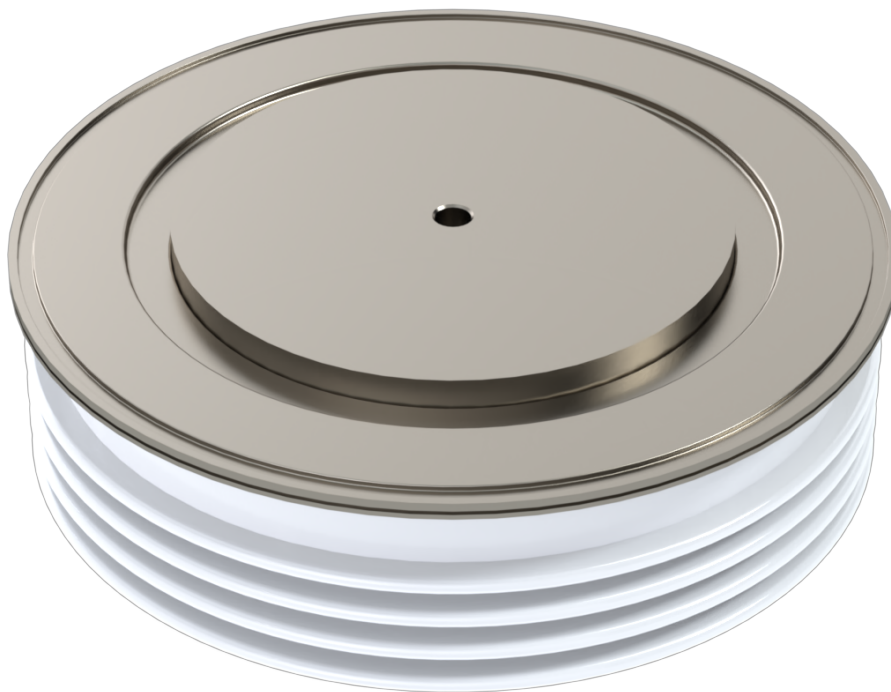


Rectifier Diode Type SA52AP1520J0

Contact us!

Date: March, 2020
Data Sheet Issue: 1



ORDERING INFORMATION

(Please quote 12 to 15 digit code as below)

| | | | | | | |
|----|--------------|---|--------------|-----------|--------------|---------------|
| SA | 52 | AP | 1520 | J | 0 | |
| - | Voltage Code | AP = standard capsule AG = rupture rated capsule | Current code | Type code | Special code | Optional code |

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Absolute Maximum Ratings

| VOLTAGE RATINGS | | MAXIMUM LIMITS | UNITS |
|-----------------|---|----------------|-------|
| V_{RRM} | Repetitive peak reverse voltage, (note 1) | 5200 | V |
| V_{RSM} | Non-repetitive peak reverse voltage, (note 1) | 5300 | V |
| V_{RDC} | Maximum reverse D.C. Voltage, (note 1) | 2240 | V |
| note 1) | De-Rating factor of 0.13% per °C is applicable for T_j below 25°C | | |

| OTHER RATINGS | | MAXIMUM LIMITS | UNITS |
|---------------|---|------------------|----------------------|
| $I_{F(AV)M}$ | Maximum average forward current, $T_{sink} = 55^\circ\text{C}$, (note 1) | 1478 | A |
| $I_{F(AV)M}$ | Maximum average forward current, $T_{sink} = 100^\circ\text{C}$, (note 1) | 1001 | A |
| $I_{F(AV)M}$ | Maximum average forward current, $T_{sink} = 100^\circ\text{C}$, (note 2) | 639 | A |
| $I_{F(RMS)}$ | Nominal RMS forward current, $T_{sink} = 25^\circ\text{C}$ (note 1) | 2727 | A |
| $I_{f(d.c.)}$ | D.C. forward current, $T_{sink} = 25^\circ\text{C}$ (note 3) | 2492 | A |
| I_{FSM} | Peak non-repetitive surge current $t_p = 10\text{ms}$, $V_{RM} = 60\%V_{RRM}$, (note 4) | 12.0 | kA |
| I_{FSM2} | Peak non-repetitive surge current $t_p = 10\text{ms}$, $V_{RM} \leq 10\text{V}$, (note 4) | 13.2 | kA |
| I^2t | I^2t capacity for fusing $t_p = 10\text{ms}$, $V_{RM} = 60\%V_{RRM}$, (note 4) | $720 \cdot 10^3$ | A^2s |
| I^2t | I^2t capacity for fusing $t_p = 10\text{ms}$, $V_{RM} \leq 10\text{V}$, (note 4) | $871 \cdot 10^3$ | A^2s |
| T_{jop} | Operating temperature range | -40 to +150 | °C |
| T_{stg} | Storage temperature range | -55 to +160 | °C |
| note 1) | Double-side cooled, single phase, 50Hz, 180° half-sinewave. | | |
| note 2) | Single-side cooled, single phase, 50Hz, 180° half-sinewave. | | |
| note 3) | Double-side cooled. | | |
| note 4) | Half-sinewave, 150°C T_j initial. | | |

