1. Benefits

- Higher safety margin against overvoltage
- Improved efficiency all load conditions
- Increased efficiency compared to Silicon Diode alternatives
- Reduction of Heat Sink Requirements
- Parallel Devices Without Thermal Runaway
- Essentialy No Switching Losses

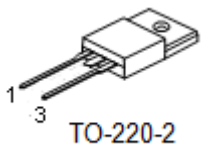
2. Features

- 650-Volt Schottky Rectifier
- Shorter recovery time
- High-speed switching possible
- High-Frequency Operation
- Temperature-Independent Switching Behavior
- Extremely Fast Switching
- Positive Temperature Coefficient on VF

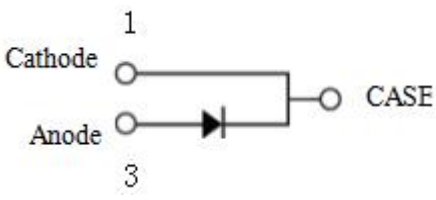
3. Applications

- Switch Mode Power Supplies
- Power Factor Correction
- Motor Drives
- HID Lighting

4. Pin configuration



TO-220-2



Pin	Function
1	Cathode
2	-
3	Anode

5. Absolute Maximum Ratings (T_J=25ºC unless otherwise noted)

Parameter	Symbol	Rating	Units
Repetitive Peak Reverse Voltage	V_{RRM}	650	V
Surge Peak Reverse voltage	V_{RSM}	650	V
DC Blocking Voltage	V_{DC}	650	V
Continuous forward current T_C = 25° C T_C = 135° C T_C = 150° C	I_F	 30 14 10	A
Repetitive Peak Forward Current	I_{FRM}	70	A
Surge no repetitive forward current	I_{FSM}	90	A
Power Dissipation T_C = 25° C T_C = 135° C	P_D	 136 59	W
Operating Junction and storage temperature	T_J,T_{stg}	-55 to +175	ºC

6. Thermal characteristics

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Thermal resistance	R th(J-C)	-	-	2.6	-	ºC/W

7. Electrical characteristics

Parameter	Symbol	Conditions		Rating			Unit
				Min	Typ	Max	
Gate Threshold Voltage	V_F	I_F=10A	T_C=25°C	-	1.4	1.8	V
			T_C=175°C	-	2.1	3	
Reverse Current	I_R	V_R=650V	T_C=25°C	-	13	100	μA
			T_C=175°C	-	48	400	
Total Capacitive Charge	Qc	VR =400V, IF =10A TJ = 25°C $Q_C=\int_0^{vr} C(V)\,dv$		-	30	-	nC
Total Capacitance	C	T_J = 25 °C, f = 1MHz	V_R=0V	-	485	-	pF
			V_R=200V		60		
			V_R=400V		42		
Capacitance Stored Energy	EC	VR=400V		-	5.1	-	μJ

