

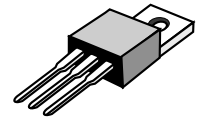
## Schottky Barrier Rectifiers

Using the Schottky Barrier principle with a Molybdenum barrier metal. These state-of-the-art geometry features epitaxial construction with oxide passivation and metal overlay contact. Ideally suited for low voltage, high frequency rectification, or as free wheeling and polarity protection diodes.

- \* Low Forward Voltage.
- \* Low Switching noise.
- \* High Current Capacity
- \* Guarantee Reverse Avalanche.
- \* Guard-Ring for Stress Protection.
- \* Low Power Loss & High efficiency.
- \* 125 °C Operating Junction Temperature
- \* Low Stored Charge Majority Carrier Conduction.
- \* Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-O

### SCHOTTKY BARRIER RECTIFIERS

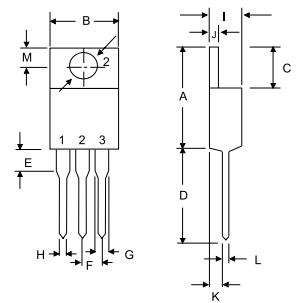
**10 AMPERES  
70 -- 100 VOLTS**



**TO-220AB**

### MAXIMUM RATINGS

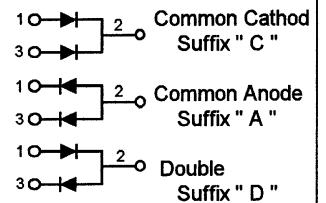
| Characteristic  | Symbol                          | S10C          |    |    |     | Unit |
|---|---------------------------------|---------------|----|----|-----|------|
|   |                                 | 70            | 80 | 90 | 100 |      |
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                    | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 70            | 80 | 90 | 100 | V    |
| RMS Reverse Voltage   | $V_{R(RMS)}$                    | 49            | 56 | 63 | 70  | V    |
| Average Rectifier Forward Current<br>Total Device (Rated $V_R$ ), $T_c=100^\circ\text{C}$                 | $I_{F(AV)}$                     | 5.0<br>10     |    |    |     | A    |
| Peak Repetitive Forward Current<br>(Rate $V_R$ , Square Wave, 20kHz)                                      | $I_{FM}$                        | 10            |    |    |     | A    |
| Non-Repetitive Peak Surge Current<br>(Surge applied at rate load conditions halfwave, single phase, 60Hz) | $I_{FSM}$                       | 125           |    |    |     | A    |
| Operating and Storage Junction Temperature Range  | $T_J, T_{stg}$                  | - 65 to + 125 |    |    |     | °C   |



| DIM | MILLIMETERS |       |
|-----|-------------|-------|
|     | MIN         | MAX   |
| A   | 14.68       | 15.32 |
| B   | 9.78        | 10.42 |
| C   | 6.01        | 6.52  |
| D   | 13.06       | 14.62 |
| E   | 3.57        | 4.07  |
| F   | 2.42        | 2.66  |
| G   | 1.12        | 1.36  |
| H   | 0.72        | 0.96  |
| I   | 4.22        | 4.98  |
| J   | 1.14        | 1.36  |
| K   | 2.20        | 2.97  |
| L   | 0.33        | 0.55  |
| M   | 2.48        | 2.98  |
| O   | 3.70        | 3.90  |

### ELECTRICAL CHARACTERISTICS

| Characteristic   | Symbol | S10C         |    |              |     | Unit |
|--|--------|--------------|----|--------------|-----|------|
|  |        | 70           | 80 | 90           | 100 |      |
| Maximum Instantaneous Forward Voltage<br>( $I_F=5.0$ Amp, $T_c = 25^\circ\text{C}$ )<br>( $I_F=5.0$ Amp, $T_c = 100^\circ\text{C}$ )     | $V_F$  | 0.75<br>0.67 |    | 0.85<br>0.76 |     | V    |
| Maximum Instantaneous Reverse Current<br>(Rated DC Voltage, $T_c = 25^\circ\text{C}$ )<br>(Rated DC Voltage, $T_c = 100^\circ\text{C}$ ) | $I_R$  |              |    | 5.0<br>50    |     | mA   |



