

IRGC9B120KB

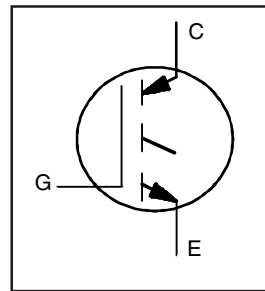
Die in Wafer Form

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
- Rugged Transient Performance
- Excellent Current Sharing in Parallel Operation
- Qualified for Industrial Market



1200 V
 $I_{C(nom)} = 8A$
 $V_{CE(on)}$ typ. = 2.35V @
 $I_{C(nom)}$ @ 25°C
 Motor Control IGBT
 Short Circuit Rated
 150mm Wafer

Reference Standard IR Package Part: GB15RF120K

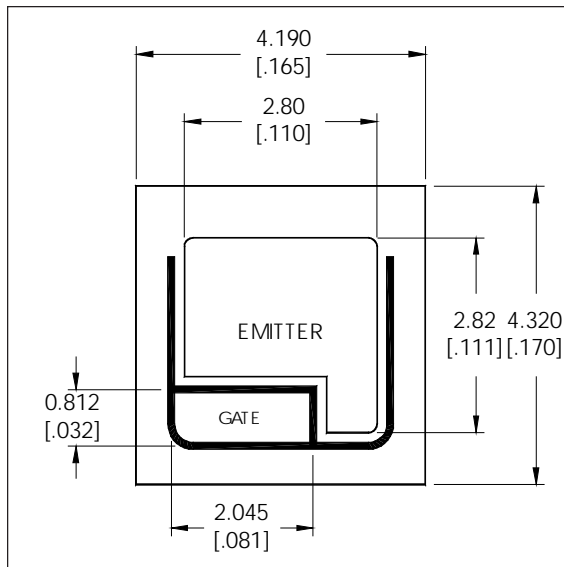
Electrical Characteristics (Wafer Form)

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 μA 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

Nominal Backmetal Composition, (Thickness)	Al-Ti-NiV-Ag (1kA-1kA-4kA-6kA)
Nominal Front Metal Composition, (Thickness)	99% Al, 1% Si (4 microns)
Dimensions	0.165" x 0.170"
Wafer Diameter	150mm, with std. < 100 > flat
Wafer Thickness, Tolerance	185 +/- 15 Microns
Relevant Die Mechanical Dwg. Number	01-5565
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 300°C

Die Outline



NOTES:

1. ALL DIMENSIONS ARE SHOWN IN MILLIMETERS [INCHES].
2. CONTROLLING DIMENSION: [INCH].
3. LETTER DESIGNATION:
 S = SOURCE SK = SOURCE KELVIN E = EMITTER
 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]