8. Typical Characteristics

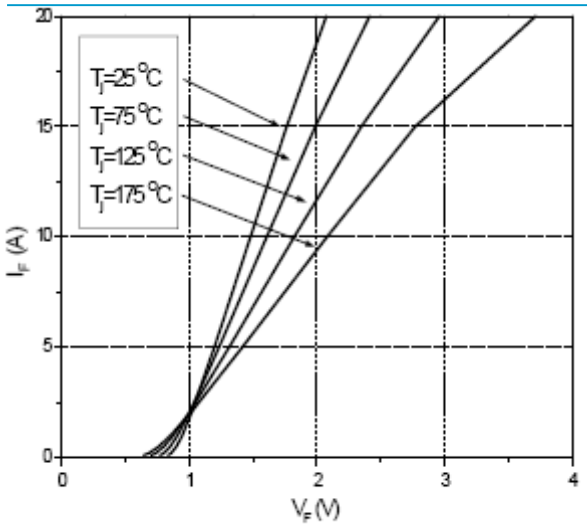


Figure 1.Forward Characteristics

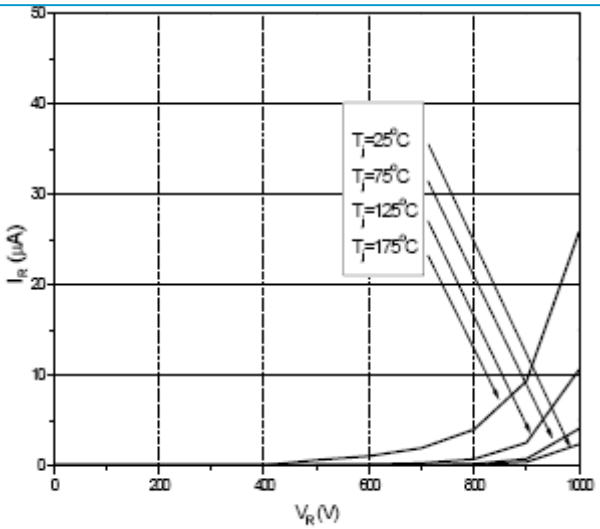


Figure 2. Reverse Characteristics

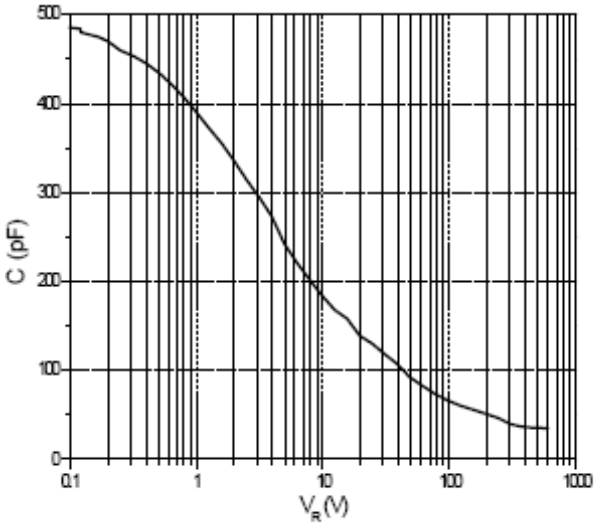


Figure 3.Capacitance vs. Reverse Voltage

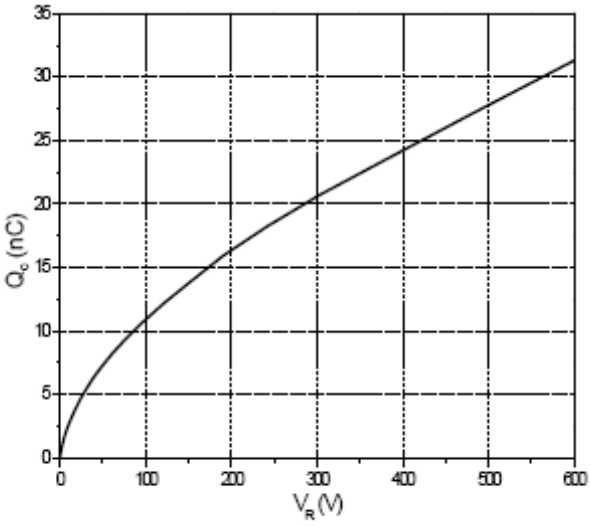


Figure 4. Total Capacitance Charge vs. Reverse Voltage

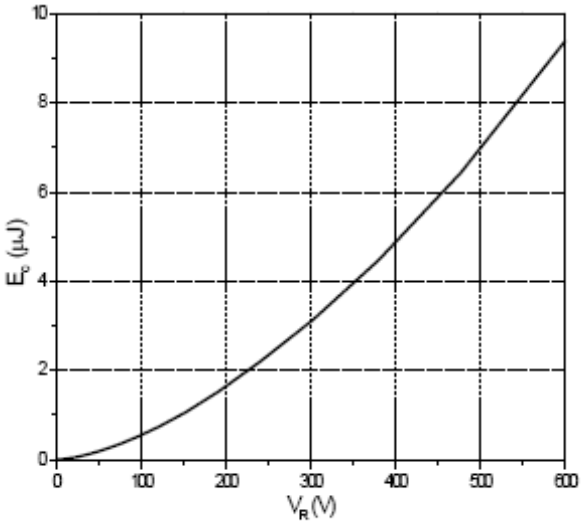


Figure 5. Capacitance Stored Energy

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