# S10C70 , S10C80

FIG-1 FORWARD CURRENT DERATING CURVE

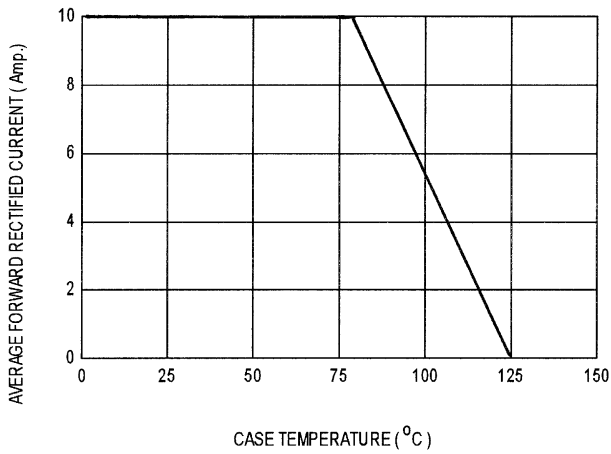


FIG-2 TYPICAL FORWARD CHARACTERISTICS

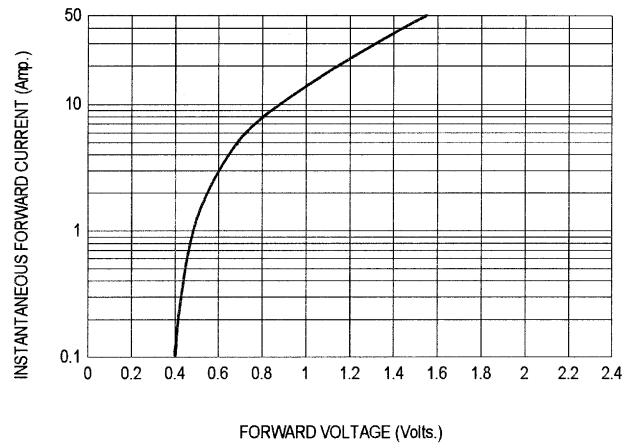


FIG-3 TYPICAL REVERSE CHARACTERISTICS

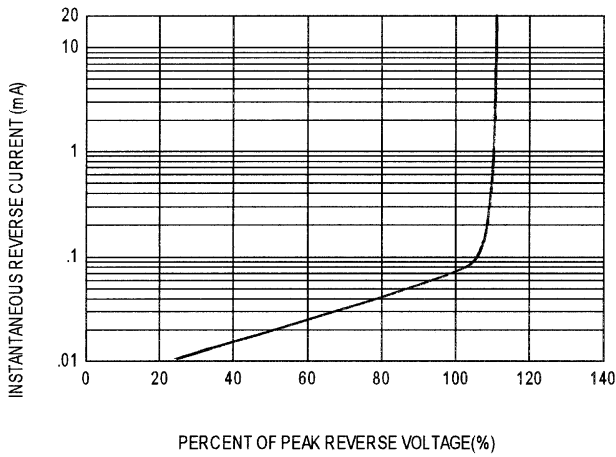


FIG-4 TYPICAL JUNCTION CAPACITANCE

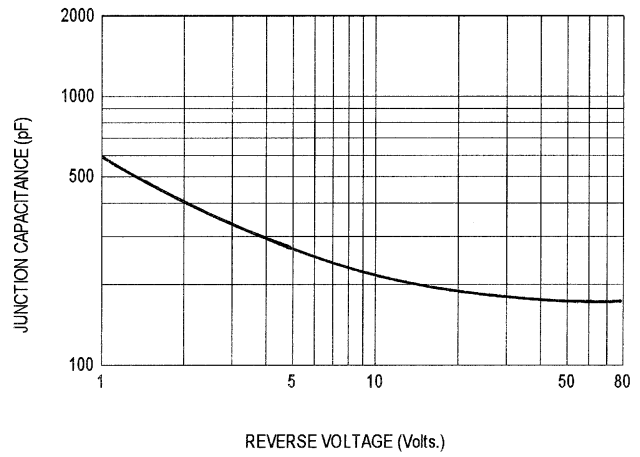
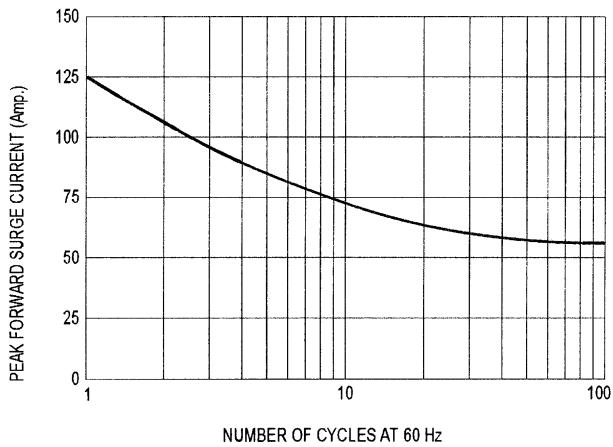


