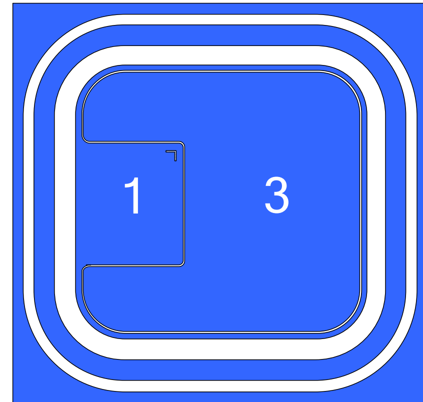
# 3VD186600YL HIGH VOLTAGE MOSFET CHIPS

## DESCRIPTION

- 3VD186600YL is a High voltage N-Channel enhancement mode power MOS-FET chip fabricated in advanced silicon epitaxial planar technology.
- Advanced termination scheme to provide enhanced voltage-blocking capability.
- Avalanche Energy Specified
- Source-to-Drain Diode Recovery Time Comparable to a Discrete Fast Recovery Diode
- The chips may packaged in TO-251-3Ltype and the typical equivalent product is 1N60.
- The packaged product is widely used in AC-DC power suppliers, DC-DC converters and H-bridge PWM motor drivers.
- Die size: 1.96mm*1.78mm.
- Chip Thickness: 300±20μm.
- Top metal : Al,  Backside Metal : Ag.




1-Gate PAD    3-Source PAD

**CHIP TOPOGRAPHY**

## ABSOLUTE MAXIMUM RATINGS (Tamb=25°C)

| Parameter | Symbol | Ratings | Unit |
|---|---|---|---|
| Drain-Source Voltage | $V_{DS}$ | 600 | V |
| Gate-Source Voltage | $V_{GS}$ | ±30 | V |
| Drain Current | $I_D$ | 1.0 | A |
| Operation Junction Temperature | $T_J$ | 150 | °C |
| Storage Temperature | $T_{stg}$ | -55-150 | °C |

## ELECTRICAL CHARACTERISTICS (Tamb=25°C)

| Parameter | Symbol | Test conditions | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| Drain-Source Breakdown Voltage | $V_{(BR)DSS}$ | $V_{GS}$ = 0V, $I_D$=250uA | 600 | --- | ---- | V |
| Gate-Threshold Voltage | $V_{th(GS)}$ | $I_D$=250uA ,$V_{DS}$=$V_{GS}$ | 2.0 | --- | 4.0 | V |
| Gate-Body Leakage | $I_{GSS}$ | $V_{GS}$=±30V, $V_{DS}$=0V | --- | --- | ±100 | nA |
| Zero Gate Voltage Drain Current | $I_{DSS}$ | $V_{DS}$=600V, $V_{GS}$=0V | --- | --- | 1.0 | μA |
| Drain-Source On-Resistance | $R_{DS(on)}$ | $I_D$=0.4A, $V_{GS}$=10V | --- | --- | 11 | Ω |
| Source-Drain Diode Forward On Voltage | $V_{FSD}$ | $I_D$=1.0A,$V_{GS}$=0V | --- | --- | 1.4 | V |