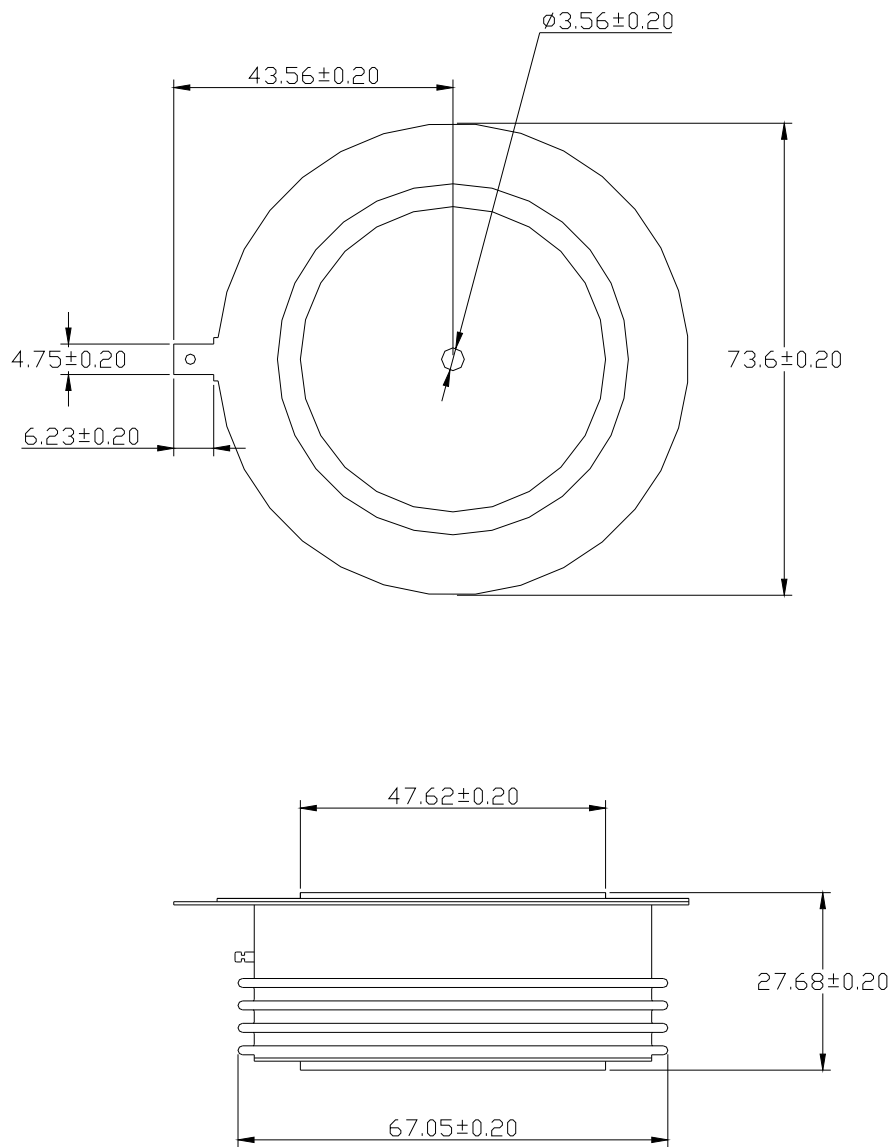


Fig. 7 - Outline Characteristics