

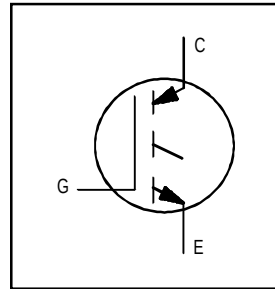
IRGC50B60KB Die in Wafer Form

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



600V
 $I_{C(nom)}=50A$
 $V_{CE(on)} \text{ typ.} = 2.0V @$
 $I_{C(nom)} @ 25^{\circ}C$
 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	1.0V min, 1.35V max	$I_C = 10A$, $T_J = 25^{\circ}C$, $V_{GE} = 15V$
$V_{(BR)CES}$	Collector-to-Emitter Breakdown Voltage	600V min	$T_J = 25^{\circ}C$, $I_{CES} = 1mA$, $V_{GE} = 0V$
$V_{GE(th)}$	Gate Threshold Voltage	3.5V min, 5.5V max	$V_{GE} = V_{CE}$, $T_J = 25^{\circ}C$, $I_C = 250\mu A$
I_{CES}	Zero Gate Voltage Collector Current	20 μA max	$T_J = 25^{\circ}C$, $V_{CE} = 600V$
I_{GES}	Gate-to-Emitter Leakage Current	$\pm 1.1\mu A$ max	$T_J = 25^{\circ}C$, $V_{GE} = \pm 20V$

Mechanical Data

Nominal Backmetal Composition, (Thickness)	Al - Ti - Ni/V - Ag, (1kA - 1kA - 4kA - 6kA)
Nominal Front Metal Composition, (Thickness)	99% Al/1% Si, (4 μ m)
Dimensions	0.245" x 0.245"
Wafer Diameter	150mm, with std. < 100 > flat
Wafer Thickness, Tolerance	85 μ m, +/-7 μ m
Relevant Die Mechanical Dwg. Number	01-5517
Minimum Street Width	100 μ m
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 $^{\circ}C$

Die Outline

