

1. Benefits

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

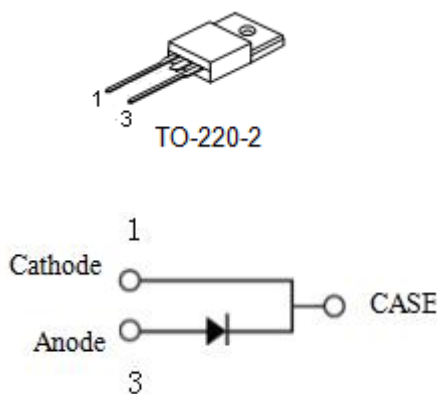
2. Features

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

3. Applications

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

4. Pin configuration



Pin	Function
1	Cathode
2	-
3	Anode

5. Absolute Maximum Ratings (T_J=25°C 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	°C

6. Thermal characteristics

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Thermal resistance	R _{th(J-C)}	-	-	2.6	-	°C/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	Q _C	V _R =400V, I _F =10A T _J = 25° C $Q_C = \int_0^V C(V) dv$	-	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	V _R =400V	-	5.1	-	µJ	

8. Typical Characteristics

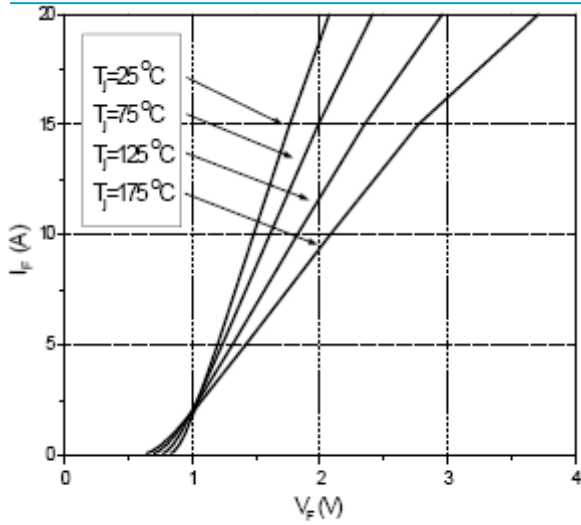


Figure 1. Forward Characteristics

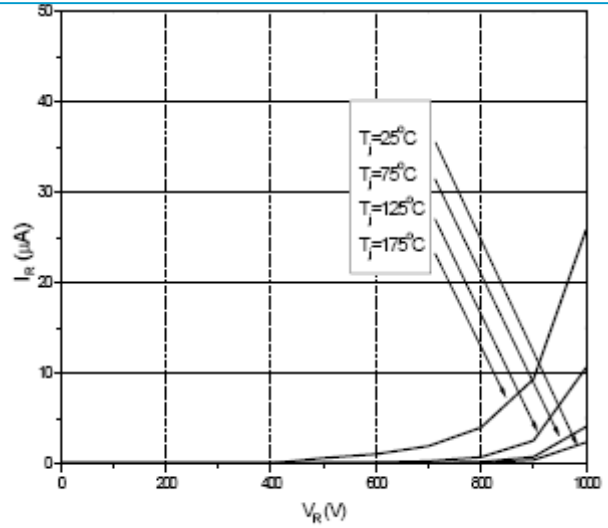


Figure 2. Reverse Characteristics

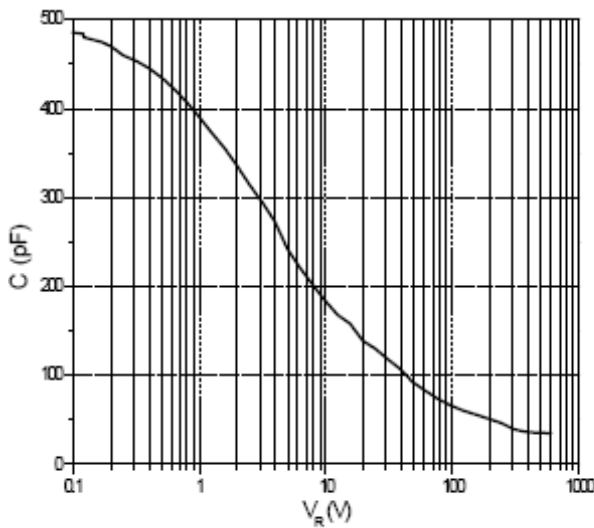


Figure 3. Capacitance vs. Reverse Voltage

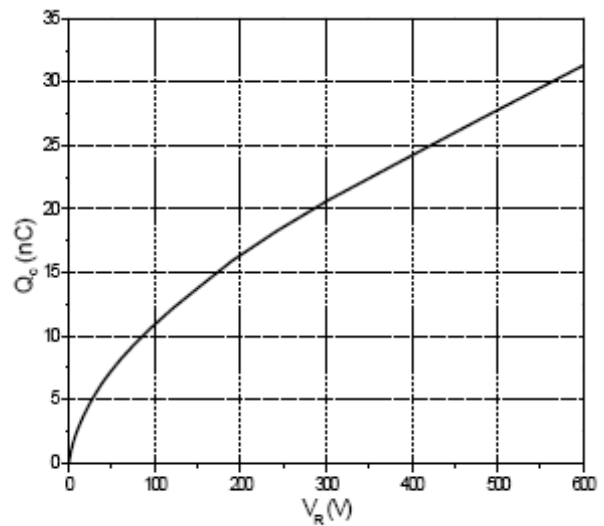


Figure 4. Total Capacitance Charge vs. Reverse Voltage

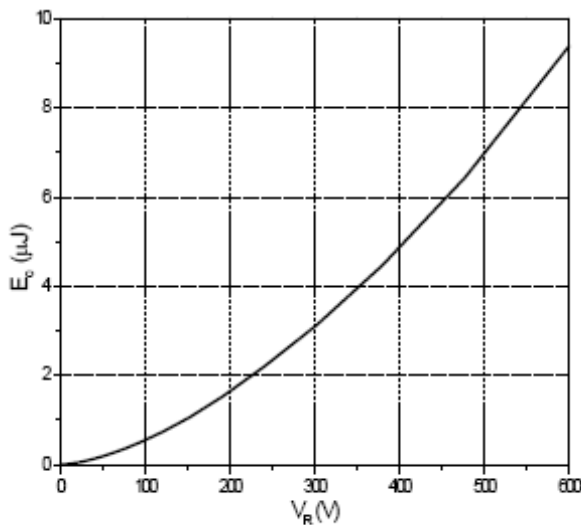


Figure 5. Capacitance Stored Energy