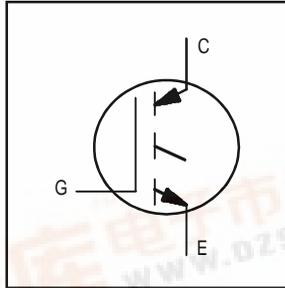—— PD-91829

# International IR Rectifier

# IRG4CC50SB

## IRG4CC50SB IGBT Die in Wafer Form



600 V
Size 5
Standard Speed
6" Wafer

## Electrical Characteristics ( Wafer Form )

| Parameter | Description | Guaranteed (Min/Max) | Test Conditions |
|---|---|---|---|
| $V_{CE(on)}$ | Collector-to-Emitter Saturation Voltage | 4.5V Max. | $I_C = 10A$, $T_J = 25°C$, $V_{GE} = 15V$ |
| $V_{(BR)CES}$ | Colletor-to-Emitter Breakdown Voltage | 600V Min. | $T_J = 25°C$, $I_{CES} = 250\mu A$, $V_{GE} = 0V$ |
| $V_{GE(th)}$ | Gate Threshold Voltage | 3.0V Min., 6.0V Max. | $V_{GE} = V_{CE}$, $T_J = 25°C$, $I_C = 250\mu A$ |
| $I_{CES}$ | Zero Gate Voltage Collector Current | 250 µA Max. | $T_J = 25°C$, $V_{CE} = 600V$ |
| $I_{GES}$ | Gate-to-Emitter Leakage Current | ± 1.1 µA Max. | $T_J = 25°C$, $V_{GE} = +/- 20V$ |

## Mechanical Data

| | |
|---|---|
| Nominal Backmetal Composition, Thickness: | Cr-NiV-Ag ( 1kA-2kA-.2.5kA ) |
| Nominal Front Metal Composition, Thickness: | 99% Al, 1% Si (4 microns) |
| Dimensions: | 0.257" x 0.260" |
| Wafer Diameter: | 150mm, with std. < 100 > flat |
| Wafer thickness: | .015" + / -.003" |
| Relevant Die Mechanical Dwg. Number | 01-5226 |
| 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 |

Reference Standard IR packaged part ( for design ) : IRG4PC50S

## Die Outline



NOTES:
1. ALL DIMENSIONS ARE SHOWN IN MILLIMETERS (INCHES).
2. CONTROLLING DIMENSION: (INCH).
3. LETTER DESIGNATION:
    S = SOURCE        SK = SOURCE KELVIN
    G = GATE          IS = CURRENTSENSE
4. DIMENSIONAL TOLERANCES:
    BONDING PADS:   < 0.635 TOLERANCE   = +/- 0.013
    WIDTH          < (.0250) TOLERANCE = +/- (.0005)
    &              > 0.635 TOLERANCE   = +/-  0.025
    LENGTH         > (.0250) TOLERANCE = +/- (.0010)

    OVERALL DIE:   < 1.270 TOLERANCE   = +/-  0.102
    WIDTH          < (.050) TOLERANCE  = +/-  (.004)
    &              > 1.270 TOLERANCE   = +/-  0.203
    LENGTH         > (.050) TOLERANCE  = +/-  (.008)

5. UNLESS OTHERWISE NOTED ALL DIE ARE GEN III