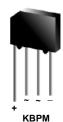


November 2010

2KBP005M/3N253 - 2KBP10M/3N259 Bridge Rectifiers

Features

- Surge overload rating: 60 amperes peak.
- Reliable low cost construction utilizing molded plastic technique.
- UL certified, UL #E111753.



* The nodules on the package may not be present on the actual parts.

Absolute Maximum Ratings * T_a = 25°C unless otherwise noted

| | | Value | | | | | | | |
|--------------------|--|-------------|-----|-----|-----|-----|-----|------|-------|
| Symbol | Parameter | 005M | 01M | 02M | 04M | 06M | M80 | 10M | Units |
| | | 253 | 254 | 255 | 256 | 257 | 258 | 259 | |
| V _{RRM} | Maximum Repetitive Reverse Voltage | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| V _{RMS} | Maximum RMS Bridge Input Voltage | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| V _R | DC Reverse Voltage (Rated V _R) | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| I _{F(AV)} | Average Rectified Forward Current, @ T _A = 50°C 2.0 | | | А | | | | | |
| I _{FSM} | Non-Repetitive Peak Forward Surge Current 8.3ms Single Half-Sine-Wave | 60 | | | А | | | | |
| T _{STG} | Storage Temperature Range | -55 to +150 | | °C | | | | | |
| T _J | Junction Temperature | -55 to +150 | | | °C | | | | |

^{*} These ratings are limiting values above which the serviceability of any semiconductor device may by impaired.

Thermal Characteristics

| Symbol | Parameter | Value | Units |
|-----------------|--|-------|-------|
| P _D | Power Dissipation | 4.7 | W |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient, * per leg | 18 | °C/W |

^{*} Device mounted on PCB with 0.47 \times 0.47" (12 \times 12mm).

Electrical Characteristics $T_a = 25$ °C unless otherwise noted

| Symbol | Parameter | Value | Units |
|----------------|---|-------|------------------|
| V _F | Forward Voltage, per element @ 3.14A | 1.1 | V |
| I _R | Reverse Current, per element @ Rated V_R $T_A = 25^{\circ}C$ $T_A = 125^{\circ}C$ | | μA μA |
| | I ² t Rating for Fusing t < 8.35ms | 15 | A ² s |
| C _T | Total Capacitance, per leg $V_R = 4.0 \text{ V}, f = 1.0 \text{ MHz}$ | 25 | pF |

Typical Performance Characteristics

Figure 1. Forward Curve Derating Curve

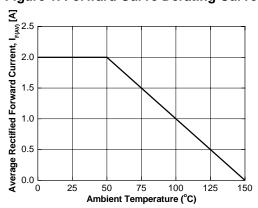


Figure 3. Reverse Current vs Reverse Voltage

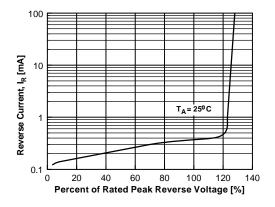


Figure 2. Forward Voltage Characteristics

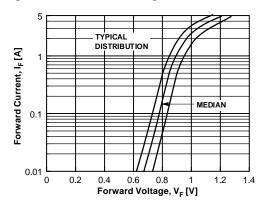
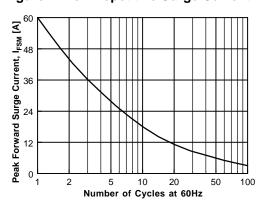


Figure 4. Non-Repetitive Surge Current







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