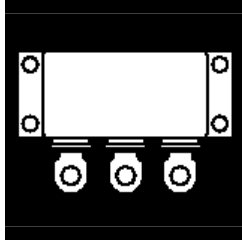


Preliminary Data SheetOM6056SB OM6058SB OM6060SB
OM6057SB OM6059SB OM6061SB**POWER MOSFETS IN A HERMETIC ISOLATED
POWER BLOCK PACKAGE**

**High Current, High Voltage 100V Thru 1000V,
Up To 190 Amp N-Channel, Size 7 MOSFETs**

FEATURES

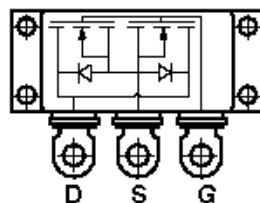
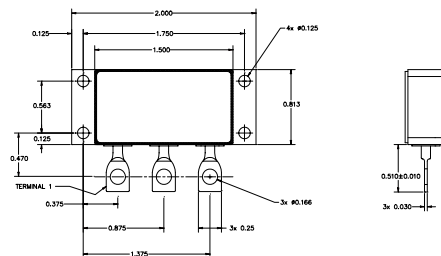
- Size 7 Die, High Energy
- Rugged Package Design
- Solder Terminals
- Very Low $R_{DS(on)}$
- Fast Switching, Low Drive Current
- Available Screened To MIL-S-19500, TX, TXV And S Levels
- Ceramic Feedthroughs

DESCRIPTION

This series of hermetically packaged products feature the latest advanced MOSFET technology combined with a package designed specifically for high efficiency, high current applications. They are ideally suited for Hi-Rel requirements where small size, high performance and high reliability are required, and in applications such as switching power supplies, motor controls, inverters, choppers, audio amplifiers and high energy pulse circuits. This series also features avalanche high energy capability at elevated temperatures.

MAXIMUM RATINGS @ 25°C

| PART NUMBER | V_{DS} | $R_{DS(on)}$ | I_D (Continuous) |
|-------------|----------|---------------|--------------------|
| OM6056SB | 100 V | .008 Ω | 190 A |
| OM6057SB | 200 V | .018 Ω | 105 A |
| OM6058SB | 500 V | .095 Ω | 58 A |
| OM6059SB | 600 V | .140 Ω | 48 A |
| OM6060SB | 800 V | .300 Ω | 34 A |
| OM6061SB | 1000 V | .500 Ω | 18 A |

3.1**PIN CONNECTION
AND SCHEMATIC****MECHANICAL OUTLINE**

OM6056SB - OM6061SB**ABSOLUTE MAXIMUM RATINGS** ($T_C = 25^\circ\text{C}$ unless otherwise noted)

| Parameter | Symbol | OM6056SB | OM6057SB | OM6058SB | OM6059SB | OM6060SB | OM6061SB | Unit |
|--|----------------|-------------|----------|----------|----------|----------|----------|--------------------|
| Drain Source Voltage | V_{DS} | 100 | 200 | 500 | 600 | 800 | 1000 | V |
| Drain Gate Voltage ($R_{GS} = 1.0\text{ M}\Omega$) | V_{DGR} | 100 | 200 | 500 | 600 | 800 | 1000 | V |
| Continuous Drain Current @ $T_C = 25^\circ\text{C}^2$ | I_D | 190 | 105 | 58 | 48 | 34 | 18 | A |
| Continuous Drain Current @ $T_C = 100^\circ\text{C}^2$ | I_D | 82 | 44 | 25 | 19 | 15 | 7.5 | A |
| Pulsed Drain Current ¹ | I_{DM} | 440 | 250 | 130 | 110 | 78 | 42 | A |
| Max. Power Dissipation @ $T_C = 25^\circ\text{C}$ | P_D | 570 | | | | | | W |
| Max. Power Dissipation @ $T_C = 100^\circ\text{C}$ | P_D | 245 | | | | | | W |
| Linear Derating Factor Junction-to-Case | | 4.35 | | | | | | $W/^\circ\text{C}$ |
| Linear Derating Factor Junction-to-Ambient | | .033 | | | | | | $W/^\circ\text{C}$ |
| Operating and Storage Temp. Range | T_J, T_{stg} | -55 to +150 | | | | | | $^\circ\text{C}$ |
| Lead Temperature (1/16" from case for 10 sec.) | | 230 | | | | | | $^\circ\text{C}$ |

Notes: 1. **Pulse Test:** Pulse Width $\leq 300\ \mu\text{sec}$, Duty Cycle $\leq 2\%$. 2. **Package Pin Limitation:** 100 Amps @ 125°C .

THERMAL RESISTANCE (MAXIMUM) @ $T_A = 25^\circ\text{C}$

| | | | |
|--|------------|-----|--------------------|
| Junction-to-Case | R_{thJC} | .23 | $^\circ\text{C/W}$ |
| Junction-to-Ambient (Free Air Operation) | R_{thJA} | 30 | $^\circ\text{C/W}$ |

PRELIMINARY ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise noted)

| Characteristic | Test Condition | Symbol | Part No. | Min. | Max. | Units |
|-----------------------------------|---|---------------------------|-----------|------|-----------|---------------|
| Gate Threshold Voltage | $V_{DS} = V_{GS}, I_D = 250\ \mu\text{A}$ | $V_{GS(th)}$ | All | 2.0 | 4.0 | V |
| Gate-Source Leakage Current | $V_{GS} = \pm 20\text{ V}_{DC}$ | I_{GSS} | All | | ± 100 | nA |
| Off State Drain-Source Leakage | $V_{DS} = V_{DSS} \times 0.8$ $V_{GS} = 0\text{V}$ | $T_C = 25^\circ\text{C}$ | I_{DSS} | All | 10 | μA |
| | | $T_C = 125^\circ\text{C}$ | I_{DSS} | All | .10 | mA |
| Drain-Source Breakdown Voltage | $V_{GS} = 0\text{V}, I_D = 250\ \mu\text{A}$ | V_{DSS} | OM6056SB | 100 | | V |
| | | | OM6057SB | 200 | | |
| | | | OM6058SB | 500 | | |
| | | | OM6059SB | 600 | | |
| | | | OM6060SB | 800 | | |
| | | | OM6061SB | 1000 | | |
| Static Drain-Source On-Resistance | $V_{GS} = 10\text{V}, I_D = I_{D25} \times 0.5$ | $R_{DS(on)}$ | OM6056SB | | .008 | Ω |
| | | | OM6057SB | | .018 | |
| | | | OM6058SB | | .095 | |
| | | | OM6059SB | | .140 | |
| | | | OM6060SB | | .300 | |
| | | | OM6061SB | | .500 | |

The above data is preliminary. Please contact factory for additional data and the dynamic and switching characteristics.