

1. Description

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

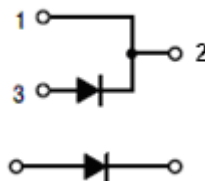
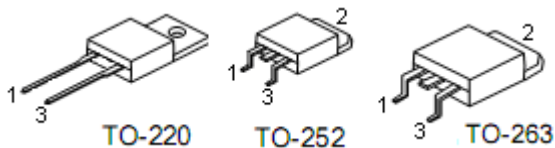
2. Features

- Ultrafast 25 nanosecond recovery time
- 175°C operating junction temperature
- Epoxy meets UL 94 V-0 @ 0.125 in
- Low forward voltage
- Low leakage current
- High temperature glass passivated junction
- Reverse voltage to 700 V
- Pb-free packages are available

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 (TO-220)	Function
1	Cathode
3	Anode

Pin (TO-252, TO-263)	Function
1	Cathode
2	Cathode
3	Anode

5. Maximum ratings

Parameter	Symbol	Rating	Units
Peak repetitive reverse voltage Working peak reverse voltage DC blocking voltage	V_{RRM} V_{RWM} V_R	700	V
Average rectified forward current Total device, (Rated VR), $T_C = 150^\circ\text{C}$	$I_{F(AV)}$	8.0	A
Peak repetitive forward current (Rated VR, square wave, 20 kHz), $T_C = 150^\circ\text{C}$	I_{FM}	16	A
Nonrepetitive peak surge current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	I_{FSM}	100	A
Operating junction temperature and storage temperature range	T_J, T_{stg}	-65 to +175	$^\circ\text{C}$

6. Thermal characteristics

Parameter	Symbol	Rating	Unit
Maximum thermal resistance, junction-to-case	$R_{\theta JC}$	2.0	$^\circ\text{C/W}$

7. Electrical characteristics

Parameter	Symbol	Conditions	Rating			Unit	
			Min	Typ	Max		
Maximum Instantaneous Forward Voltage (Note 1)	V_F	$I_F=8.0\text{A}, T_C=25^\circ\text{C}$	-	1.8	2.6	V	
Maximum Instantaneous Reverse Current (Note 1)	I_R	$V_R=600\text{V}$	$T_J=150^\circ\text{C}$	-	-	500	μA
			$T_J=25^\circ\text{C}$	-	-	25	
Maximum Reverse Recovery Time	t_{rr}	$I_F=0.5\text{A}, I_R=1.0\text{A}, I_{REC}=0.25\text{A}$	-	-	30	ns	

Note:1. Pulse test: pulse width=5ms, Duty cycle $\leq 2.0\%$.