

# International IOR Rectifier

## IRGC100B120UB

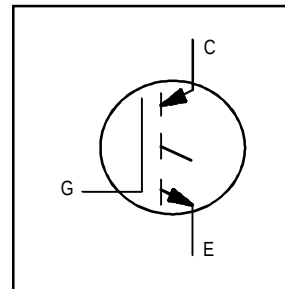
Die in Wafer Form

### 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 Applications
- Rugged Transient Performance
- Excellent Current Sharing in Parallel Operation



1200V  
 $I_{C(nom)} = 100A$   
 $V_{CE(on) typ.} = 3.1V @$   
 $I_{C(nom)} @ 25^{\circ}C$   
 UltraFast 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 | 1.43V min, 1.64V max  | $I_C = 10A$ , $T_J = 25^{\circ}C$ , $V_{GE} = 15V$    |
| $V_{(BR)CES}$ | Collector-to-Emitter Breakdown Voltage  | 1200V min             | $T_J = 25^{\circ}C$ , $I_{CES} = 1mA$ , $V_{GE} = 0V$ |
| $V_{GE(th)}$  | Gate Threshold Voltage                  | 4.4V min, 6.0V max    | $V_{GE} = V_{CE}$ , $T_J = 25^{\circ}C$ , $I_C = 1mA$ |
| $I_{CES}$     | Zero Gate Voltage Collector Current     | 40 $\mu$ A max        | $T_J = 25^{\circ}C$ , $V_{CE} = 1200V$                |
| $I_{GES}$     | Gate-to-Emitter Leakage Current         | $\pm 3 \mu A$ max     | $T_J = 25^{\circ}C$ , $V_{GE} = \pm 20V$              |

### 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 $\mu$ m)                                                                |
| Dimensions                                   | 0.488" x 0.488"                                                                          |
| Wafer Diameter                               | 150mm, with std. < 100 > flat                                                            |
| Wafer Thickness, Tolerance                   | 185 $\mu$ m, +/-15 $\mu$ m                                                               |
| Relevant Die Mechanical Dwg. Number          | 01-5318                                                                                  |
| Minimum Street Width                         | 100 $\mu$ 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

