

# BD150N04FZ

## FRD Module

 $V_{RRM} = 400V I_F = 150A$ 

#### **General Description**

BYD FRD Module BD150N04FZ is a fast recovery dual diode module designed for high power switching rectifier circuit. BD150N04FZ can be used in high frequency application requiring low loss and high speed control.

#### Features

- Two elements in a package
- Dual FRD common cathode construction
- Fast & Soft reverse recovery characteristics
- Low switching losses

### Applications

- Inversion welder
- Switching power supply
- Telecommunication power supply



Parameter	Symbol	Conditions	Temperature	Value	Unit			
Absolute Maximum Ratings(Per Leg)								
Repetitive peak reverse voltage	V <sub>RRM</sub>	_	_	400	V			
Reverse DC Voltage	VR	_	_	320	V			
Average forward current	I <sub>F(AV)</sub>	_	_	150	А			
No repetitive surge forward current	IFSM	1/2 cycle,60Hz,sine	_	3000	А			
l <sup>2</sup> t for fusing	l²t	60Hz,sine,t=8.3ms	_	38000	A <sup>2</sup> s			
No repetitive surge forward current	I <sub>FSM</sub>	1/2 cycle,50Hz,sine	_	2850	А			
l <sup>2</sup> t for fusing	l²t	50Hz,sine,t=10ms	_	35000	A <sup>2</sup> s			
Junction temperature	T <sub>vj</sub>	_	_	- 40~150	°C			
Storage temperature range	T <sub>stg</sub>	_	_	- 40~125	°C			

#### **Characteristic values**

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Parameter	Symbol	Conditions	Temperature	Value		Unit			
Characteristics									
				Min.	Тур.	Max.			
Reverse leakage current	I <sub>R</sub>	V <sub>R</sub> =400V	Tvj=25℃	—	5.44	20	uA		
Forward voltage	V <sub>F</sub>	I <sub>F</sub> =150A	T <sub>vj</sub> =25°C		1.10	1.25	V		
Reverse recovery time	trr	V <sub>R</sub> =200V, I <sub>F</sub> =150A di/dt=100A/us,	T <sub>vj</sub> =25 °C	_	102	_	ns		
Max. reverse recovery current	Irrm			_	15	_	А		
Reverse recovery time	trr		T <sub>vj</sub> =125 °C	_	150	_	ns		
Max. reverse recovery current	I <sub>RRM</sub>			_	18	_	A		

Parameter	Symbol	Conditions		Min.	Тур.	Max.	Unit		
Thermal-Mechanical Specifications									
Diode thermal resistance junction to case	Rth(j-c)	DC ci	_		0.13	°C/W			
Torque	_	Mountin	4.0			N•m			
Torque	—	Termina	4.0			N•m			
Dimensions	LxWxH	Typical , see outline drawing		92 x 27 x 17			mm		
	Term to term	_		_	35	_			
Mass	m	_		_	100		g		

Thermal and mechanical properties according to IEC 60747 - 15

### **Characterization curves**



### **Circuit Diagram**



### Package Outlines Dimensions in mm





#### Attached (recommended torque):

Mounting torque (M6): 4.0 N • M Terminal torque (M6):4.0N • M

### Attention

- 1. In order to reduce the contact resistance; we suggest add thermal grease between base and heat-sink, which thickness is about 0.1mm.
- 2. When installing the module, please wear an electrostatic bracelet to prevent the gate breakdown and the imbalance power may damage the internal chip, even to damage the module.
- 3. This is an electrostatic sensitive device; please observe the international standard IEC 60747-1, chap. IX.

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