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

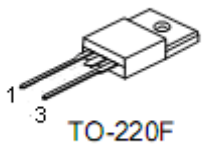
2. Features

- 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

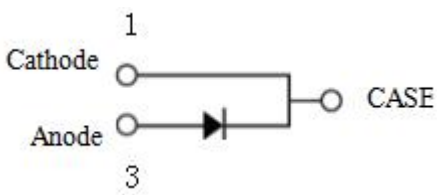
3. Applications

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

4. Pin configuration



TO-220F



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 = 152° C	I_F	 24 11 8	A
Repetitive Peak Forward Current	I_{FRM}	32	A
Surge no repetitive forward current	I_{FSM}	71	A
Power Dissipation	P_D	107	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)	-	-	1.4	1.7	ºC/W

7. Electrical characteristics

Parameter	Symbol	Conditions		Rating			Unit
				Min	Typ	Max	
Gate Threshold Voltage	V_F	I_F=8A	T_C=25°C	-	1.5	1.8	V
			T_C=175°C	-	2.0	2.4	
Reverse Current	I_R	V_R=650V	T_C=25°C	-	10	50	μA
			T_C=175°C	-	20	200	
Total Capacitive Charge	Qc	V_R=520V,I_F =8A di/dt = 300A/us, T_J = 25°C		-	47	-	nC
Total Capacitance	C	V_R=0V, T_J = 25 °C, f = 1MHz		-	520	-	pF

8. Typical Characteristics

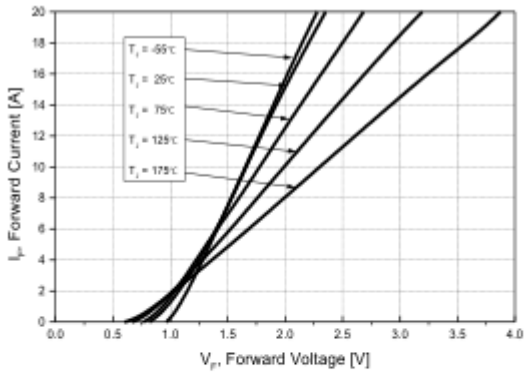


Figure 1. Forward Characteristics

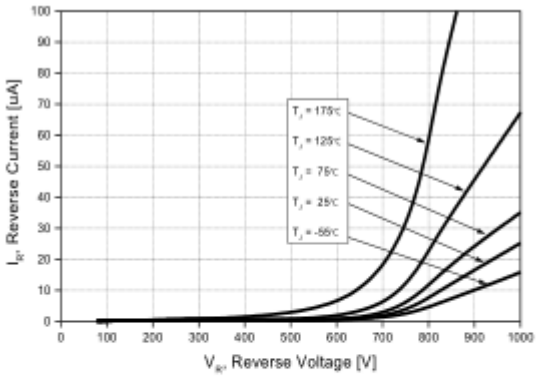


Figure 2. Reverse Characteristics

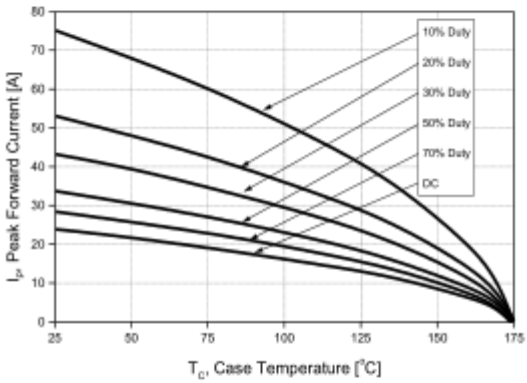


Figure 3. Derating Curve Ip-Tc

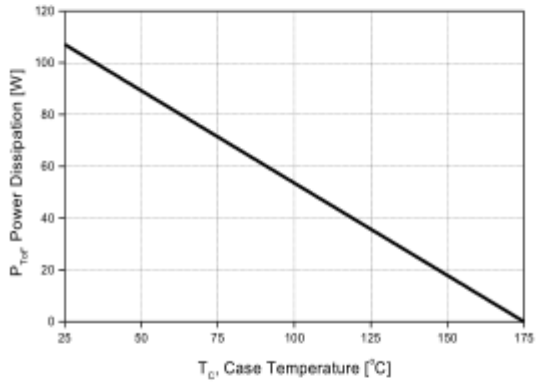


Figure 4. Power Dissipation

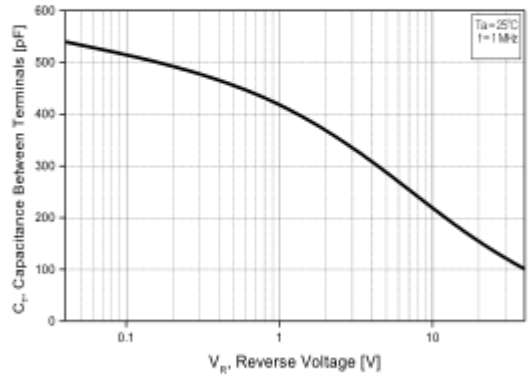


Figure 5. V_R-C_T Characteristics

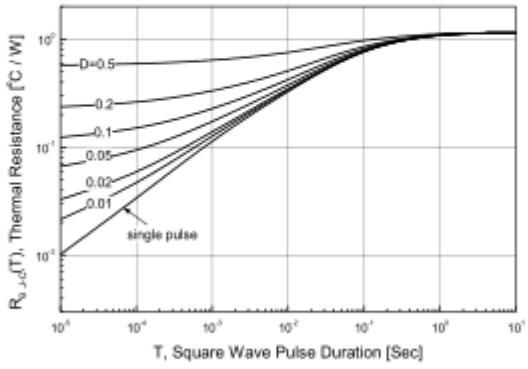


Figure 6. Transient Thermal Response Curve