# MOSPEC

# S40D60CL

## Switchmode Schottky Barrier Power Rectifiers

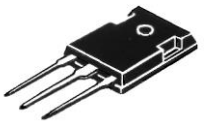
Using the Schottky Barrier principle with high temperature operation metal. The proprietary barrier technology allows for reliable operation up to 150℃ junction temperature. Typical applications are in switching Mode Power Supplies such as adapters, Photovoltaic Solar cell protection, free- wheeling and polarity protection diodes.

**SCHOTTKY BARRIER RECTIFIERS**

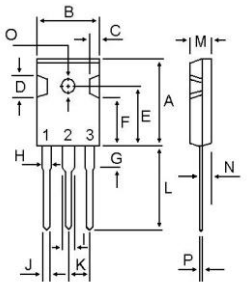
**40 AMPERES 60VOLTS**

**Features**

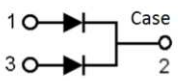
- ∗Ultra Low Forward Voltage.
- ∗Low Switching noise.
- ∗High Current Capacity
- ∗Low Power Loss & High efficiency.
- ∗150℃ Operating Junction Temperature
- ∗Low Stored Charge Majority Carrier Conduction.
- ∗Plastic Material used Carries Underwriters Laboratory
- ∗Flammability Classification 94V-O
- ∗Pb free
- ∗In compliance with EU RoHs directives



**TO-3P**




| DIM | MILLIMETERS | |
|---|---|---|
| | MIN | MAX |
| A | 20.80 | 21.80 |
| B | 15.38 | 16.20 |
| C | 1.90 | 2.70 |
| D | 5.10 | 6.10 |
| E | 14.50 | 15.50 |
| F | 11.20 | 13.20 |
| G | 3.75 | 4.35 |
| H | 1.90 | 2.30 |
| I | 2.90 | 3.30 |
| J | 1.00 | 1.40 |
| K | 5.26 | 5.66 |
| L | 19.50 | 20.50 |
| M | 4.68 | 5.36 |
| N | 2.30 | 2.60 |
| O | 3.45 | 3.85 |
| P | 0.48 | 0.72 |




## MAXIMUM RATINGS

| Characteristic | Symbol | S40D60CL | Unit |
|---|---|---|---|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 60 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 42 | V |
| Average Rectifier Forward Current ( per diode )<br>Total Device (Rated $V_R$), | $I_{F(AV)}$ | 20<br>40 | A |
| Non-Repetitive Peak Surge Current (Surge applied at rate load conditions half-ware, single phase, 60Hz) | $I_{FSM}$ | 250 | A |
| Operating and Storage Junction Temperature Range | $T_J$ , $T_{stg}$ | -65 to +150 | ℃ |

## ELECTRICAL CHARACTERISTICS

| Characteristic | Symbol | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|
| Maximum Instantaneous Forward Voltage ( per diode )<br>( $I_F$ =20 Amp $T_C$ = 25℃)<br>( $I_F$ =20.Amp $T_C$ = 125℃) | $V_F$ | ---<br>--- | 0.53<br>0.52 | 0.60<br>--- | V |
| Maximum Instantaneous Reverse Current<br>( Rated DC Voltage, $T_C$ = 25℃)<br>( Rated DC Voltage, $T_C$ = 125℃) | $I_R$ | ---<br>--- | 0.13<br>35 | 0.20<br>--- | mA |

