

# FRD05607516

## FAST RECOVERY 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

$V_{RRM}$	<b>1600V</b>
$I_F$	<b>75A</b>
$t_{rr}$	<b>270ns</b>

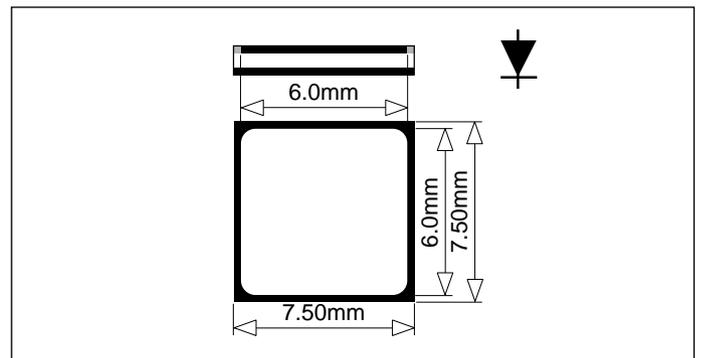
### FEATURES

- Planar Structure With "HIVOX" Semi-Insulating Polysilicon Junction Passivation And Soft Recovery Characteristics.
- Positive Temperature Coefficient Of  $V_F$ .

### VOLTAGE RATINGS

Type Number	Repetitive Peak Reverse Voltage $V_{RRM}$ V	Conditions
FRD05607516	1600	$T_j = 125^\circ\text{C}$

### CHIP DETAILS



Typical chip thickness: 300 $\mu\text{m}$ .

Wire sizes: 8  $\geq$  bondwires 300 $\mu\text{m}$   $\varnothing$ .

Composition of wire: 99.999% Aluminium.

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

$T_{max}$  for chip **NOT** to exceed 275 $^\circ\text{C}$  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.

### CURRENT RATING

Symbol	Parameter	Conditions	Max.	Units
$I_F$	Forward current	-	75	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 $I_F = 75A$ peak, $T_j = 25^\circ C$	2.4	2.8	V
		At $I_F = 75A$ peak, $T_j = 125^\circ C$	2.5	3	V
$I_{RM}$	Peak reverse current	At $V_{RRM}$ , $T_j = 125^\circ C$	-	1	mA
$t_{rr}$	Reverse recovery time	$I_F = 75A$ , $di_{RR}/dt = 300A/\mu s$	270	-	ns
$Q_{RR}$	Recovered charge	$T_j = 25^\circ C$ , $V_R = 50\%V_{RRM}$	8.5	-	$\mu C$
$t_{rr}$	Reverse recovery time	$I_F = 75A$ , $di_{RR}/dt = 300A/\mu s$	420	-	ns
$Q_{RR}$	Recovered charge	$T_j = 125^\circ C$ , $V_R = 50\%V_{RRM}$	15.4	-	$\mu C$



## HEADQUARTERS OPERATIONS

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