

## Features

- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

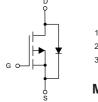
## **Maximum Ratings**

- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 83°C/W Junction to Ambient

| Parameter                | Symbol          | Rating | Unit |
|--------------------------|-----------------|--------|------|
| Drain-Source Voltage     | V <sub>DS</sub> | -30    | V    |
| Gate-Source Volltage     | V <sub>GS</sub> | ±20    | V    |
| Continuous Drain Current | I <sub>D</sub>  | -4.3   | А    |
| Total Power Dissipation  | P <sub>D</sub>  | 1.5    | W    |

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

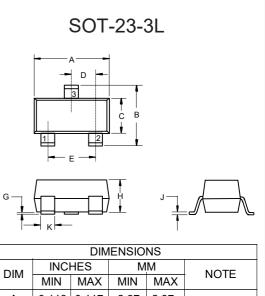
## **Internal Structure**



1. GATE 2. SOURCE 3. DRAIN

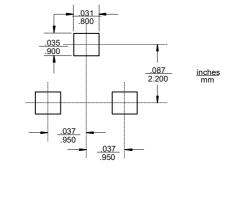
Marking: 3407

# P-CHANNEL MOSFET



| DIM | 110    |        |       |       | NOTE |
|-----|--------|--------|-------|-------|------|
| DIN | MIN    | MAX    | MIN   | MAX   | NOTE |
| А   | 0.113  | 0.117  | 2.87  | 2.97  |      |
| В   | 0.108  | 0.112  | 2.75  | 2.85  |      |
| С   | 0.061  | 0.065  | 1.55  | 1.65  |      |
| D   | 0.036  | 0.038  | 0.914 | 0.965 |      |
| E   | 0.073  | 0.077  | 1.85  | 1.95  |      |
| G   | 0.0016 | 0.0039 | 0.04  | 0.100 |      |
| Н   | 0.044  | 0.049  | 1.12  | 1.25  |      |
| J   | 0.006  | 0.007  | 0.14  | 0.17  |      |
| K   | 0.013  | 0.015  | 0.34  | 0.37  |      |

