

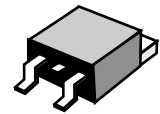
## SWITCHMODE POWER RECTIFIERS D<sup>2</sup> PAK SURFACE MOUNT POWER PACKAGE

The D<sup>2</sup> PAK Power rectifier employs the Schottky Barrier principle with a Molybdenum barrier metal. These state-of-the-art devices have the following features:

- \* Low Forward Voltage
- \* Low Switching noise
- \* High Surge Capacity
- \* Guarantee Reverse Avalance
- \* Guard-Ring for Stress Protection
- \* Lower Power Loss & High efficiency
- \* 125 °C Operating Junction Temperature
- \* Lower Stored Charge Majority Carrier Conduction
- \* Similar Size to the industry Standard TO-220 Package
- \* Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-0

### SCHOTTKY BARRIER RECTIFIERS

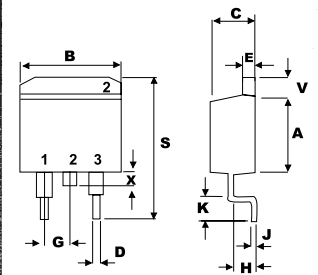
**16 AMPERES  
70 -- 100 VOLTS**



TO-263 (D2-PAK)

### MAXIMUM RATINGS

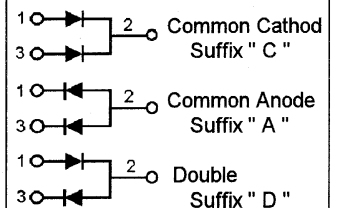
| Characteristic                                                                                              | Symbol                          | S16S          |    |    |     | Unit |
|-------------------------------------------------------------------------------------------------------------|---------------------------------|---------------|----|----|-----|------|
|                                                                                                             |                                 | 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                                                           | $I_{F(AV)}$                     | 8.0<br>16     |    |    |     | A    |
| Peak Repetitive Forward Current<br>( Rate $V_R$ , Square Wave, 20kHz )                                      | $I_{FRM}$                       | 16            |    |    |     | A    |
| Non-Repetitive Peak Surge Current<br>( Surge applied at rate load conditions halfwave, single phase, 60Hz ) | $I_{FSM}$                       | 150           |    |    |     | A    |
| Operating and Storage Junction<br>Temperature Range                                                         | $T_J, T_{stg}$                  | - 65 to + 125 |    |    |     | °C   |



| DIM | MILLIMETERS |       |
|-----|-------------|-------|
|     | MIN         | MAX   |
| A   | 8.12        | 9.00  |
| B   | 9.70        | 10.30 |
| C   | 4.23        | 4.90  |
| D   | 0.51        | 1.15  |
| E   | 1.10        | 1.50  |
| G   | 2.54 BSC    |       |
| H   | 2.03        | 2.79  |
| J   | 0.30        | 0.50  |
| K   | 2.29        | 2.90  |
| S   | 14.60       | 16.00 |
| V   | 1.40        | 1.83  |
| X   | -----       | 1.70  |

### ELECTRICAL CHARACTERISTICS

| Characteristic                                                                                                          | Symbol | S16S         |    |              |     | Unit |
|-------------------------------------------------------------------------------------------------------------------------|--------|--------------|----|--------------|-----|------|
|                                                                                                                         |        | 70           | 80 | 90           | 100 |      |
| Maximum Instantaneous Forward<br>Voltage<br>( $I_F=8.0$ Amp, $T_C = 25$ °C )<br>( $I_F=8.0$ Amp, $T_C = 100$ °C )       | $V_F$  | 0.75<br>0.68 |    | 0.85<br>0.76 |     | V    |
| Maximum Instantaneous Reverse<br>Current<br>( Rated DC Voltage, $T_C = 25$ °C )<br>( Rated DC Voltage, $T_C = 100$ °C ) | $I_R$  | 5.0<br>50    |    |              |     | mA   |



