

Features

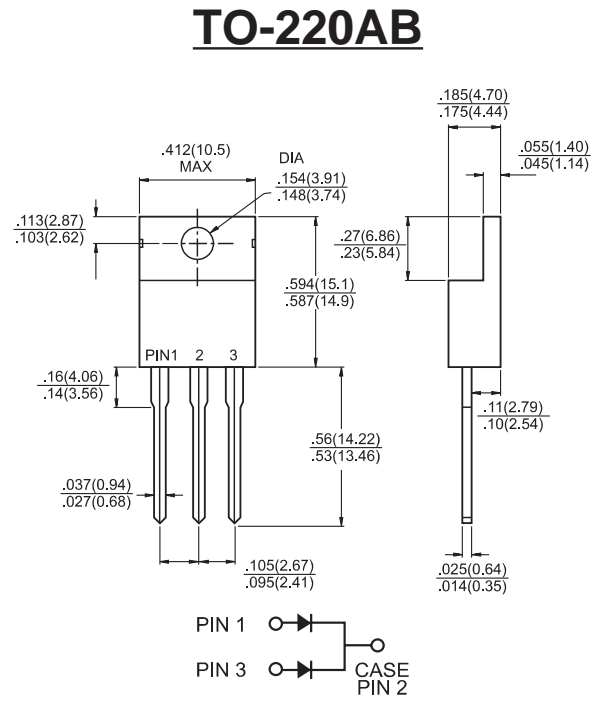
- ◇ Superfast recovery times-epitaxial construction
- ◇ Low forward voltage,High current capability
- ◇ Low Power loss
- ◇ Fast switching for high efficiency
- ◇ Excellent low reverse leakages
- ◇ Excellent high temperature stability
- ◇ Low stored charge majority carrier conduction
- ◇ High forward surge capability
- ◇ Lead free finish ,Rohs and WEEE compliant.

Applications

- ◇ DC to DC converter
- ◇ Switching mode converters and inverters
- ◇ Lighting application
- ◇ Power Supply-output rectification
- ◇ Power Management
- ◇ Freewheeling application

Mechanical Data

- ◇ Moisture Sensitivity: MSL Level 1,per J-STD-020
- ◇ Terminals:Matte Tin Finish.
Solderable per MIL-STD-202 Method 208
- ◇ Case Material: Molded Plastic;
Molding compound meet UL Flammability Classification Rating 94V-0
- ◇ Case:JEDEC TO-220AB



Dimensions in inches and (millimeters)

MAXIMUM RATING

Ratings at 25°C ambient temperature unless otherwise specified.

| PARAMETER | SYMBOL | VALUE | UNITS |
|---|-----------------|---------------------|------------------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 200 | V |
| Maximum RMS voltage | V_{RWS} | 140 | V |
| Maximum DC blocking voltage | V_{DC} | 200 | V |
| Maximum average forward rectified current Tc=120°C | $I_{F(AV)}$ | Total diode 20.0 | A |
| | | Per leg 10.0 | A |
| Peak forward surge current 8.3ms half-sine-wave | I_{FSM} | 100 | A |
| I ² t Rating for Fusing (t<8.3ms) | I^2t | 41.5 | A ² s |
| Typical Thermal Resistance | $R_{\theta JA}$ | 60 | °C/W |
| | $R_{\theta JC}$ | 3.0 | °C/W |
| Junction temperature | T_J | 150 | °C |
| Storage temperature range | TSTG | -55~150 | °C |

ELELTRICAL CHARACTERISTICS

| PARAMETER | TEST CONDITIONS | SYMBOL | VALUE | | | UNITS |
|--|-----------------|-----------------|-------|-----|-------|-------|
| | | | Min | Typ | Max | |
| Breakdown voltage per diode(min) | IR=0.01mA | VB _R | 200 | - | - | V |
| Instantaneous forward voltage | IF=10.0A | TA= 25°C | VF | - | 0.975 | V |
| | per leg | TA= 100°C | VF | - | 0.895 | V |
| Maximum DC reverse current @Rated DC Blocking Vlotage | TA= 25°C | | IR | - | 10 | μ A |
| | TA=100°C | | IR | - | 1000 | μ A |
| Revese Recovery Time (IF=0.5A, IR=1.0A, IRR=0.25A) | | | trr | - | 25 | ns |

