

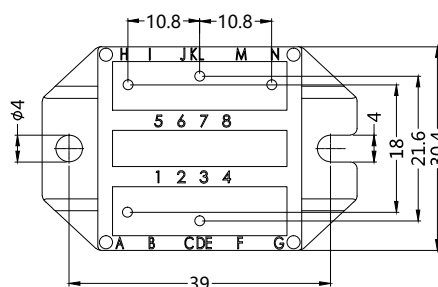
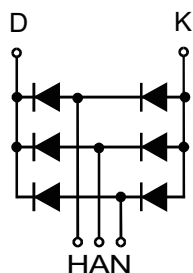
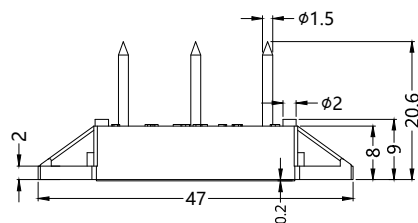
S3PDB25NXX

Three Phase Rectifier Modules



| Type | V _{RSM} V | V _{RRM} V |
|------------|-----------------------|-----------------------|
| S3PDB25N08 | 900 | 800 |
| S3PDB25N12 | 1300 | 1200 |
| S3PDB25N14 | 1500 | 1400 |
| S3PDB25N16 | 1700 | 1600 |
| S3PDB25N18 | 1900 | 1800 |

Dimensions in mm (1mm=0.0394")



| Symbol | Test Conditions | Maximum Ratings | Unit |
|---|---|---------------------------------|------------------|
| I _{dav} | T _C =100°C, module | 25 | A |
| I _{FSM} | T _{VJ} =45°C t=10ms (50Hz), sine V _R =0 t=8.3ms (60Hz), sine | 100 106 | A |
| | T _{VJ} =T _{VJM} t=10ms(50Hz), sine V _R =0 t=8.3ms(60Hz), sine | 85 90 | |
| I ² t | T _{VJ} =45°C t=10ms (50Hz), sine V _R =0 t=8.3ms (60Hz), sine | 50 47 | A ² S |
| | T _{VJ} =T _{VJM} t=10ms(50Hz), sine V _R =0 t=8.3ms(60Hz), sine | 36 33 | |
| | | | |
| T _{VJ} T _{VJM} T _{stg} | | -40...+150 150 -40...+125 | °C |
| V _{ISOL} | 50/60Hz, RMS t=1min I _{ISOL} ≤1mA t=1s | 2500 3000 | V~ |
| M _d | Mounting torque (M4) | 1.5-2 14-18 | Nm lb.in. |
| Weight | typical | 18 | g |

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Three Phase Rectifier Modules

| Symbol | Test Conditions | Characteristic Values | Unit |
|-------------------------|--|-----------------------|------------------|
| I_R | V _R =V _{RRM} ; T _{VJ} =25°C V _R =V _{RRM} ; T _{VJ} =T _{VJM} | ≤ 0.3 ≤ 5 | mA |
| V_F | I _F =25A; T _{VJ} =25°C | ≤ 1.20 | V |
| V_{TO} | For power-loss calculations only | 0.8 | V |
| r_T | | 40 | mΩ |
| R_{thJC} | per diode; DC current per module | 2.3 0.39 | K/W |
| R_{thJH} | per diode; DC current per module | 2.8 0.47 | K/W |
| ds | Creeping distance on surface | 11.2 | mm |
| dA | Creepage distance in air | 9.7 | mm |
| a | Max. allowable acceleration | 50 | m/s ² |

FEATURES

- * Package with DCB base plate
- * Isolation voltage 3000 V~
- * Glass passivated chips
- * leads suitable for PCB soldering
- * Low forward voltage drop
- * UL File NO.E310749
- * RoHS compliant

APPLICATIONS

- * Supplies for DC power equipment
- * Input rectifiers for PWM inverter
- * Battery DC power supplies
- * Field supply for DC motors

ADVANTAGES

- * Easy to mount with two screws
- * Space and weight savings
- * Improved temperature and power cycling

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Three Phase Rectifier Modules

