

N-Channel SGT Power MOSFET

Features

- N-channel
- $V_{DS} = 60V, I_D = 110A$
 $R_{DS(ON)} < 2m\Omega @ V_{GS} = 10V$ (Typ:1.5m Ω)
- 100% avalanche tested
- Pb-free lead plating; RoHS compliant

Application

- High performance SMPS, e.g. sync. rec.
- Hard Switching and High Speed Circuit
- DC/DC Converter

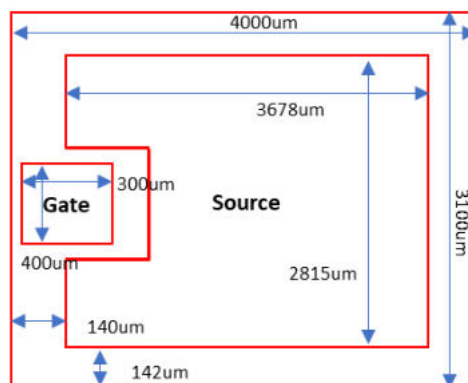
| | |
|---------------------------------|----------------|
| Wafer Size (inch) | 12 |
| Chip Size without scribe (mm) | 4.0x3.1 |
| Wafer Thickness (mil) | 4.3 |
| Top Metal | AlCu |
| Top Metal Thickness (μm) | 4 |
| Back Metal | Ti/Ni/Ag |
| Scribe Line (μm) | 60 |
| Gate Wire recommended | 1mil Au/Cu |
| Source Wires recommended | 16x 2mil Au/Cu |
| Gross Die | 5061 |

60V N-Ch Power MOSFET

| Parameter | Value | Unit |
|------------------------------------|-------|------------|
| V_{DS} | 60 | V |
| $R_{DS(on),typ}$ $V_{GS} = 10V$ | 1.5 | m Ω |
| $R_{DS(on),typ}$ $V_{GS} = 4.5V$ | 2.1 | m Ω |
| I_D | 110 | A |

Unit: μm

Die Size Without 60 μm scribe line



Source Pad: 3678 μm *2815 μm

Gate Pad:300 μm *400 μm

Electrical Characteristics at T_j=25°C (unless otherwise specified)
Static Characteristics

| Parameter | Symbol | Test Condition | Value | | | Unit |
|-----------------------------------|----------------------|--|-------|------|------|------|
| | | | Min. | Typ. | Max. | |
| Drain to Source Breakdown Voltage | V _{(BR)DSS} | V _{GS} =0V, I _D =250μA | 60 | 66 | | V |
| Gate Threshold Voltage | V _{GS(th)} | V _{GS} =V _{DS} , I _D =250μA | 1.0 | 1.52 | 2.4 | V |
| Zero Gate Voltage Drain Current | I _{DSS} | V _{GS} =0V, V _{DS} =60V, T _j =25°C | - | 0.38 | 1 | μA |
| | | V _{GS} =0V, V _{DS} =60V, T _j =100°C | | - | 100 | |
| Gate to Source Leakage Current | I _{GSS} | V _{GS} =±20V, V _{DS} =0V | - | 4.6 | ±100 | nA |
| Drain to Source on Resistance | R _{DS(on)} | V _{GS} =10V, I _D =2A | - | 1.5 | 2.0 | mΩ |
| | | V _{GS} =4.5V, I _D =2A | - | 2.1 | 3.0 | |
| Gate Resistance | R _G | V _{GS} =0V, V _{DS} =0V, f=1MHz | - | - | - | Ω |