International
IOR Rectifier

IRGC49B120UB

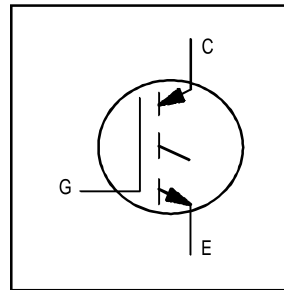
Die in Wafer Form

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 above 20KHz
- Rugged Transient Performance
- Excellent Current Sharing in Parallel Operation
- Qualified for Industrial Market



1200V
$I_{C(nom)}$=50A
$V_{CE(on)\ typ.}$=3.39V @
$I_{C(nom)}$ @ 25°C
UltraFast IGBT
Short Circuit Rated
150mm Wafer

Reference Standard IR Package Part: IRGPS40B120UD

Electrical Characteristics (Wafer Form)

Parameter	Description	Guaranteed (min, max)	Test Conditions
$V_{CE\ (on)}$	Collector-to-Emitter Saturation Voltage	1.80V min, 2.25V 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} = 500µA, 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 = 500µA
I_{CES}	Zero Gate Voltage Collector Current	20µA 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	0.305" x 0.390"
Wafer Diameter	150mm, with std. < 100 > flat
Wafer Thickness, Tolerance	185µm, +/-15µm
Relevant Die Mechanical Dwg. Number	01-5404
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