FIG-5 PEAK FORWARD SURGE CURRENT



# S10C90 , S10C100

FIG-1 FORWARD CURRENT DERATING CURVE

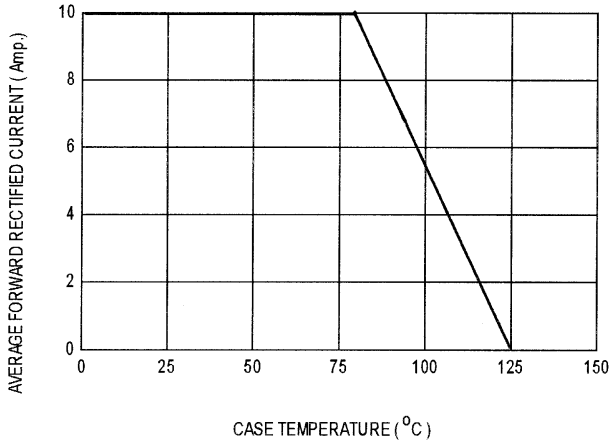


FIG-2 TYPICAL FORWARD CHARACTERISTICS

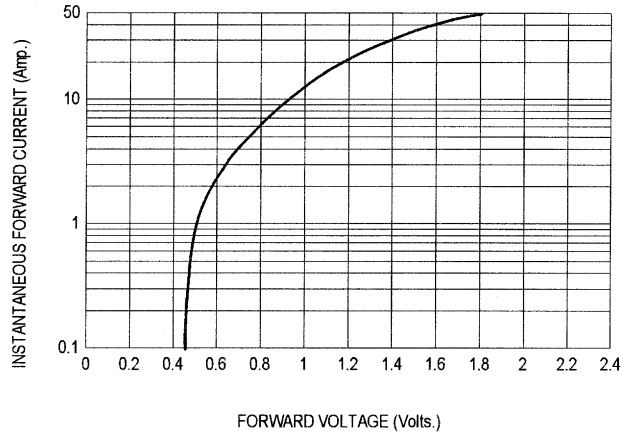


FIG-3 TYPICAL REVERSE CHARACTERISTICS

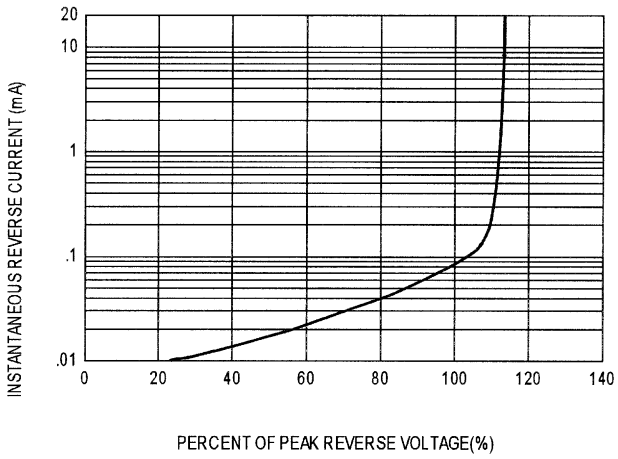


FIG-4 TYPICAL JUNCTION CAPACITANCE

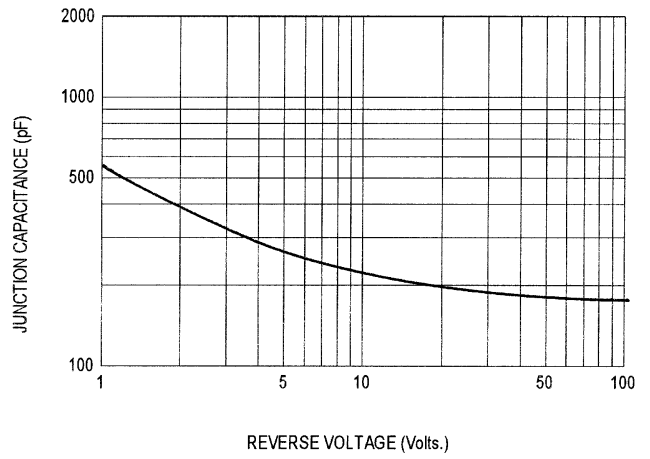


FIG-5 PEAK FORWARD SURGE CURRENT

