

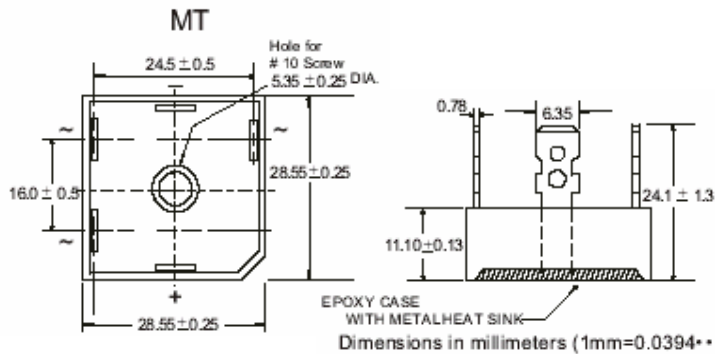


25.0Amps Three-Phase Silicon Bridge Rectifiers

Description

Mechanical Dimensions

MT25005~2516



KBPC--MF

Features

- Integrally molded heat sinks provide low thermal resistance for max. heat dissipation
- Surge overload ratings to 400A
- The plastic material used carries Underwriters Laboratory flammability recognition 94V-0
- High temp. soldering guaranteed 265C/10s at 5lbs tension

Mechanical Data

- case: Molded Plastic with heat sink integrally mounted bridge encapsulation
- Terminals: Plated. 25"(6.53mm) Faston
- Mounting Position: Bolt down on heat sink with silicon thermal compound between bridges and mounting surface for max. heat transfer efficiency
- Weight: 22 grams(approx.)

Maximum Ratings & Thermal Characteristics

Rating at 25 C ambient temperature unless otherwise specified, Resistive or Inductive load, 60 Hz.
For Capacitive load derate current by 20%.

| Parameter | Symbol | MT 25005 | MT 2501 | MT 2502 | MT 2504 | MT 2506 | MT 2508 | MT 2510 | MT 2512 | MT 2514 | MT 2516 | unit | |
|---|-----------------------------------|--------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|--------------------|
| Maximum repetitive peak reverse voltage | VRRM | | | | | | | | | | | | |
| Working peak reverse voltage | VRWM | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | 1200 | 1400 | 1600 | V | |
| Maximum DC blocking voltage | VR | | | | | | | | | | | | |
| Peak non-repetitive reverse voltage | VRSM | 75 | 150 | 275 | 500 | 725 | 900 | 1100 | 1300 | 1500 | 1700 | V | |
| RMS reverse voltage | VRMS | 35 | 70 | 140 | 280 | 420 | 560 | 700 | 840 | 980 | 1120 | V | |
| Maximum average forward rectified output current at TA=100 C | IF(AV) | 25 | | | | | | | | | | A | |
| Non-repetitive peak forward surge current (No voltage reapplied t=8.3ms at 60 Hz) (No voltage reapplied t=10ms at 50 Hz) (100% VRRM reapplied t=8.3ms at 60 Hz) (100% VRRM reapplied t=10ms at 50 Hz) | IFSM | | | | | | 375 | 360 | 314 | 300 | | | A |
| I ² t rating for fusing (No voltage reapplied t=8.3ms at 60 Hz) (No voltage reapplied t=10ms at 50 Hz) (100% VRRM reapplied t=8.3ms at 60 Hz) (100% VRRM reapplied t=10ms at 50 Hz) | I ² t | | | | | | 580 | 635 | 410 | 450 | | | A ² sec |
| Thermal resistance junction to case at DC operation per Bridge | R _{θJC} | | | | | | 1.42 | | | | | | K / W |
| Thermal resistance case to heatsink mounting surface, smooth, flat and greased | R _{θCS} | | | | | | 0.2 | | | | | | K / W |
| RMS isolation voltage from case to lead | | | | | | | | | | | | | |
| Operating junction and storage temperature range | T _J , T _{STG} | -55 to + 150 | | | | | | | | | | °C | |

Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified. Resistive or Inductive load, 60Hz.
For Capacitive load derate by 20 %.

| Parameter | Symbol | MT 25005 | MT 2501 | MT 2502 | MT 2504 | MT 2506 | MT 2508 | MT 2510 | MT 2512 | MT 2514 | MT 2516 | Unit | |
|--|----------------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|----|
| Forward voltage (per element) at T _J =25°C, @ I _{FM} =40APK per single junction | V _F | 1.26 | | | | | | | | | | | V |
| Maximum DC reverse current at rated DC blocking voltage per element | I _R | 10 | | | | | | 500 | | | | | μA |

