

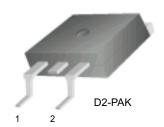
## FFB05U120S

### **Features**

- · High voltage and high reliability
- · High speed switching
- Low forward voltage

## **Applications**

- · General purpose
- Switching mode power supply
- Free wheeling diode for motor application
- · Power switching circuits





1. Cathode 2. Anode

## **ULTRA FAST RECOVERY POWER RECTIFIER**

### Absolute Maximum Ratings T<sub>C</sub>=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V <sub>RRM</sub>	Peak Repetitive Reverse Voltage	1200	V
I <sub>F(AV)</sub>	Average Rectified Forward Current @ T <sub>C</sub> = 100°C	5	Α
I <sub>FSM</sub>	Non-repetitive Peak Surge Current 60Hz Single Half-Sine Wave	30	Α
T <sub>J,</sub> T <sub>STG</sub>	Operating Junction and Storage Temperature	- 65 to +150	°C

### **Thermal Characteristics**

Symbol Parameter		Value	Units	
Reic	R <sub>AJC</sub> Maximum Thermal Resistance, Junction to Case		°C/W	

## Electrical Characteristics T<sub>C</sub>=25 °C unless otherwise noted

Symbol	Parameter		Min.	Тур.	Max.	Units
V <sub>FM</sub> *	Maximum Instantaneous Forward Voltage					V
	I <sub>F</sub> = 5A	T <sub>C</sub> = 25 °C	-	-	3.5	
	I <sub>F</sub> = 5A	$T_C = 25 ^{\circ}C$ $T_C = 100 ^{\circ}C$	-	-	3.2	
RM *	Maximum Instantaneous Reverse Current					μΑ
	@ rated V <sub>R</sub>	T <sub>C</sub> = 25 °C T <sub>C</sub> = 100 °C	-	-	5	
		T <sub>C</sub> = 100 °C	-	-	600	
rr	Maximum Reverse Recovery Time		-	-	100	ns
rr	Maximum Reverse Recovery Current		-	-	7	Α
Q <sub>rr</sub>	Maximum Reverse Recovery Charge		-	-	280	nC
**	(I <sub>F</sub> =5A, di/dt = 200A/μs)					
N <sub>AVL</sub>	Avalanche Energy		1.0	-	-	mJ

<sup>\*</sup> Pulse Test: Pulse Width=300µs, Duty Cycle=2%

## **Typical Characteristics**

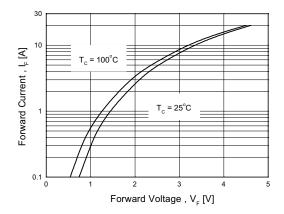


Figure 1. Typical Forward Voltage Drop vs. Forward Current

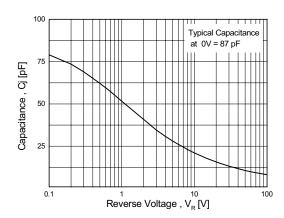


Figure 3. Typical Junction Capacitance

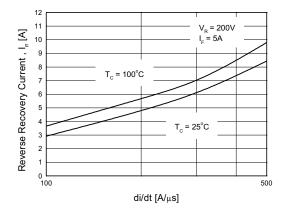


Figure 5. Typical Reverse Recovery Current vs. di/dt

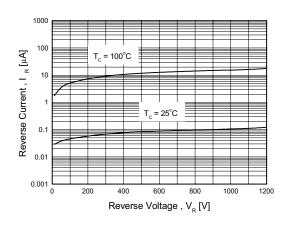


Figure 2. Typical Reverse Current vs. Reverse Voltage

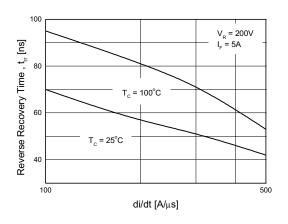


Figure 4. Typical Reverse Recovery Time vs. di/dt

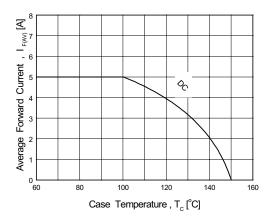
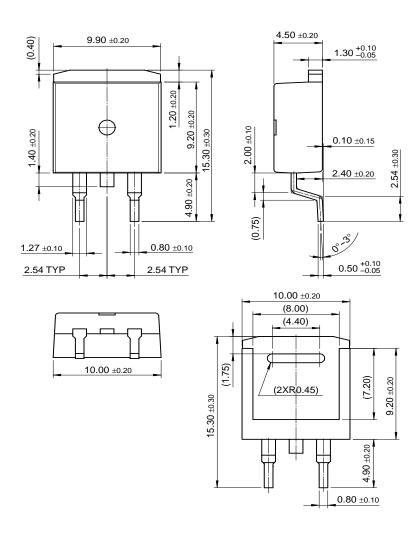


Figure 6. Forward Current Derating Curve

## **Package Dimensions**

# D<sup>2</sup>-PAK



**Dimensions in Millimeters** 

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