FRD05615006E

FAST RECOVERY EPITAXIAL DIODE CHIP

APPLICATIONS

- Switch Mode Power Supplies.
- Motor Control.
- Free Wheel/Antiparallel Diode For Use With IGBT And Other Power Switches In Inverters And Welding Applications.

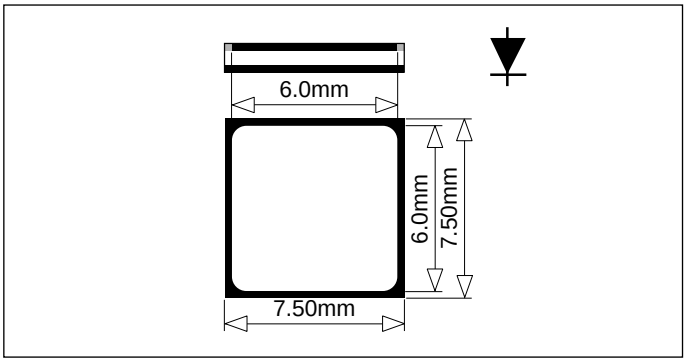
TYPICAL KEY PARAMETERS

V_{RRM}	600V
I_F	150A
t_{rr}	90ns

FEATURES

- Planar Structure With "HIVOX" Semi-Insulating Polysilicon Junction Passivation And Soft Recovery Characteristics.

CHIP DETAILS



Typical chip thickness: 410µm.

Wire sizes: 10 ≥ bondwires 300µm Ø.

Composition of wire: 99.999% Aluminium.

Back metal:- Aluminium, Titanium, Nickel, Silver.

T_{max} for chip **NOT** to exceed 275˚C for more than 15 minutes during soldering, using 96S solder.

Packing for shipment is either membrane or waffle tray.

Static sensitive device - observe static handling precautions.

VOLTAGE RATINGS

Type Number	Repetitive Peak Reverse Voltage V_{RRM} V	Conditions
FRD05615006E	600	T_j = 125˚C

CURRENT RATING

Symbol	Parameter	Conditions	Max.	Units
I_F	Forward current	-	150	A

All ratings given assuming suitable mountdown of chip.

THERMAL RATING

Symbol	Parameter	Conditions	Max.	Units
T_j	Junction temperature	-	150	˚C
T_{stg}	Storage temperature range	-	-55 to +150	˚C

CHARACTERISTICS

Symbol	Parameter	Conditions	Typ.	Max.	Units
V_{FM}	Forward voltage	At I_F = 150A peak, T_j = 25˚C	1.8	2.3	V
		At I_F = 150A peak, T_j = 125˚C	1.7	2.2	V
I_{RM}	Peak reverse current	At V_{RRM}, T_j = 125˚C	-	1	mA
t_{rr}	Reverse recovery time	I_F = 150A, di_{RR}/dt = 200A/µs	90	-	ns
Q_{RR}	Recovered charge	T_j = 25˚C, V_R = 50%V_{RRM}	0.5	-	µC
t_{rr}	Reverse recovery time	I_F = 150A, di_{RR}/dt = 200A/µs	228	-	ns
Q_{RR}	Recovered charge	T_j = 125ºC, V_R = 50%V_{RRM}	2.7	-	µC

GEC PLESSEY
SEMICONDUCTORS

HEADQUARTERS OPERATIONS
GEC PLESSEY SEMICONDUCTORS
Cheney Manor, Swindon,
Wiltshire, SN2 2QW, United Kingdom.
Tel: + 44 (0)1793 518000
Fax: + 44 (0)1793 518411

GEC PLESSEY SEMICONDUCTORS
P.O. Box 660017
1500 Green Hills Road,
Scotts Valley, California 95067-0017,
United States of America.
Tel: + 1 (408) 438 2900
Fax: + 1 (408) 438 5576

POWER PRODUCT CUSTOMER SERVICE CENTRES

- **FRANCE.** 2 rue Henri-Bergson, 92665 Asnieres Cedex.
  Tel: + 33 1 40 80 54 00. Fax: + 33 1 40 80 55 87.
- **GERMANY**. Ungererstrasse 129, 80505 München.
  Tel: + 49 (0)89 36 09 060. Fax: + 49 (0)89 36 09 06 55.
- **NORTH AMERICA.** At Dedham Place, Suite 125, 3 Allied Drive, Dedham. MA 02026.
  Tel: + 1 617 251 0126. Fax: + 1 617 251 0106.
- **UNITED KINGDOM.** Doddington Road, Lincoln. LN6 3LF.
  Tel: + 44 (0)1522 500500. Fax: + 44 (0)1522 500550.

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