# S16S70 , S16S80

FIG-1 FORWARD CURRENT DERATING CURVE

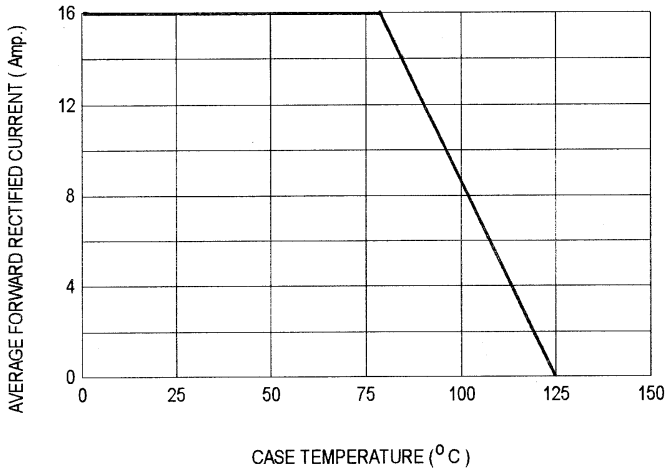


FIG-2 TYPICAL FORWARD CHARACTERISTICS

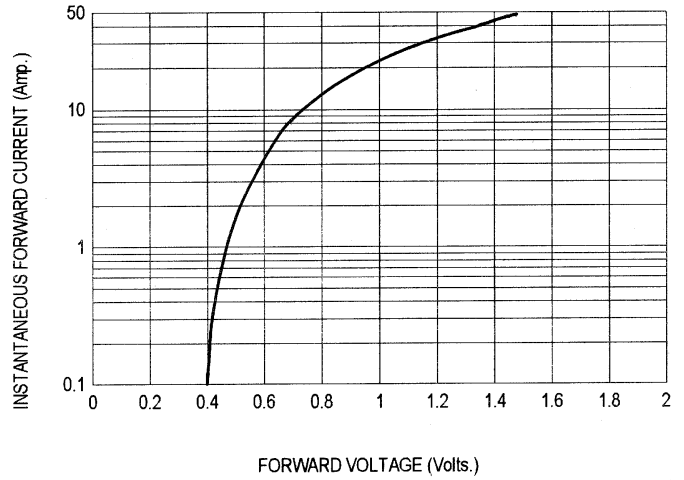


FIG-3 TYPICAL REVERSE CHARACTERISTICS

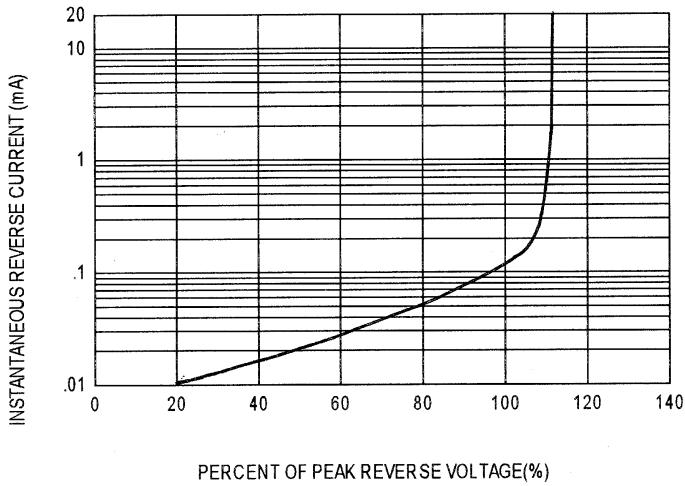


FIG-4 TYPICAL JUNCTION CAPACITANCE

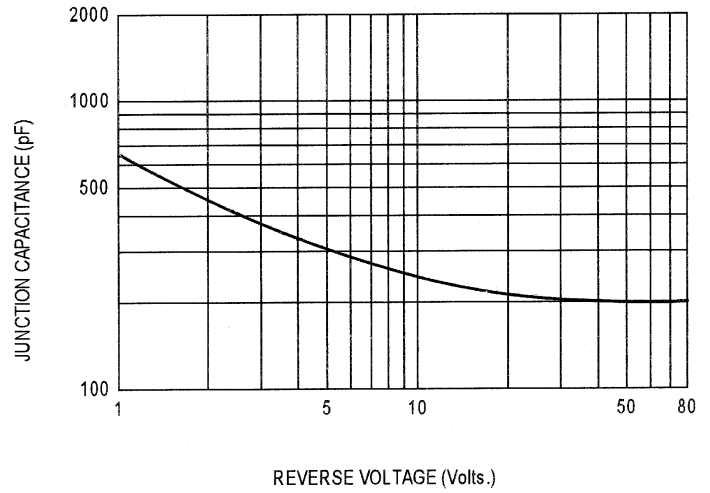
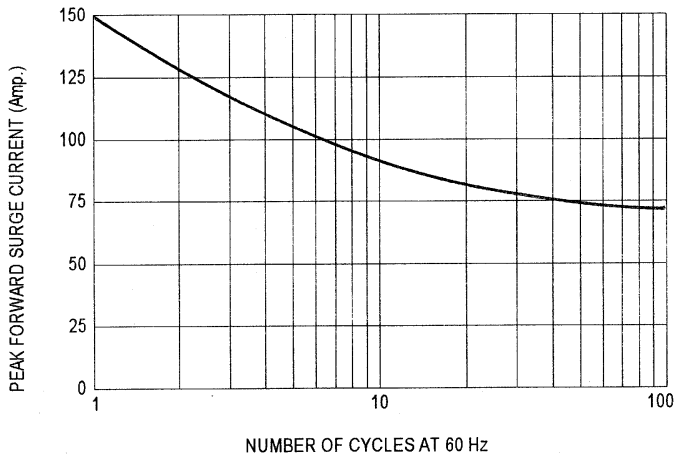


