International
IOR Rectifier

HF72D120ACE

Hexfred Die in Wafer Form

Features

- GEN3 Hexfred Technology
- Low V_F
- Low I_{RR}
- Low t_{RR}
- Soft Reverse Recovery

Benefits

- Benchmark Efficiency for Motor Control Applications
- Rugged Transient Performance
- Low EMI
- Excellent Current Sharing in Parallel Operation

1200V
$I_{F(nom)}$=100A
$V_{F(typ)}$= 1.82V @ $I_{F(nom)}$ @ 25°C
Motor Control Antiparallel Diode
125mm Wafer

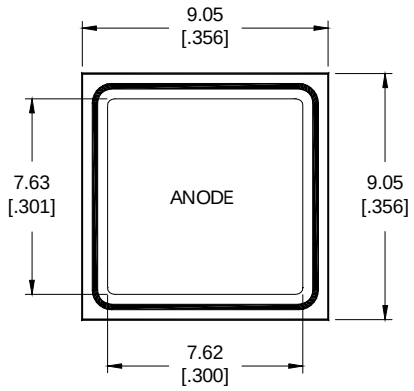
Electrical Characteristics (Wafer Form)

Parameter	Description	Guaranteed (min, max)	Test Conditions
V_F	Forward Voltage Drop	0.98 V min,1.25 V max	I_F = 10A, T_J = 25°C
BV_R	Reverse Breakdown Voltage	1200V min	T_J = 25°C, I_R = 500µA
I_{RM}	Reverse Leakage Current	40µA max	T_J = 25°C, V_R = 1200V

Mechanical Data

Nominal Backmetal Composition, (Thickness)	Cr- Ni - Ag, (1kA - 4kA - 6kA)
Nominal Front Metal Composition, (Thickness)	99% Al/1% Si, (3µm)
Dimensions	0.356" x 0.356"
Wafer Diameter	125mm, with std. < 100 > flat
Wafer Thickness, Tolerance	310µm, +/-15µm
Relevant Die Mechanical Dwg. Number	01-5319
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



01-5319

NOTES:

1. ALL DIMENSIONS ARE SHOWN IN MILLIMETERS [INCHES].
2. CONTROLLING DIMENSION: [INCH].
3. 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]

Fig.1 - Typical Diode Recovery
V_{CC}=600V; Rg=5Ω; T_J=125°C;
L=200µH; Driver=IRGC100B120KB

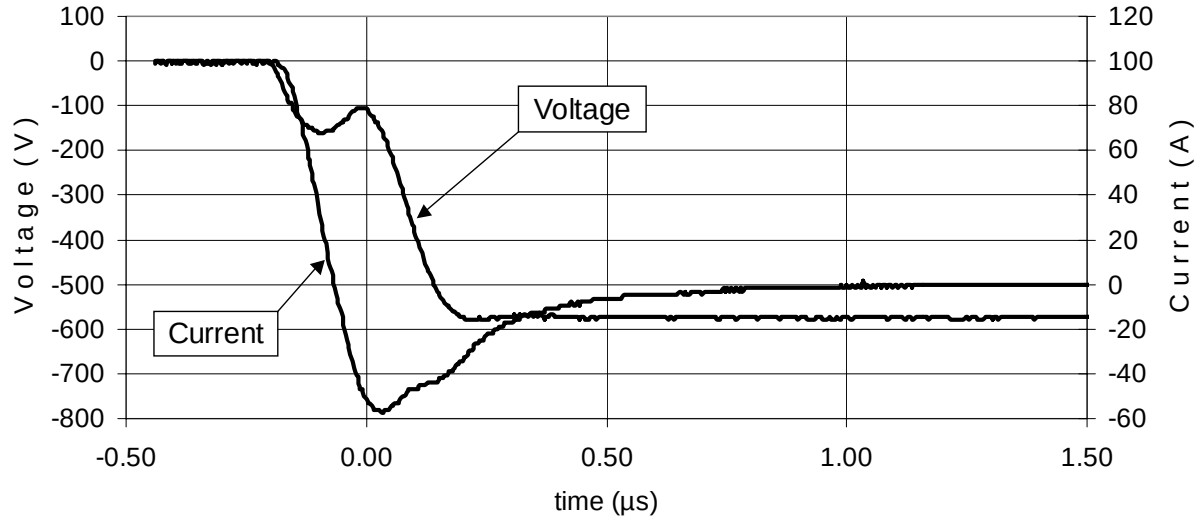


Fig.2 - Typical Diode Forward Characteristic
tp=300µs

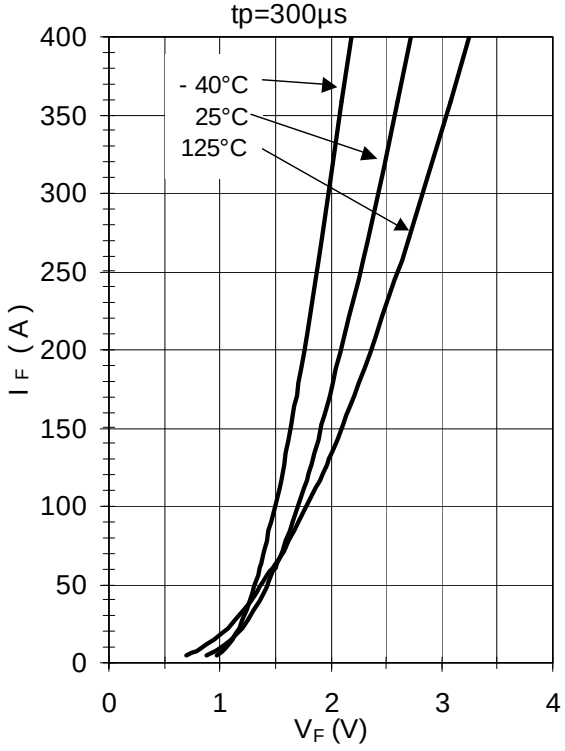


Fig. 3 - Diode Recovery Circuit