

## 1. Description

This series are state-of-the-art devices designed for use in switching power supplies, inverters and as free wheeling diodes.

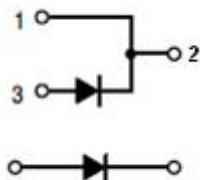
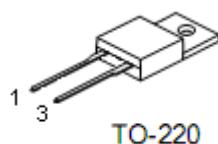
## 2. Features

- Ultrafast 35 and 60 nanosecond recovery time
- 175°C operating junction temperature
- Popular TO-220 package
- High voltage capability to 600 volts
- Low forward drop
- Low leakage specified @ 150°C case temperature
- Current derating specified @ both case and ambient temperatures

## 3. Mechanical Characteristics

- Case: epoxy, molded
- Weight: 1.9 grams (approximately)
- Finish: all external surfaces corrosion resistant and terminal
- Leads are readily solderable
- Lead temperature for soldering purposes: 260°C max for 10 seconds

## 4. Pin configuration



Pin	Function
1	Cathode
3	Anode

## 5. Maximum ratings

(T <sub>C</sub> = 25°C,unless otherwise specified)				
Parameter	Symbol	Test	Rating	Units
Repetitive reverse voltage DC reverse voltage	V <sub>RRM</sub> V <sub>R</sub>		600	V
Average forward current	I <sub>F(AV)</sub>	T <sub>C</sub> =90°C,duty=0.5	15	A
RMS forward current	I <sub>F(RMS)</sub>		25	A
Non-repetitive surge forward current	I <sub>FSM</sub>	T <sub>J</sub> =45°C,8.3ms	110	A
Operating junction temperature and storage temperature range	T <sub>J</sub> ,T <sub>stg</sub>		-55 to +150	°C

## 6. Thermal characteristics

Parameter	Symbol	Rating	Unit
Maximum thermal resistance, junction to case	R <sub>θJC</sub>	1.5	°C/W

## 7. Electrical characteristics

(T <sub>C</sub> = 25°C,unless otherwise specified)						
Parameter	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Reverse leakage current	I <sub>RM</sub>	V <sub>R</sub> =600V,T <sub>J</sub> =25°C			20	µA
		V <sub>R</sub> =600V,T <sub>J</sub> =125°C			250	µA
Forward voltage	V <sub>F</sub>	I <sub>F</sub> =15A,T <sub>J</sub> =25°C		1.4	2.0	V
		I <sub>F</sub> =15A,T <sub>J</sub> =125°C		1.2		V
Reverse recovery time	t <sub>rr</sub>	I <sub>F</sub> =1A,V <sub>R</sub> =30V, di <sub>F</sub> /dt=-200A/µs		30		ns
Reverse recovery time	t <sub>rr</sub>	I <sub>F</sub> =15A V <sub>R</sub> =400V di <sub>F</sub> /dt=-200A/µs	T <sub>J</sub> =25°C		40	ns
Reverse recovery time	t <sub>rr</sub>		T <sub>J</sub> =100°C		80	ns
Reverse recovery charge	Q <sub>rr</sub>		T <sub>J</sub> =100°C		120	nC
Max.reverse recovery current	I <sub>RRM</sub>		T <sub>J</sub> =100°C		3.0	A