ODERING PACK INFORMATION

| Part No. | Packge | Pcking | Box Size L×W×H(mm) | Quatity(pcs/box) | Carton Size L×W×H(mm) | Quatity(pcs/carton) |
|-----------|----------|------------|-----------------------|------------------|--------------------------|---------------------|
| BYW51-200 | TO-220AB | 50pcs/Tube | 558×148×38 | 1000 | 565×225×170 | 5000 |

RATING AND CHARACTERISTICS CURVES

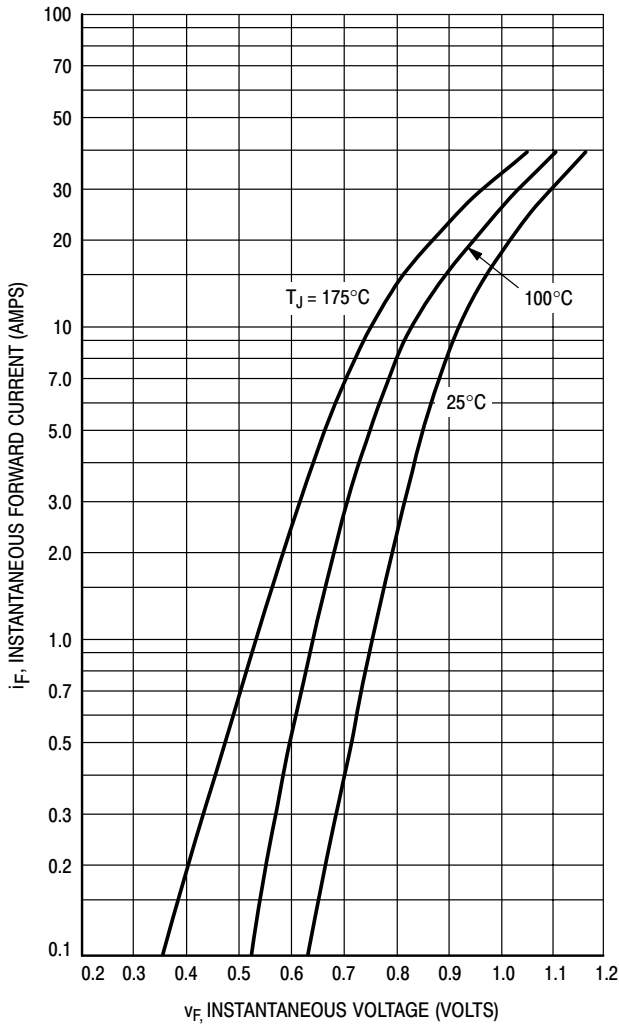


Figure 1. Typical Forward Voltage, Per Leg

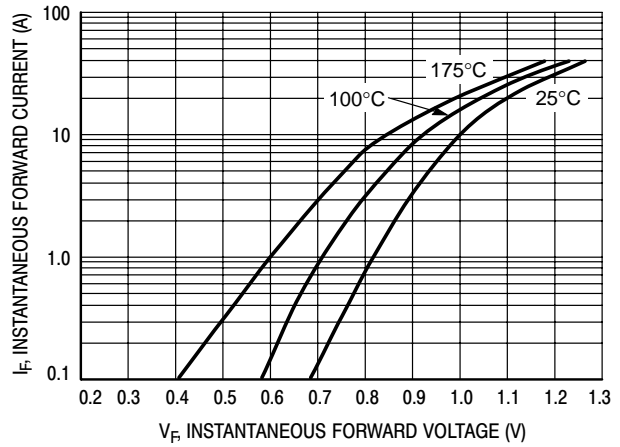


Figure 2. Maximum Forward Voltage

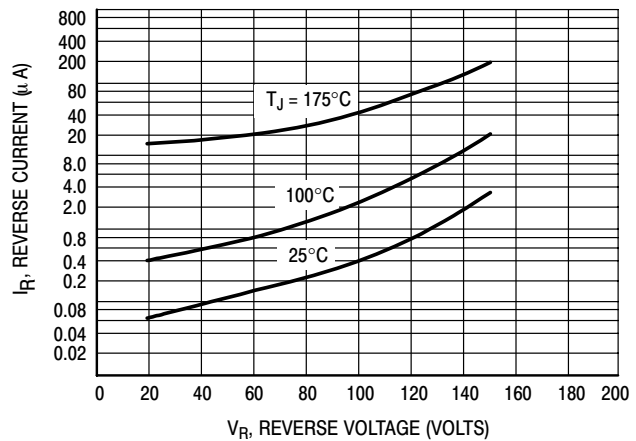


Figure 3. Typical Reverse Current, Per Leg*

* The curves shown are typical for the highest voltage device in the voltage grouping. Typical reverse current for lower voltage selections can be estimated from these same curves if V_R is sufficiently below rated V_R .

