PD - 94314

International
IOR Rectifier

IRGC5B120KB

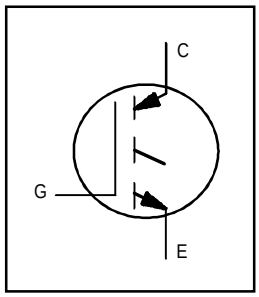
IRGC5B120KB IGBT Die in Wafer Form

Features

- GEN5 Non Punch Through (NPT) Technology
- Low $V_{CE(on)}$
- 10µs 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
$I_{C(nom)}$ = 5A
VCE(on) typ. = 2.55V @
$I_{C(nom)}$ @ 25°C
Motor Control IGBT
Short Circuit Rated
150mm Wafer

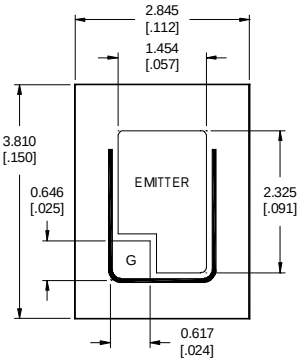
Electrical Characteristics (Wafer Form)

Parameter	Description	Guaranteed (Min/Max)	Test Conditions
$V_{CE\ (on)}$	Collector-to-Emitter Saturation Voltage	1.79V Min., 2.22V Max.	I_C = 2.5A, T_J = 25°C, V_{GE} = 15V
$V_{(BR)CES}$	Collector-to-Emitter Breakdown Voltage	1200V Min.	T_J = 25°C, I_{CES} = 100µA, V_{GE} = 0V
$V_{GE(th)}$	Gate Threshold Voltage	4.4V Min., 6.0V Max.	V_{GE} = V_{CE} , T_J =25°C, I_C =125µA
I_{CES}	Zero Gate Voltage Collector Current	5.0 µA Max.	T_J = 25°C, V_{CE} = 1200V
I_{GES}	Gate-to-Emitter Leakage Current	± 1.1 µA Max.	T_J = 25°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:	0.112" x 0.150"
Wafer Diameter:	150mm, with std. < 100 > flat
Wafer thickness:	185 +/- 15 Microns
Relevant Die Mechanical Dwg. Number	01-5430
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



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]