

# IRGC8B120KB

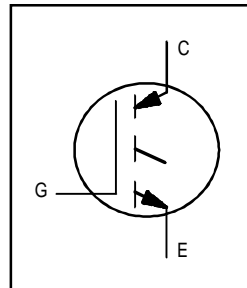
## IRGC8B120KB IGBT Die in Wafer Form

### Features

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

### Benefits

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



1200 V  
 $I_{C(nom)} = 8A$   
 $V_{CE(on) typ.} = 2.32V @$   
 $I_{C(nom)} @ 25^{\circ}C$   
 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 | 1.83V Min., 2.27V Max. | $I_C = 5.0A, T_J = 25^{\circ}C, V_{GE} = 15V$        |
| $V_{(BR)CES}$ | Collector-to-Emitter Breakdown Voltage  | 1200V Min.             | $T_J = 25^{\circ}C, I_{CES} = 100\mu A, V_{GE} = 0V$ |
| $V_{GE(th)}$  | Gate Threshold Voltage                  | 4.4V Min., 6.0V Max.   | $V_{GE} = V_{CE}, T_J = 25^{\circ}C, I_C = 125\mu A$ |
| $I_{CES}$     | Zero Gate Voltage Collector Current     | 5.0 $\mu A$ Max.       | $T_J = 25^{\circ}C, V_{CE} = 1200V$                  |
| $I_{GES}$     | Gate-to-Emitter Leakage Current         | $\pm 1.1 \mu A$ Max.   | $T_J = 25^{\circ}C, V_{GE} = +/- 20V$                |

### Mechanical Data

|  |   |
|--|---|
| Norminal Backmetal Composition, Thickness:   | Al-Ti-NiV-Ag ( 1kA-1kA-4kA-6kA )  |
| Norminal Front Metal Composition, Thickness: | 99% Al, 1% Si (4 microns)   |
| Dimensions:                                  | 0.133" x 0.195"   |
| Wafer Diameter:                              | 150mm, with std. < 100 > flat   |
| Wafer thickness:                             | 185 +/- 15 Microns  |
| Relevant Die Mechanical Dwg. Number          | 01-5429   |
| Minimum Street Width                         | 100 Microns   |
| 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 300C |

### Die Outline

