International
IOR Rectifier

PD - 93865A

IRGC15B120UB

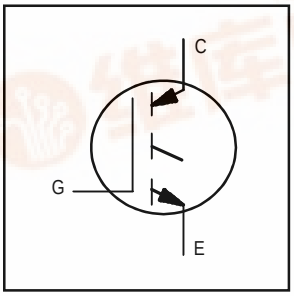
Die in Wafer Form

Features

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

Benefits

- Benchmark Efficiency above 20KHz
- Optimized for Welding, UPS, and Induction Heating
- Rugged with UltraFast Performance
- Excellent Current Sharing in Parallel Operation



1200V
$I_{C(nom)}$=15A
$V_{CE(on)\,typ.}$=3.67V @
$I_{C(nom)}$ @ 25°C
UltraFast IGBT
Short Circuit Rated
150mm Wafer

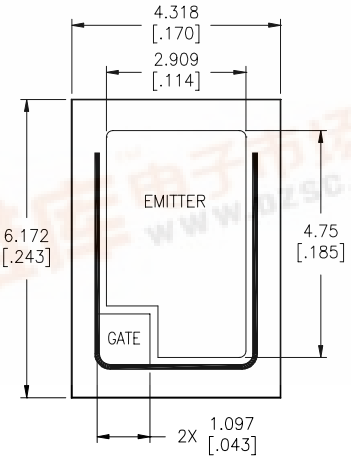
Electrical Characteristics (Wafer Form)

Parameter	Description	Guaranteed (min, max)	Test Conditions
$V_{CE(on)}$	Collector-to-Emitter Saturation Voltage	2.85V min, 3.45V max	I_C = 10A, T_J = 25°C, V_{GE} = 15V
$V_{(BR)CES}$	Colletor-to-Emitter Breakdown Voltage	1200V min	T_J = 25°C, I_{CES} = 125µA, 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	7µA max	T_J = 25°C, V_{CE} = 1200V
I_{GES}	Gate-to-Emitter Leakage Current	± 1.1µA max	T_J = 25°C, V_{GE} = +/-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, (4µm)
Dimensions	0.170" x 0.243"
Wafer Diameter	150mm, with std. < 100 > flat
Wafer Thickness, Tolerance	185µm, +/-15µm
Relevant Die Mechanical Dwg. Number	01-5381
Minimum Street Width	100µm
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]