Rating and Characteristic Curves (T_A=25 °C Unless otherwise noted)

Fig. 1 Current Ratings Characteristics

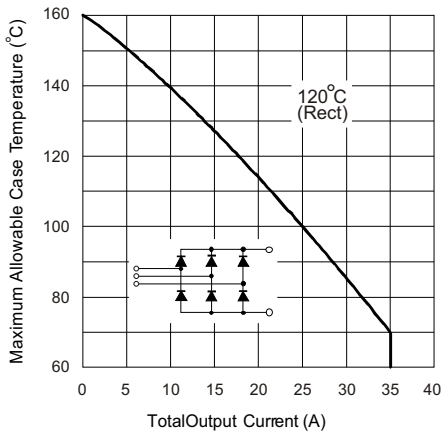


Fig. 2 Forward Voltage Drop Characteristics

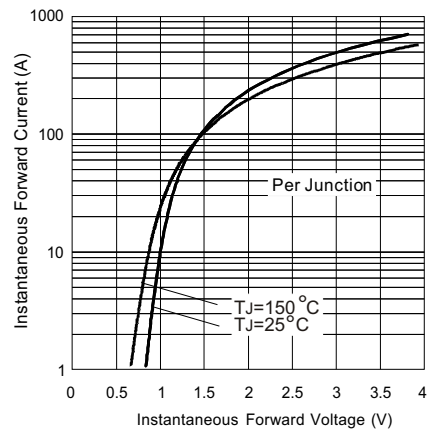


Fig. 3 Total Power Loss Characteristics

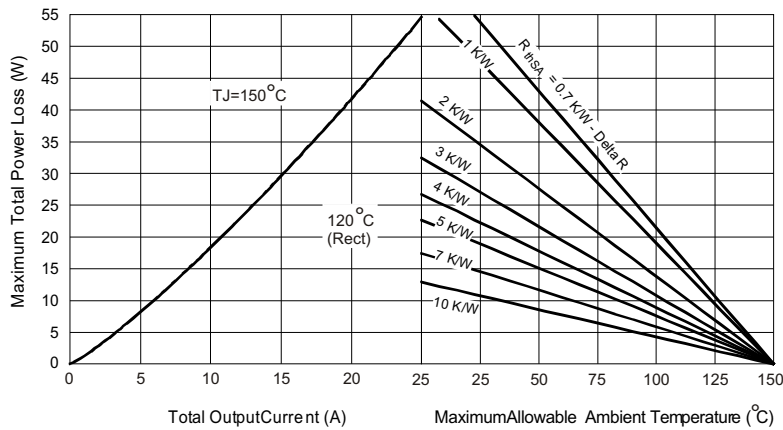


Fig. 4 Maximum Non-Repetitive Surge Current

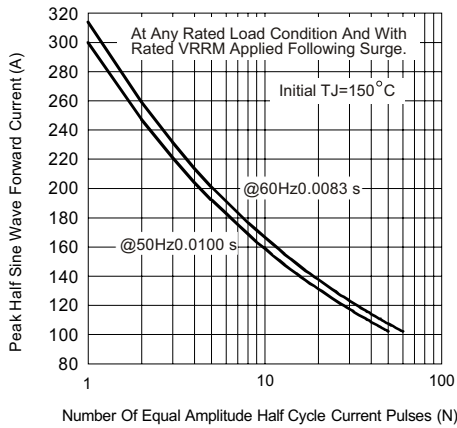


Fig. 5 Maximum Non-Repetitive Surge Current

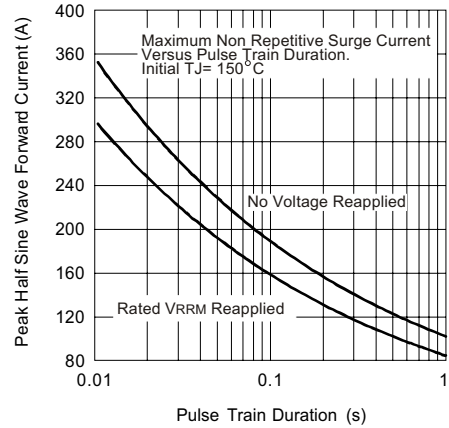


Fig. 6 Thermal Impedance Z_{thJC} Characteristics