FIG-1 TYPICAL FORWARD CURRENT DERATING CURVE

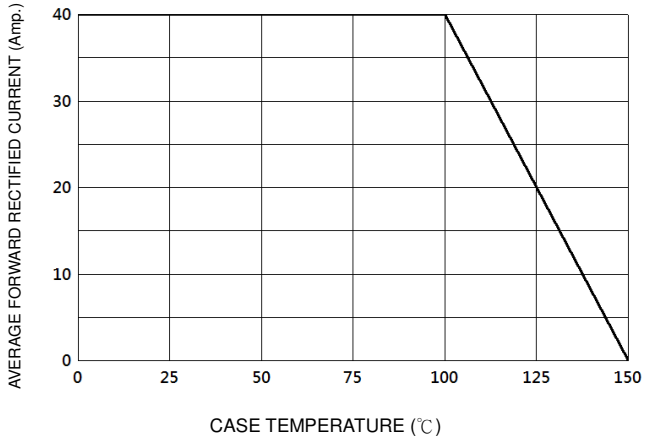



FIG-2 TYPICAL FORWARD CHARACTERISTICS

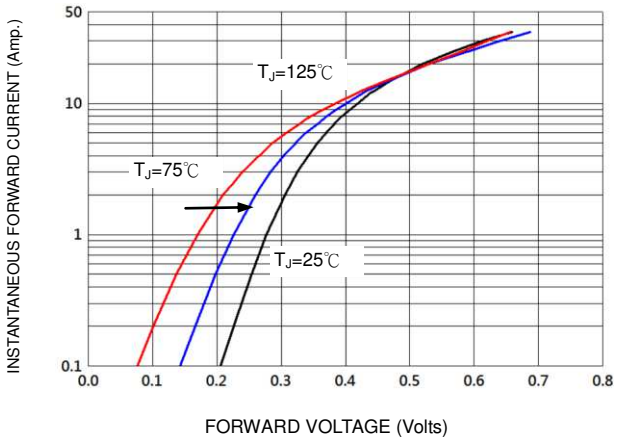



FIG-3 TYPICAL REVERSE CHARACTERISTICS

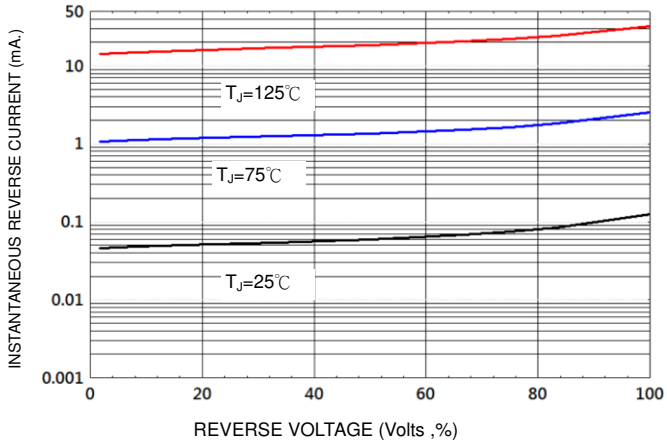



FIG-4 TYPICAL JUNCTION CAPACITANCE

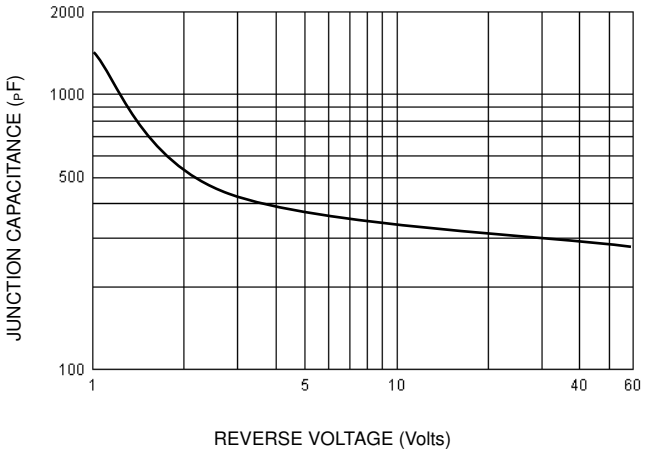
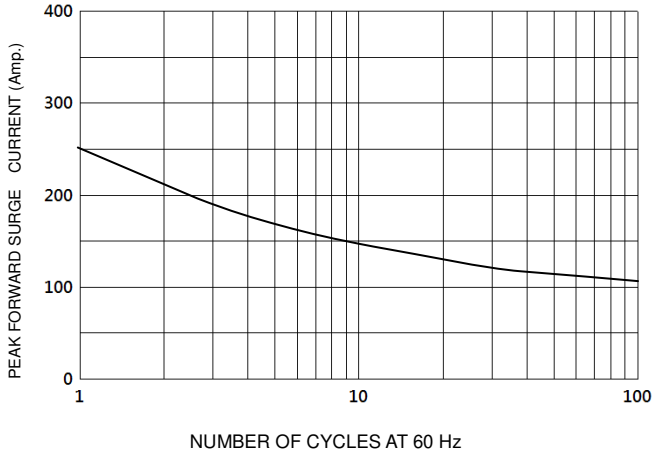



FIG-5 TYPICAL PEAK FORWARD SURGE CURRENT



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