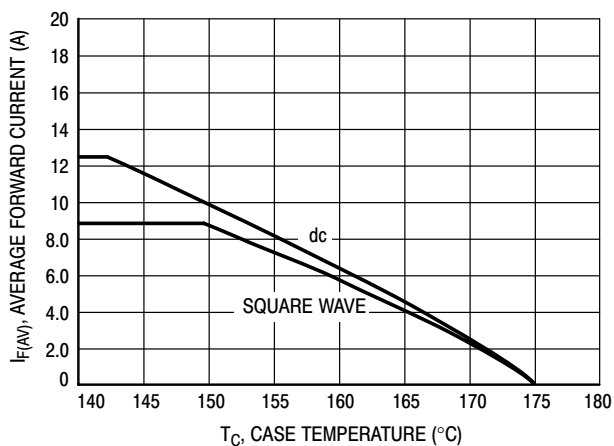


Figure 4. Current Derating, Case, Per Leg

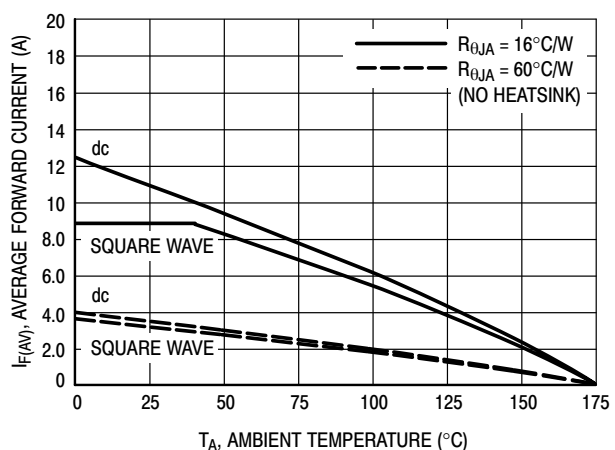


Figure 5. Current Derating, Ambient, Per Leg

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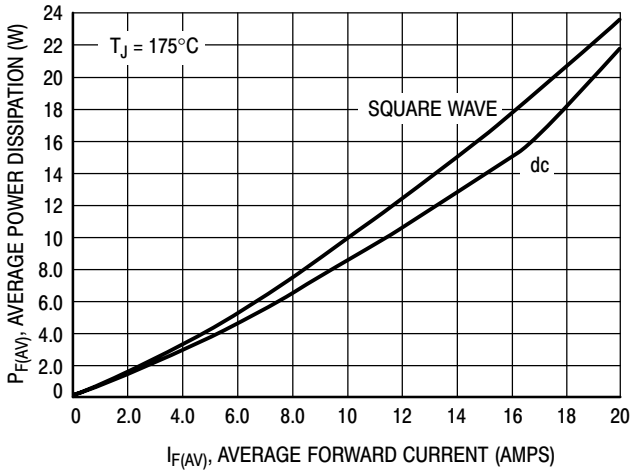


Figure 6. Power Dissipation, Per Leg

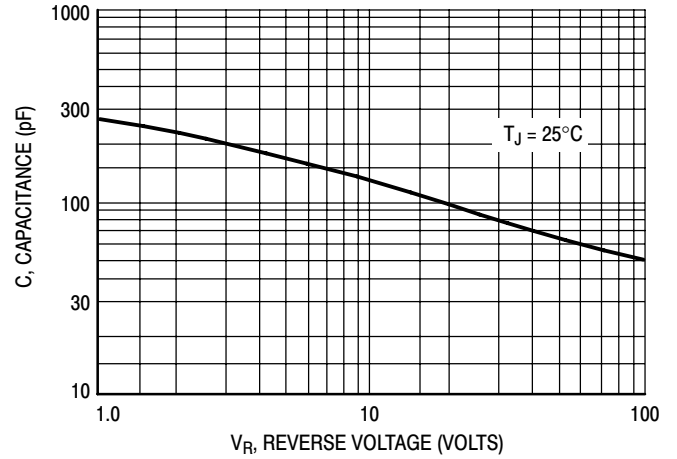


Figure 7. Typical Capacitance, Per Leg