

TECHNICAL DATA
DATA SHEET 5034, REV. -

LOW R_{DS} HERMETIC POWER MOSFET - N-CHANNEL

FEATURES:

- 100 Volt, 0.013 Ohm, 90A MOSFET
- Isolated Hermetic Metal Package
- Ultra Low $R_{DS(on)}$

MAXIMUM RATINGS

ALL RATINGS ARE AT $T_C = 25^\circ\text{C}$ UNLESS OTHERWISE SPECIFIED.

| RATING | SYMBOL | MIN. | TYP. | MAX. | UNITS |
|--------------------------------------|-----------------|------|------|----------|--------------------|
| GATE TO SOURCE VOLTAGE | V_{GS} | - | - | ± 20 | Volts |
| ON-STATE DRAIN CURRENT | I_{D25} | - | - | 55* | Amps |
| PULSED DRAIN CURRENT | I_{DM} | - | - | 240 | Amps |
| OPERATING AND STORAGE TEMPERATURE | T_J/T_{STG} | -55 | - | +150 | $^\circ\text{C}$ |
| TOTAL DEVICE DISSIPATION | P_D | - | - | 210 | Watts |
| THERMAL RESISTANCE, JUNCTION TO CASE | $R_{\theta JC}$ | - | - | 0.6 | $^\circ\text{C/W}$ |

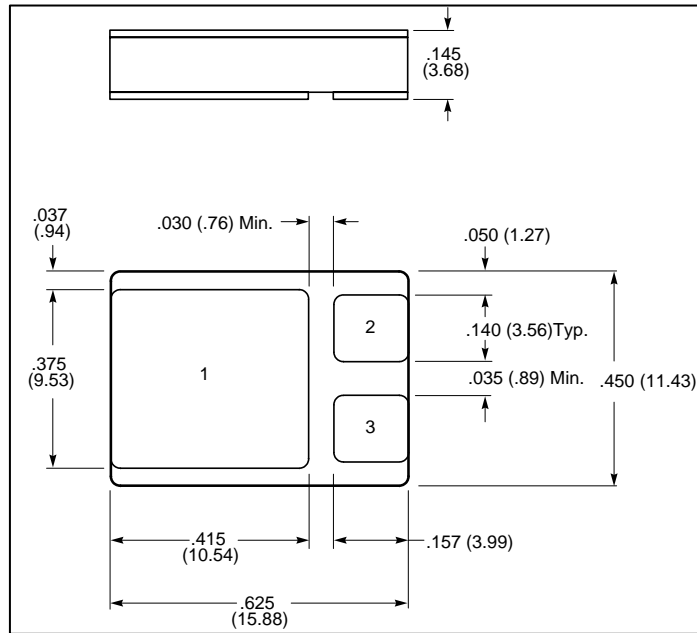
Note: * current limited by package; die rating is 90A

ELECTRICAL CHARACTERISTICS

| CHARACTERISTIC | SYMBOL | MIN. | TYP. | MAX. | UNITS |
|---|--------------|------|-------|---------|-----------------|
| DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{GS} = 0V, I_D = 250\mu\text{A}$ | BV_{DSS} | 100 | - | - | Volts |
| STATIC DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = 10V, I_D = 30A$ | $R_{DS(ON)}$ | - | 0.013 | 0.015 | Ω |
| GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}, I_D = 250\mu\text{A}$ | $V_{GS(th)}$ | 2 | - | 4 | Volts |
| FORWARD TRANSCONDUCTANCE $V_{DS} = 15V, I_D = 30A$ | g_{fs} | 25 | - | - | S(1/ Ω) |
| ZERO GATE VOLTAGE DRAIN CURRENT $V_{DS} = 0.8 \times \text{Max. rating}, V_{GS} = 0V, T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$ | I_{DSS} | - | - | 1 50 | μA |
| GATE TO SOURCE LEAKAGE FORWARD $V_{GS} = 20V$ | I_{GSS} | - | - | 100 | nA |
| GATE TO SOURCE LEAKAGE REVERSE $V_{GS} = -20V$ | | | | -100 | |
| TURN ON DELAY TIME $V_{DD} = 50V$ | $t_{d(ON)}$ | - | 20 | - | nsec |
| RISE TIME $I_D = 55A$ | t_r | | 110 | | |
| TURN OFF DELAY TIME $V_{GS} = 10V$ | $t_{d(OFF)}$ | | 65 | | nsec |
| FALL TIME $R_G = 2.5\Omega$ | t_f | | 100 | | |
| DIODE FORWARD VOLTAGE $I_F = 30A, V_{GS} = 0V$ Pulse test, $t \leq 300 \mu\text{s}$, duty cycle $d \leq 2\%$ | V_{SD} | - | 1.0 | 1.2 | Volts |
| REVERSE RECOVERY TIME $T_J = 25^\circ\text{C}$, $I_F = 30A, V_R = 100V$ $di/dt = 100A/\mu\text{sec}$ | t_{rr} | - | 70 | 140 | nsec |
| INPUT CAPACITANCE $V_{GS} = 0V$ | C_{iss} | - | 8700 | - | pF |
| OUTPUT CAPACITANCE $V_{DS} = 25V$ | C_{oss} | | 740 | | |
| REVERSE TRANSFER CAPACITANCE $f = 1.0\text{MHz}$ | C_{rss} | | 450 | | |

SENSITRON
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MECHANICAL DIMENSIONS: in Inches / mm



LCC-3P

PINOUT TABLE

| DEVICE TYPE | PIN 1 | PIN 2 | PIN 3 |
|--------------------------------------|-------|--------|-------|
| N CHANNEL MOSFET IN A LCC-3P PACKAGE | DRAIN | SOURCE | GATE |

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