

# **XG0074**

## **N-Channel Enhancement Mode SGT MOSFET**

100V(VDS) /  $\pm 20$ V(VGS) / 80A(ID)

Rev0.1

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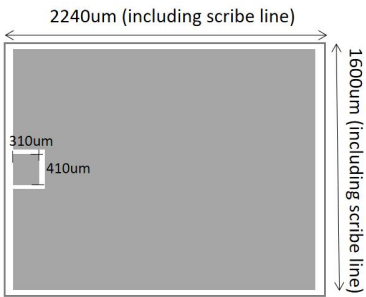
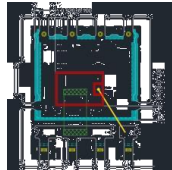


# Wafer Specification

## 1. Order Information

| Part No. | Description                                                                                                                      | Gross die / per 8" wafer |
|----------|----------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| XG0074   | <b>100V(<math>V_{DS}</math>) / <math>\pm 20V(V_{GS})</math>/ 80A(<math>I_D</math>)<br/>N-Channel Enhancement Mode SGT MOSFET</b> | 8,049                    |

## 2. Physical Characteristics

|                                                                                   |                                                                                                                                                                             |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Die Size: 2240 $\mu$ m $\times$ 1600 $\mu$ m (including scribe line)                                                                                                        |
|                                                                                   | Gate: 310 $\mu$ m $\times$ 410 $\mu$ m                                                                                                                                      |
|                                                                                   | For PNFN5*6 package<br>Suggest Bonding wire:<br>Gate: 1*1.7mil Cu<br>Source: 40*6mil AL  |

## 3. Mechanical Data

|                                            |                              |
|--------------------------------------------|------------------------------|
| Nominal Back Metal Composition, Thickness  | Ti-Ni-Ag (13kA°)             |
| Nominal Front Metal Composition, Thickness | AlCu (4 $\mu$ m)             |
| Wafer Diameter                             | 200mm, with 010 notch        |
| Wafer Thickness                            | 175 $\mu$ m $\pm$ 10 $\mu$ m |
| Scribe Line Width                          | 60 $\mu$ m                   |

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

| Parameter                         | Description                          | Min.               | Typ. | Max. | Unit | Test Conditions                                          |
|-----------------------------------|--------------------------------------|--------------------|------|------|------|----------------------------------------------------------|
| V <sub>(BR)DSS</sub>              | Drain-to-Source Breakdown Voltage    | 100                |      |      | V    | V <sub>GS</sub> =0V, I <sub>D</sub> =250μA               |
| I <sub>D(Device Ref)</sub>        | Continuous Drain Current             |                    |      | 80   | A    | T <sub>J</sub> =25°C                                     |
| R <sub>DS(on)(FT)</sub>           | Static Drain-to-Source On-Resistance |                    | 10   | 13   | mΩ   | V <sub>GS</sub> =10V, I <sub>D</sub> =20A                |
| V <sub>GS(th)</sub>               | Gate Threshold Voltage               | 1.5                | 1.8  | 2.3  | V    | V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250μA |
| I <sub>DSS</sub>                  | Drain-to-Source Leakage Current      |                    |      | 1.0  | μA   | V <sub>DS</sub> =100V, V <sub>GS</sub> =0V               |
| I <sub>GSS</sub>                  | Gate-to-Source Leakage Current       |                    |      | ±100 | nA   | V <sub>GS</sub> =±20V, V <sub>DS</sub> =0V               |
| E <sub>AS</sub>                   | Single Pulsed Avalanche Energy       |                    |      | 195  | mJ   | L=0.3mH, V <sub>DD</sub> =50V                            |
| R <sub>g</sub>                    | Gate Poly Resistance                 |                    | 2.1  |      | Ω    | V <sub>DS</sub> =0V, V <sub>GS</sub> =0,f=1MHZ           |
| C <sub>iss</sub>                  | Input Capacitance                    |                    | 1437 |      | pF   | V <sub>DS</sub> =50V, V <sub>GS</sub> =0,<br>f=1MHZ      |
| C <sub>oss</sub>                  | Output Capacitance                   |                    | 513  |      | pF   |                                                          |
| C <sub>rss</sub>                  | Reverse Transfer Capacitance         |                    | 25   |      | pF   |                                                          |
| T <sub>J</sub> , T <sub>STG</sub> | Operating and Storage Temperature    | -55°C to 150°C Max |      |      |      |                                                          |