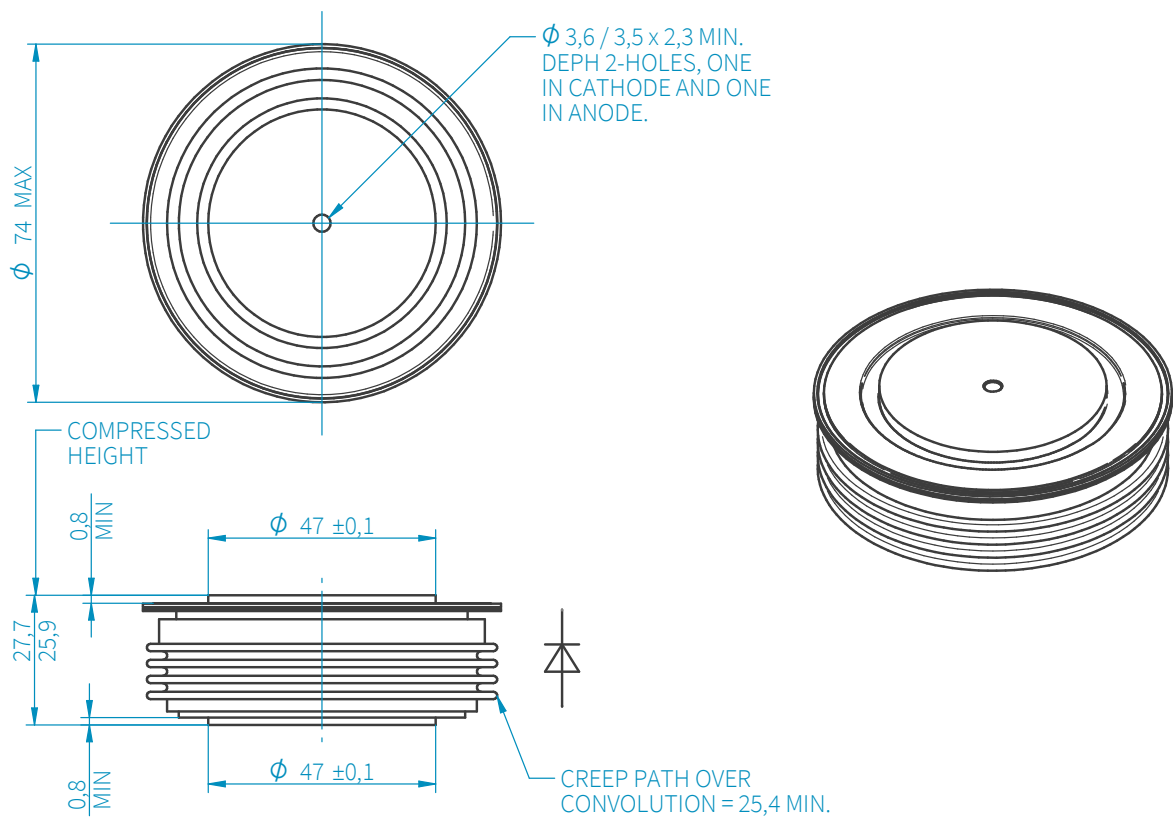
Characteristics

| | PARAMETER | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|-------------------|---|--|-----|------|-------|-------|
| V _{FM} | Maximum peak forward voltage | I _{FM} =2340A | - | - | 2.20 | V |
| | | I _{FM} =4400A | - | - | 3.33 | V |
| V _{T0} | Threshold Voltage | | - | - | 0.904 | V |
| r _T | Slope resistance | | - | - | 0.552 | mΩ |
| I _{RRM} | Peak reverse current | Rated V _{RRM} | - | - | 70 | mA |
| Q _{rr} | Recovered charge | | - | 7200 | - | μC |
| Q _{ra} | Recovered charge, 50% Chord | I _{FM} = 1000A, t _p = 2000μs, di/dt = 10A/μs, V _R = 100V | - | 3350 | 3600 | μC |
| I _{rm} | Reverse recovery current | | - | 160 | - | A |
| t _{rr} | Reverse recovery time, 50% Chord | | - | 42 | - | μs |
| R _{thJK} | Thermal resistance, junction to heatsink | Double side cooled | - | - | 0.022 | K/W |
| | | Single side cooled | - | - | 0.044 | K/W |
| F | Mounting force | note 2) | 19 | - | 26 | kN |
| W _t | Weight | | - | 480 | - | g |
| note 1) | Unless otherwise indicated T _j = 150°C | | | | | |
| note 2) | For other clamp forces consult factory | | | | | |

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