### Suggested Solder Pad Layout





## Electrical Characteristics @ 25°C (Unless Otherwise Specified)

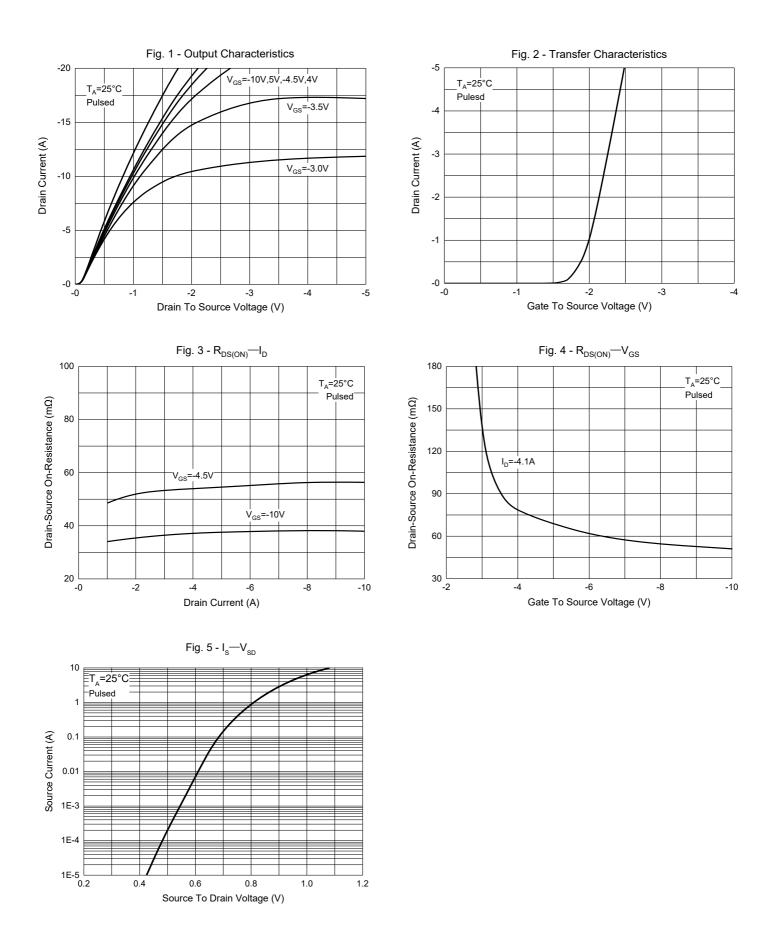
| Parameter                                      | Symbol                 | Test Conditions                                  | Min | Тур  | Max  | Unit |  |
|--|------------------------|--|-----|------|------|------|--|
| Static Characteristics                         |                        |  |     | 1    | 1    |      |  |
| Drain-Source Breakdown Voltage                 | V <sub>(BR)DSS</sub>   | V <sub>GS</sub> =0V, I <sub>D</sub> =-250µA      | -30 |      |      | V    |  |
| Gate-Source Leakage Current                    | I <sub>GSS</sub>       | V <sub>DS</sub> =0V, V <sub>GS</sub> =±20V       |     |      | ±100 | nA   |  |
| Zero Gate Voltage Drain Current                | I <sub>DSS</sub>       | V <sub>DS</sub> =-24V, V <sub>GS</sub> =0V       |     |      | -1   | μA   |  |
| Gate-Threshold Voltage <sup>(Note 2)</sup>     | V <sub>GS(th)</sub>    | $V_{DS}=V_{GS}$ , $I_{D}=-250\mu A$              | -1  | -1.4 | -3   | V    |  |
| Drain-Source On-Resistance <sup>(Note 2)</sup> | R <sub>DS(on)</sub>    | V <sub>GS</sub> =-10V, I <sub>D</sub> =-4.1A     |     | 36   | 49   |      |  |
|  |                        | V <sub>GS</sub> =-4.5V, I <sub>D</sub> =-3A      |     | 52   | 65   | mΩ   |  |
| Diode Forward Voltage (Note 2)                 | V <sub>SD</sub>        | V <sub>GS</sub> =0V, I <sub>S</sub> =-1A         |     |      | -1   | V    |  |
| Forward Tranconductance <sup>(Note 2)</sup>    | <b>g</b> <sub>FS</sub> | V <sub>DS</sub> =-5V, I <sub>D</sub> =-4A        | 5.5 |      |      | S    |  |
| Dynamic Characteristics <sup>(Note 3)</sup>    |                        |  |     |      |      | ·    |  |
| Input Capacitance                              | C <sub>iss</sub>       |  |     | 700  |      |      |  |
| Output Capacitance                             | C <sub>oss</sub>       | V <sub>DS</sub> =-15V,V <sub>GS</sub> =0V,f=1MHz |     | 120  |      | pF   |  |
| Reverse Transfer Capacitance                   | C <sub>rss</sub>       |  |     | 75   |      |      |  |
| Turn-On Delay Time                             | t <sub>d(on)</sub>     |  |     | 8.6  |      |      |  |
| Turn-On Rise Time                              | t <sub>r</sub>         | V <sub>GS</sub> =-10V,V <sub>DS</sub> =-15V,     |     | 5    |      |      |  |
| Turn-Off Delay Time                            | t <sub>d(off)</sub>    | $R_L$ =3.6 $\Omega$ , $R_{GEN}$ =3 $\Omega$      |     | 28.2 |      | ns   |  |
| Turn-Off Fall Time                             | t <sub>f</sub>         |  |     | 13.5 |      | ]    |  |

Note 2. Pulse Test : Pulse Width  $\leq$  300µs, Duty Cycle  $\leq$  2%.

3. Guaranteed by Design, Not Subject to Production Testing.



## **Curve Characteristics**





## **Ordering Information**

| Device         | Packing               |  |
|----------------|-----------------------|--|
| Part Number-TP | Tape&Reel: 3Kpcs/Reel |  |

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