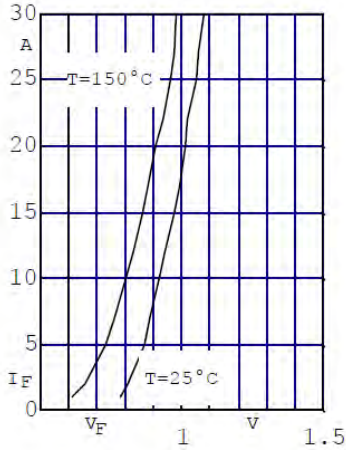


Fig. 1 Forward current versus voltage drop per diode

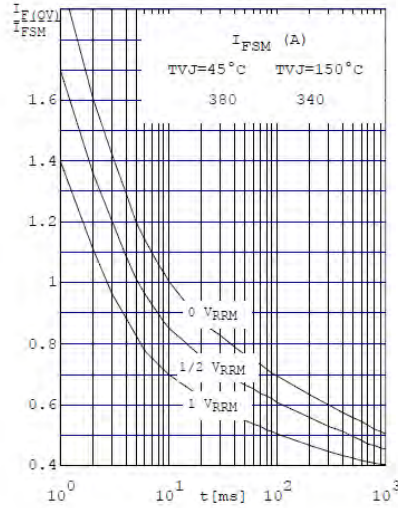


Fig. 2 Surge overload current per diode
 I_{FSM} : Crest value. t : duration

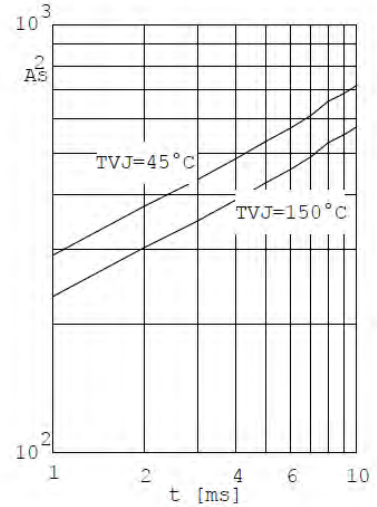


Fig. 3 $\int i^2 dt$ versus time (1-10ms) per diode

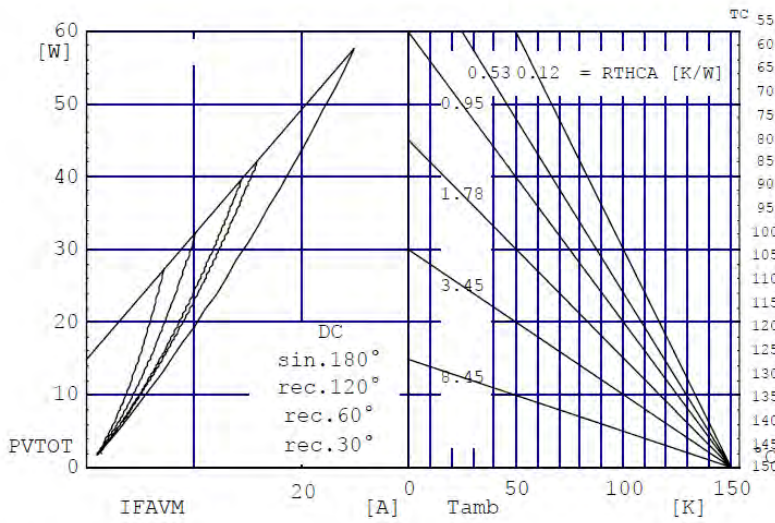


Fig. 4 Power dissipation versus direct output current and ambient temperature

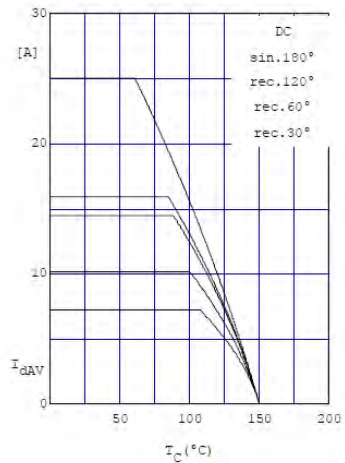


Fig. 5 Maximum forward current at case temperature