

International Rectifier

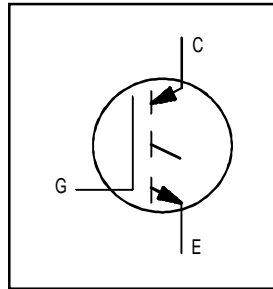
IRGC50B60KB Die in Wafer Form

Features

- GEN5 Non Punch Through (NPT) Technology
- Low $V_{CE(on)}$
- 10 μ s Short Circuit Capability
- Square RBSOA
- Positive $V_{CE(on)}$ Temperature Coefficient

Benefits

- Benchmark Efficiency for Motor Control Applications
- Rugged Transient Performance
- Excellent Current Sharing in Parallel Operation
- Qualified for Industrial Market



600V
 $I_{C(nom)}=50A$
 $V_{CE(on) typ.}=2.0V @$
 $I_{C(nom)} @ 25^{\circ}C$
 Motor Control IGBT
 Short Circuit Rated
 150mm Wafer

Electrical Characteristics (Wafer Form)

| Parameter | Description | Guaranteed (min, max) | Test Conditions |
|---------------|---|-----------------------|--|
| $V_{CE(on)}$ | Collector-to-Emitter Saturation Voltage | 1.0V min, 1.35V max | $I_C = 10A, T_J = 25^{\circ}C, V_{GE} = 15V$ |
| $V_{(BR)CES}$ | Collector-to-Emitter Breakdown Voltage | 600V min | $T_J = 25^{\circ}C, I_{CES} = 1mA, V_{GE} = 0V$ |
| $V_{GE(th)}$ | Gate Threshold Voltage | 3.5V min, 5.5V max | $V_{GE} = V_{CE}, T_J = 25^{\circ}C, I_C = 250\mu A$ |
| I_{CES} | Zero Gate Voltage Collector Current | 20 μ A max | $T_J = 25^{\circ}C, V_{CE} = 600V$ |
| I_{GES} | Gate-to-Emitter Leakage Current | $\pm 1.1\mu A$ max | $T_J = 25^{\circ}C, V_{GE} = +/-20V$ |

Mechanical Data

| | |
|--|--|
| Nominal Backmetal Composition, (Thickness) | Al - Ti - Ni/V - Ag, (1kA - 1kA - 4kA - 6kA) |
| Nominal Front Metal Composition, (Thickness) | 99% Al/1% Si, (4 μ m) |
| Dimensions | 0.245" x 0.245" |
| Wafer Diameter | 150mm, with std. < 100 > flat |
| Wafer Thickness, Tolerance | 85 μ m, +/-7 μ m |
| Relevant Die Mechanical Dwg. Number | 01-5517 |
| Minimum Street Width | 100 μ m |
| Reject Ink Dot Size | 0.25mm diameter minimum |
| Ink Dot Location | Consistent throughout same wafer lot |
| Recommended Storage Environment | Store in original container, in dessicated nitrogen, with no contamination |
| Recommended Die Attach Conditions | For optimum electrical results, die attach temperature should not exceed 300 $^{\circ}C$ |

Die Outline

