

# N-CHANNEL ENHANCEMENT MODE VERTICAL DMOS FET

**ZVN0117TA**

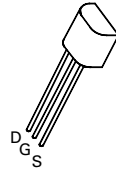
ISSUE 1 – APRIL 94

## FEATURES

- \* 170 Volt  $BV_{DS}$

## APPLICATIONS

- \* Telephone handsets



**E-Line  
TO92 Compatible**

## ABSOLUTE MAXIMUM RATINGS.

| PARAMETER                                         | SYMBOL         | VALUE       | UNIT        |
|---------------------------------------------------|----------------|-------------|-------------|
| Drain-Source Voltage                              | $V_{DS}$       | 170         | V           |
| Continuous Drain Current at $T_{amb}=25^{\circ}C$ | $I_D$          | 160         | mA          |
| Pulsed Drain Current                              | $I_{DM}$       | 2           | A           |
| Gate Source Voltage                               | $V_{GS}$       | $\pm 20$    | V           |
| Power Dissipation at $T_{amb}=25^{\circ}C$        | $P_{tot}$      | 700         | mW          |
| Operating and Storage Temperature Range           | $T_j; T_{stg}$ | -55 to +150 | $^{\circ}C$ |

## ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ unless otherwise stated).

| PARAMETER                                      | SYMBOL       | MIN. | MAX.     | UNIT                 | CONDITIONS.                                                                |
|------------------------------------------------|--------------|------|----------|----------------------|----------------------------------------------------------------------------|
| Drain-Source Breakdown Voltage                 | $BV_{DSS}$   | 170  |          | V                    | $I_D=10\mu A, V_{GS}=0V$                                                   |
| Gate-Body Leakage                              | $I_{GSS}$    |      | 100      | nA                   | $V_{GS}=\pm 15V, V_{DS}=0V$                                                |
| Zero Gate Voltage Drain Current                | $I_{DSS}$    |      | 10<br>50 | $\mu A$<br>$\mu A$   | $V_{DS}=170V, V_{GS}=0$<br>$V_{DS}=140V, V_{GS}=0V,$<br>$T=50^{\circ}C(2)$ |
| On-State Drain Current(1)                      | $I_{D(on)}$  | 100  |          | mA                   | $V_{DS}=3V, V_{GS}=3.3V$                                                   |
| Static Drain-Source<br>On-State Resistance (1) | $R_{DS(on)}$ |      | 23<br>23 | $\Omega$<br>$\Omega$ | $V_{GS}=3.3V, I_D=100mA$<br>$V_{GS}=3V, I_D=30mA$                          |

(1) Measured under pulsed conditions. Width=300 $\mu s$ . Duty cycle  $\leq 2\%$