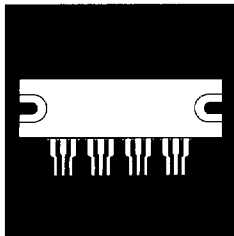


# FOUR UNCOMMITTED POWER MOSFETS, ULTRA LOW $R_{DS(on)}$ IN PLASTIC PACKAGES



Four 100 Volt, Up To 60 Amp Ultra Low  $R_{DS(on)}$  Power MOSFETs In Isolated Package

## FEATURES

- Four Uncommitted MOSFETs In Low Profile Power Package
- Isolated Heat Sink Package
- Ultra Low  $R_{DS(on)}$  .025 Ohms
- High Current/Fast Switching Times
- Easily Paralleled For Lower  $R_{DS(on)}$

## DESCRIPTION

This Quad MOSFET offers four individual, N-Channel, 100 V, low  $R_{DS(on)}$  devices in a single isolated power package. These devices are ideally suited for full "H" Bridge Industrial applications where small size and ultra low series resistance is required.

## MAXIMUM RATINGS (Per MOSFET)

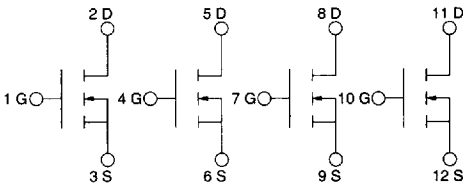
| PART NUMBER | $V_{DS}$ | $R_{DS(on)}$  | $I_D$ |
|-------------|----------|---------------|-------|
| OM6229SP2   | 100 V    | .025 $\Omega$ | 60 A  |

2.1

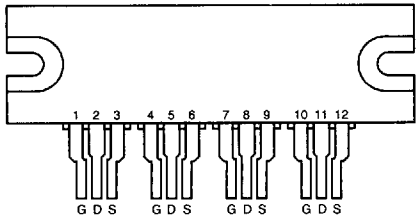
## THERMAL RESISTANCE (MAXIMUM) at $T_A = 25^\circ\text{C}$

|            |                     |     |                                       |
|------------|---------------------|-----|---------------------------------------|
| $R_{thJC}$ | Junction-to-Case    | 1.0 | $^\circ\text{C/W}$                    |
| $R_{thJA}$ | Junction-to-Ambient | 40  | $^\circ\text{C/W}$ Free Air Operation |

## SCHEMATIC



## PIN CONNECTION



6789073 0001096 T04

ELECTRICAL CHARACTERISTICS: OM6229SP2

| Parameter Per MOSFET                                              | Min. | Typ. | Max.      | Units    | Test Conditions                                       |
|-------------------------------------------------------------------|------|------|-----------|----------|-------------------------------------------------------|
| $BV_{DSS}$ Drain-Source Breakdown Voltage                         | 100  |      |           | V        | $V_{GS} = 0$ ,<br>$I_D = 250 \mu A$                   |
| $V_{GS(th)}$ Gate-Threshold Voltage                               | 2.0  |      | 4.0       | V        | $V_{DS} = V_{GS}$ , $I_D = 250 \mu A$                 |
| $I_{GSSF}$ Gate-Body Leakage                                      |      |      | $\pm 500$ | nA       | $V_{GS} = \pm 20$ V                                   |
| $I_{DSS}$ Zero Gate Voltage Drain Current                         |      |      | 250       | $\mu A$  | $V_{DS} = 100$ V, $V_{GS} = 0$                        |
|                                                                   |      |      | 1000      | $\mu A$  | $V_{DS} = 80$ V, $V_{GS} = 0$<br>$T_C = 125^\circ C$  |
| $I_{D(on)}$ On-State Drain Current <sup>1</sup>                   | 30   |      |           | A        | $V_{DS} \geq 10$ V, $V_{GS} = 10$ V                   |
| $R_{DS(on)}$ Static Drain-Source On-State Resistance <sup>1</sup> |      | .013 |           | $\Omega$ | $V_{GS} = 10$ V, $I_D = 30$ A                         |
|                                                                   |      | .021 | .025      |          | $T_C = 25^\circ C$                                    |
| $R_{DS(on)}$ Static Drain-Source On-State Resistance <sup>1</sup> |      |      | .05       | $\Omega$ | $V_{GS} = 10$ V, $I_D = 30$ A,<br>$T_C = 100^\circ C$ |

DYNAMIC

|                                                |    |      |     |    |                                         |
|------------------------------------------------|----|------|-----|----|-----------------------------------------|
| $g_{fs}$ Forward Transconductance <sup>1</sup> | 25 |      |     | S  | $V_{DS} \geq 15$ V, $I_D = 30$ A        |
| $C_{iss}$ Input Capacitance                    |    | 4000 |     | pF | $V_{GS} = 0$                            |
| $C_{oss}$ Output Capacitance                   |    | 1100 |     | pF | $V_{DS} = 25$ V                         |
| $C_{rss}$ Reverse Transfer Capacitance         |    | 350  |     | pF | $f = 1$ MHz                             |
| $T_{d(on)}$ Turn-On Delay Time                 |    |      | 90  | ns | $V_{DD} = 80$ V, $I_D \approx 30$ A     |
| $t_r$ Rise Time                                |    |      | 270 | ns | $R_{DS} = 50 \Omega$ , $R_L = 1 \Omega$ |

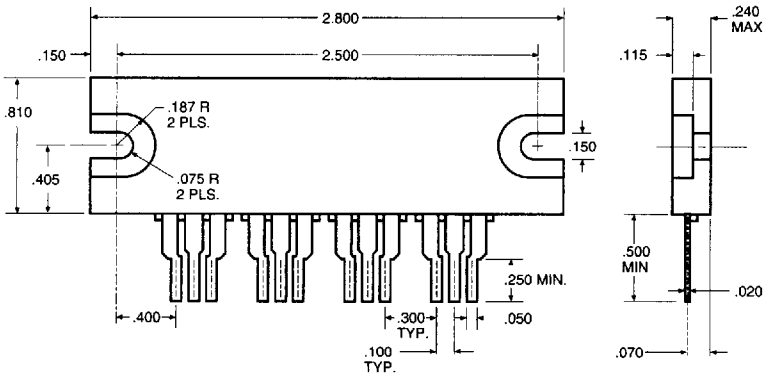
(MOSFET) switching times are essentially independent of operating temperature.

BODY-DRAIN DIODE RATINGS AND CHARACTERISTICS

|                                                   |  |     |     |    |                                                                       |
|---------------------------------------------------|--|-----|-----|----|-----------------------------------------------------------------------|
| $I_S$ Continuous Source Current (Body Diode)      |  |     | 60  | A  | Modified MOSPOWER symbol showing the integral P-N Junction rectifier. |
| $I_{SM}$ Source Current <sup>1</sup> (Body Diode) |  |     | 180 | A  |                                                                       |
| $V_{SD}$ Diode Forward Voltage <sup>1</sup>       |  |     | 1.6 | V  | $T_C = 25^\circ C$ , $I_S = 20$ A, $V_{GS} = 0$                       |
| $t_{rr}$ Reverse Recovery Time                    |  | 180 |     | ns | $I_F = I_S$ , $V_R = 80$ V<br>$di_F/ds = 100$ A/ $\mu s$              |

1 Pulse Test: Pulse Width  $\leq 300 \mu s$ , Duty Cycle  $\leq 1.5\%$ .

MECHANICAL OUTLINE



All Dimensions are  $\pm .010$  Unless Otherwise Specified.

6789073 0001057 940