# MOSPEC

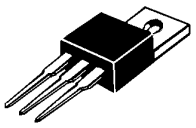
# S10T100C

## Switchmode
## Dual Schottky Barrier Power Rectifiers

Using the Schottky Barrier principle with a Refractory metal capable of high temperature operation metal. The proprietary barrier technology allows for reliable operation up to 150℃ junction temperature. Typical application are in switching Mode Power Supplies such as adaptors, DC/DC converters, free-wheeling and polarity protection diodes.

**SCHOTTKY BARRIER RECTIFIERS**

**10 AMPERES**
**100 VOLTS**

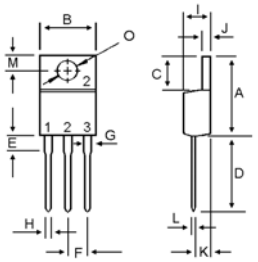


**TO-220AB**

**Features**

- ∗Low Forward Voltage.
- ∗Low Switching noise.
- ∗High Current Capacity
- ∗Guarantee Reverse Avalanche.
- ∗Guard-Ring for Stress Protection.
- ∗Low Power Loss & High efficiency.
- ∗150℃ Operating Junction Temperature
- ∗Low Stored Charge Majority Carrier Conduction.
- ∗Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-O
- ∗*In compliance with EU RoHs 2002/95/EC directives*

∗Mounting Torqure: 5 in-lbs.Max.




| DIM | MILLIMETERS | |
|---|---|---|
| | MIN | MAX |
| A | 14.68 | 15.32 |
| B | 9.78 | 10.42 |
| C | 5.02 | 6.52 |
| D | 13.06 | 14.62 |
| E | 3.57 | 4.07 |
| F | 2.42 | 2.66 |
| G | 1.20 | 1.47 |
| H | 0.72 | 0.96 |
| I | 4.22 | 4.98 |
| J | 1.14 | 1.38 |
| K | 2.20 | 2.98 |
| L | 0.33 | 0.55 |
| M | 2.48 | 2.98 |
| O | 3.70 | 3.90 |

## MAXIMUM RATINGS

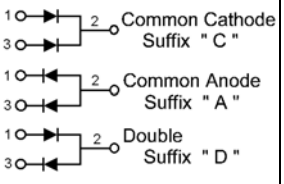
| Characteristic | Symbol | S10T100C | Unit |
|---|---|---|---|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 100 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 70 | V |
| Average Rectifier Forward Current ( per diode )<br>Total Device (Rated $V_R$), | $I_{F(AV)}$ | 5<br>10 | A |
| Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfware, single phase, 60Hz) | $I_{FSM}$ | 150 | A |
| Operating and Storage Junction Temperature Range | $T_J$ , $T_{stg}$ | -65 to +150 | ℃ |

## THERMAL RESISTANCES

| | | | |
|---|---|---|---|
| Typical Thermal Resistance junction to case ( per device ) | $R_{\theta j-c}$ | 7 | ℃/w |

## ELECTRICAL CHARACTERISTICS

| Characteristic | Symbol | Min | Typ. | Max. | Unit |
|---|---|---|---|---|---|
| Maximum Instantaneous Forward Voltage ( per diode )<br>( $I_F$ =0.1 Amp $T_C$ = 25℃ )<br>( $I_F$ =5.0 Amp $T_C$ = 25℃ ) | $V_F$ | <br>---<br>--- | <br>0.34<br>0.67 | <br>0.36<br>0.69 | V |
| Maximum Instantaneous Reverse Current<br>( Rated DC Voltage, $T_C$ = 25℃ )<br>( Rated DC Voltage, $T_C$ = 125℃ ) | $I_R$ | <br>--<br>-- | <br>0.03<br>7 | <br>0.05<br>10 | mA |



# S10T100C

FIG-1 FORWARD CURRENT DERATING CURVE

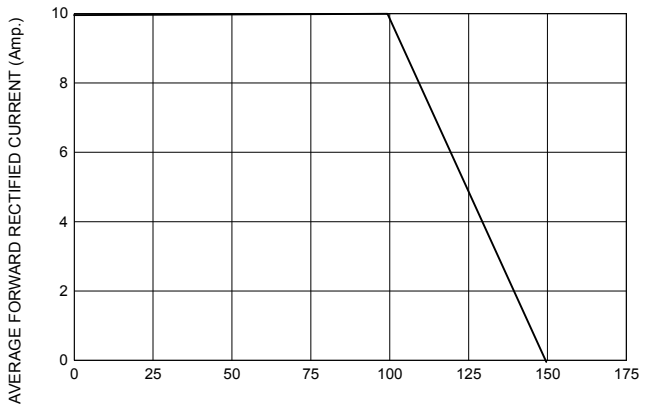



FIG-2 TYPICAL FORWARD CHARACTERISITICS

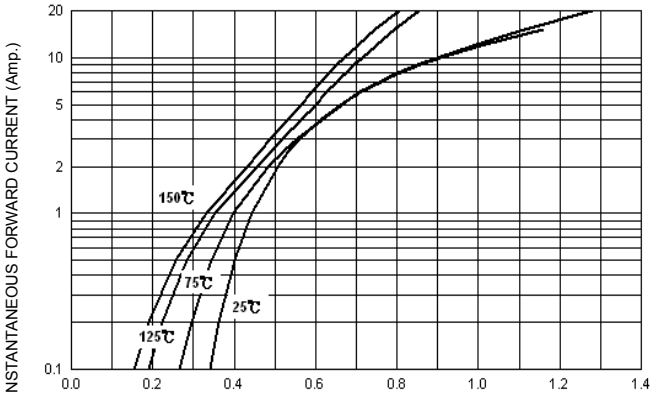



FIG-3 TYPICAL REVERSE CHARACTERISTICS

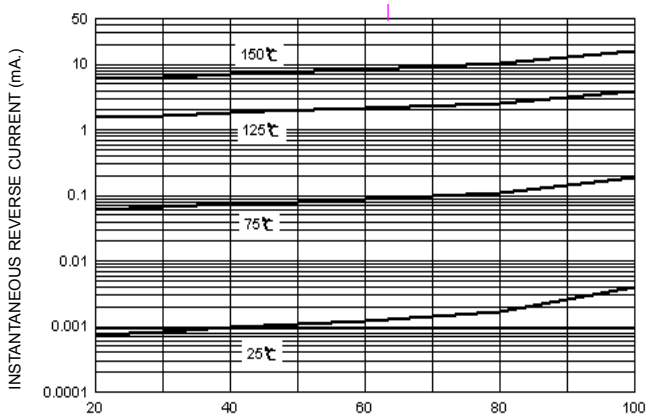



FIG-4 TYPICAL JUNCTION CAPACITANCE

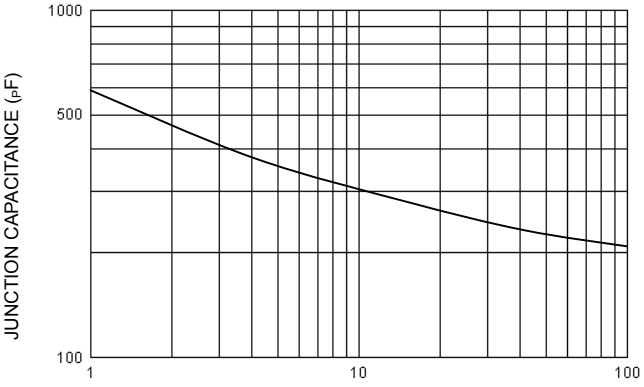



FIG-5 PEAK FORWARD SURGE CURRENT