

**X0094E**

**N-Channel Enhancement Mode MOSFET**  
**With ESD Protection**

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60V(VDS) /  $\pm 20\text{V}$ (VGS) / 0.3A(ID)

Rev0.2

Three overlapping green circles of different shades (light, medium, and dark green) are located in the bottom right corner of the page.

# Wafer Specification

## 1. Order Information

| Part No. | Description                                                                                                                                       | Gross die / per 8" wafer |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| X0094E   | <b>60V(<math>V_{DS}</math>) / <math>\pm 20V(V_{GS})</math> / 0.3A(<math>I_D</math>)<br/>N-Channel Enhancement Mode MOSFET With ESD Protection</b> | 297,682                  |

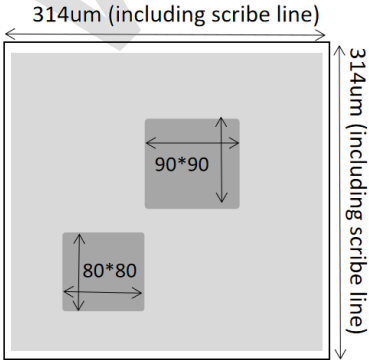
## 2. Mechanical Data

|                                            |                       |
|--------------------------------------------|-----------------------|
| Nominal Back Metal Composition, Thickness  | Ti-Ni-Ag (13kÅ°)      |
| Nominal Front Metal Composition, Thickness | AlCu (4µm)            |
| Wafer Diameter                             | 200mm, with Ø10 notch |
| Wafer Thickness                            | 150±10µm              |
| Scribe Line Width                          | 60µm                  |
| Passivation                                | SRO+SiN               |

## 3. Key Electrical Characteristics of Die (at $T_J = 25^\circ\text{C}$ , unless otherwise specified)

| Parameter          | Description                          | Min.               | Typ. | Max. | Unit | Test Conditions                  |
|--------------------|--------------------------------------|--------------------|------|------|------|----------------------------------|
| $V_{(BR)DSS}$      | Drain-to-Source Breakdown Voltage    | 60                 |      |      | V    | $V_{GS}=0V$ , $I_D=250\mu A$     |
| $I_D$ (Device Ref) | Continuous Drain Current             |                    |      | 0.3  | A    | $T_J=25^\circ\text{C}$           |
| $R_{DS(on)}(FT)$   | Static Drain-to-Source On-Resistance |                    | 1.69 | 2.2  | Ω    | $V_{GS}=10V$ , $I_D=0.3A$        |
|                    |                                      |                    | 2.05 | 2.87 | Ω    | $V_{GS}=4.5V$ , $I_D=0.2A$       |
| $V_{GS(th)}$       | Gate Threshold Voltage               | 1.0                | 1.5  | 2.5  | V    | $V_{DS}=V_{GS}$ , $I_D=250\mu A$ |
| $I_{DSS}$          | Drain-to-Source Leakage Current      |                    |      | 1    | µA   | $V_{DS}=60V$ , $V_{GS}=0V$       |
| $I_{GSS}$          | Gate-to-Source Leakage Current       |                    |      | ±100 | nA   | $V_{GS}=\pm 20V$ , $V_{DS}=0V$   |
| $T_J$ , $T_{STG}$  | Operating and Storage Temperature    | -55°C to 150°C Max |      |      |      |                                  |

## 4. Die Outline

|                                                                                     |                                                                                          |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  | Die Size: 314µm × 314µm (including scribe line)                                          |
|                                                                                     | Gate: 80µm × 80µm                                                                        |
|                                                                                     | For SOT23 package<br>Suggest Bonding wire:<br>Gate: 1*1.0 mil Cu<br>Source: 1*1.0 mil Cu |