FIG-5 PEAK FORWARD SURGE CURRENT



# S16S90 , S16S100

FIG-1 FORWARD CURRENT DERATING CURVE

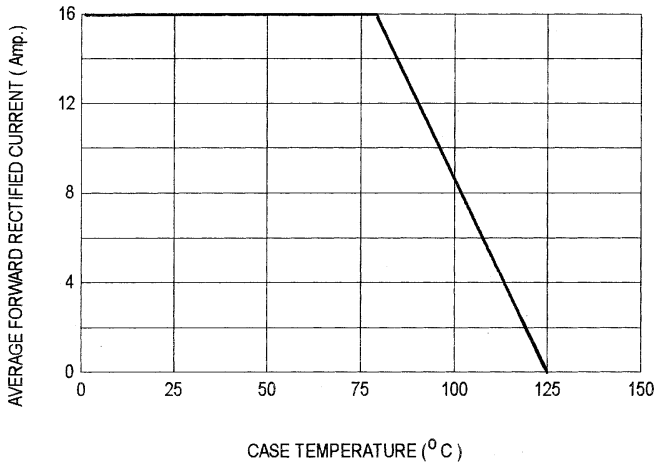


FIG-2 TYPICAL FORWARD CHARACTERISTICS

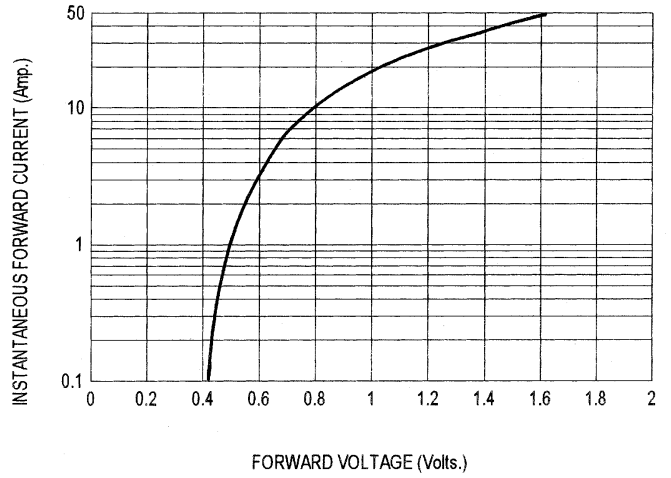


FIG-3 TYPICAL REVERSE CHARACTERISTICS

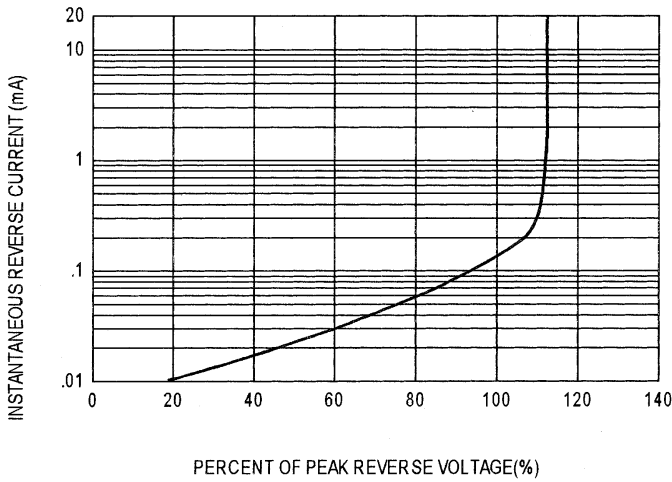


FIG-4 TYPICAL JUNCTION CAPACITANCE

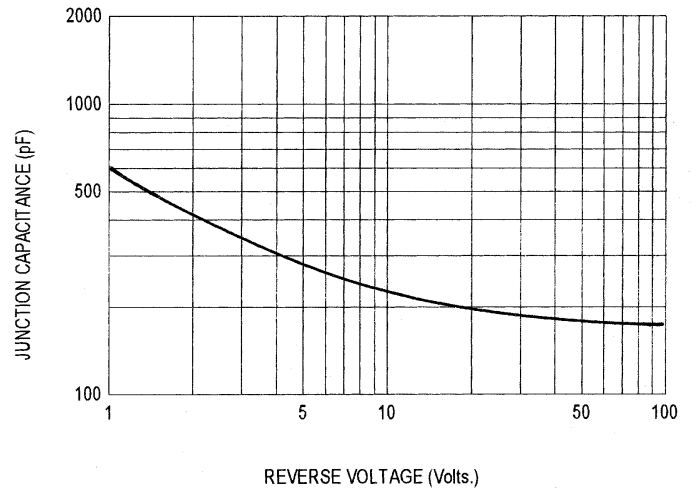


FIG-5 PEAK FORWARD SURGE CURRENT

