

HF05D060ACE

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
- Qualified for Industrial Market

<p>600V</p> <p>$I_{F(nom)}=5A$</p> <p>$V_{F(typ)}=1.15V @ I_{F(nom)} @ 25^{\circ}C$</p> <p>Motor Control Antiparallel Diode</p> <p>150mm Wafer</p>

Reference Standard IR Package Part: IRGS10B60KD

Electrical Characteristics (Wafer Form)

Parameter	Description	Guaranteed (min, max)	Test Conditions
V_F	Forward Voltage Drop	0.8V min, 1.05V max	$I_C = 1A, T_J = 25^{\circ}C$
BV_R	Reverse Breakdown Voltage	600V min	$T_J = 25^{\circ}C, I_R = 1mA$
I_{RM}	Reverse Leakage Current	10 μ A max	$T_J = 25^{\circ}C, V_R = 600V$

Mechanical Data

Nominal Backmetal Composition, (Thickness)	Cr (0.1 μ m)- NiV (0.2 μ m) - Ag (0.25 μ m)
Nominal Front Metal Composition, (Thickness)	99% Al/1% Si, (3 μ m)
Dimensions	0.075" x 0.076"
Wafer Diameter	150mm, with std. < 100 > flat
Wafer Thickness, Tolerance	376 μ m, +/-15 μ m
Relevant Die Mechanical Dwg. Number	01-5507
Minimum Street Width	125 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

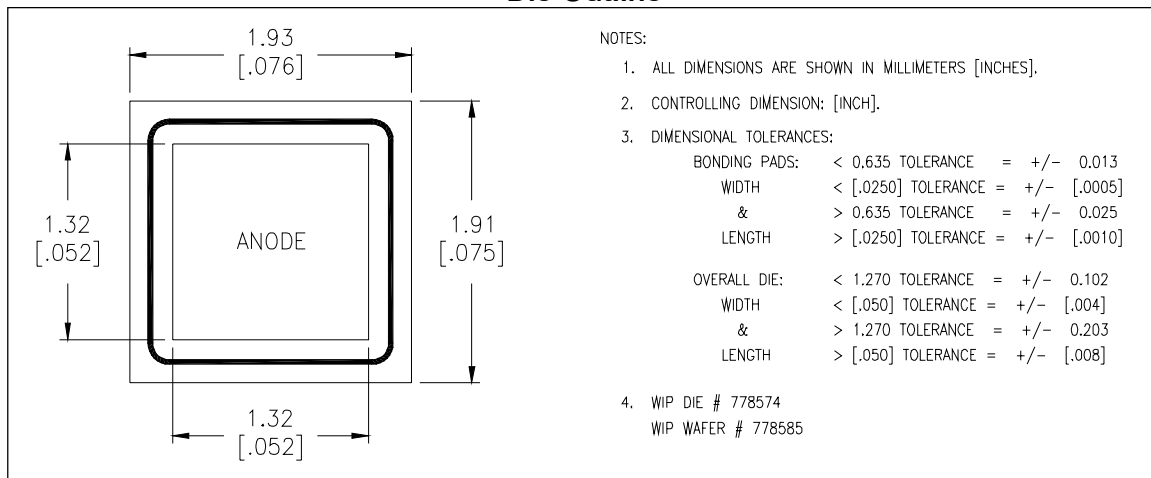


Fig. 1 - Typical Diode Recovery Waveform

$V_{CC} = 400V$; $R_g = 47\ \Omega$; $T_j = 150^\circ C$
 $L = 200\ \mu H$; Driver = IRGS10B60K

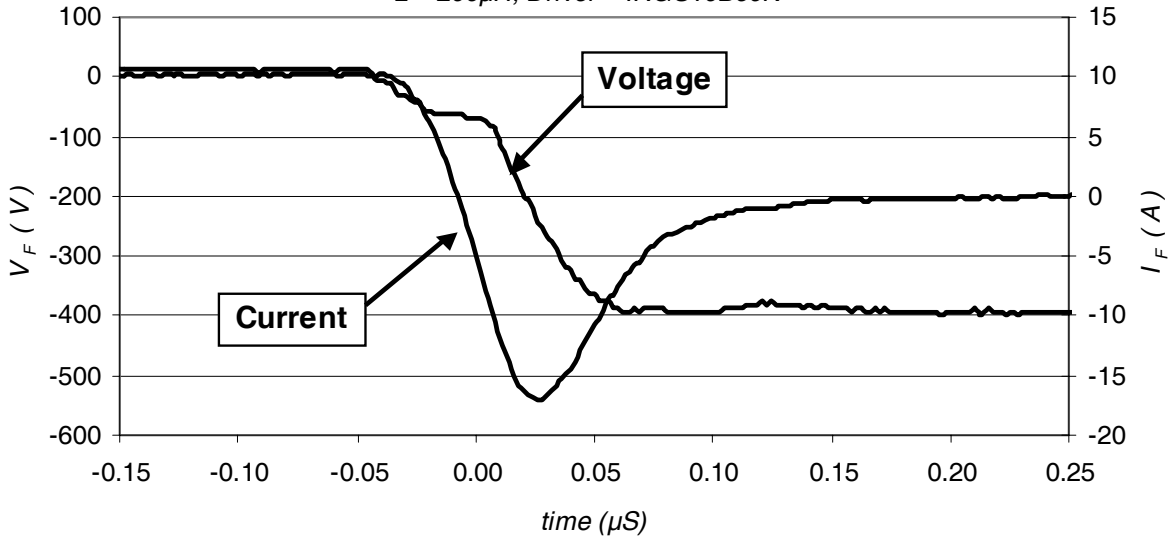


Fig. 2 - Typical Diode Forward Characteristics

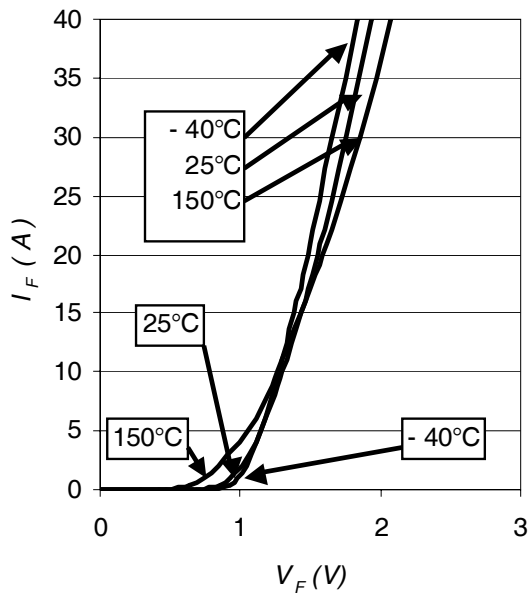


Fig. 3 - Diode Recovery Circuit

