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
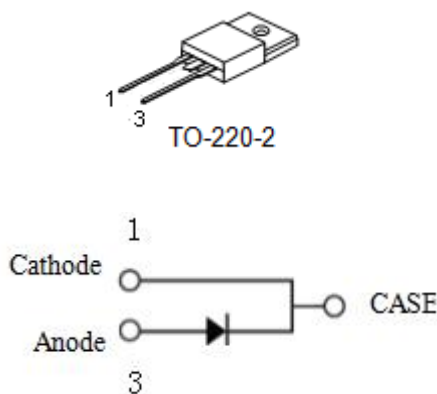- **n** Parallel Devices Without Thermal Runaway
- **n** Essentialy No Switching Losses

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

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$_C$ = 25º C
    T$_C$ = 135º C
    T$_C$ = 150º C
	I$_F$	24
		11
		8
			A

Repetitive Peak Forward Current	I$_{FRM}$	56	A
Surge no repetitive forward current	I$_{FSM}$	72	A

Power Dissipation
    T$_C$ = 25º C
    T$_C$ = 110º C
	P$_{tot}$	107
		46
			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$_{(J-C)}$	-	-	2.8	-	ºC/W

7. Electrical characteristics

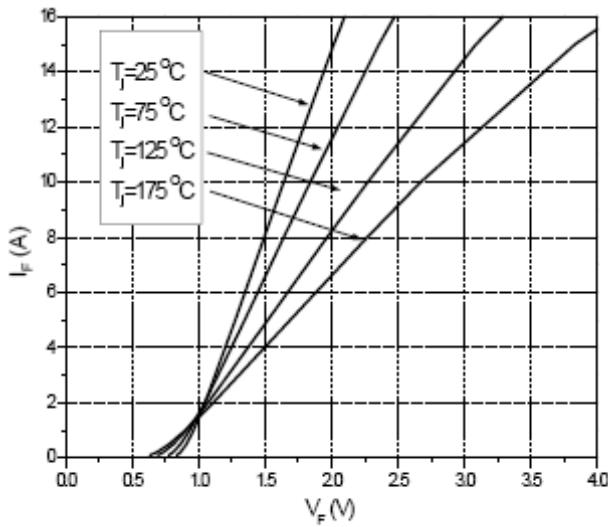| Parameter	Symbol	Conditions		Rating			Unit
				Min	Typ	Max	
Gate Threshold Voltage	V$_F$	I$_F$=8A	T$_C$=25°C	-	1.4	1.8	V
			T$_C$=175°C	-	2.1	3	
Reverse Current	I$_R$	V$_R$=650V	T$_C$=25°C	-	10	60	µA
			T$_C$=175°C	-	48	500	
Total Capacitive Charge	Qc	V$_R$ =400V, I$_F$ =8A T$_J$ = 25°C $Q_C = \int_0^{v_r} C\,(V)\,dv$		-	25	-	nC
Total Capacitance	C	T$_J$ = 25 °C, f = 1MHz	V$_R$=0V	-	440	-	pF
			V$_R$=200V		54		
			V$_R$=400V		40		
Capacitance Stored Energy	EC	V$_R$=400V		-	5	-	µJ

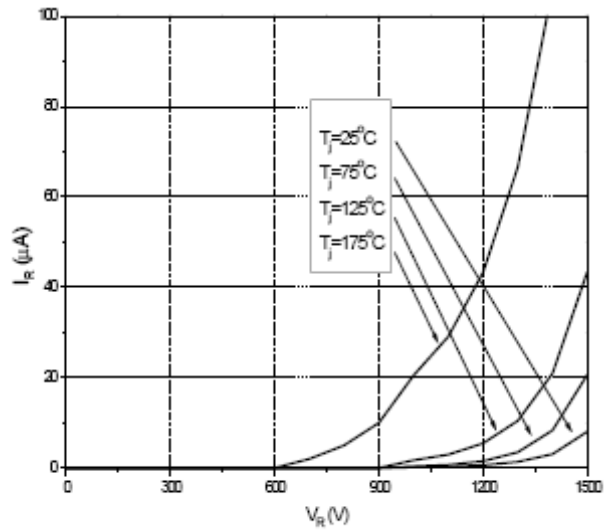# 8. Typical Characteristics

Figure 1.Forward Characteristics

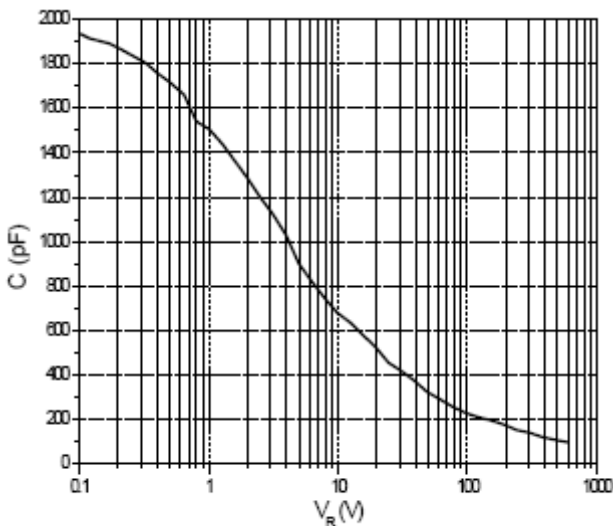Figure 2. Reverse Characteristics
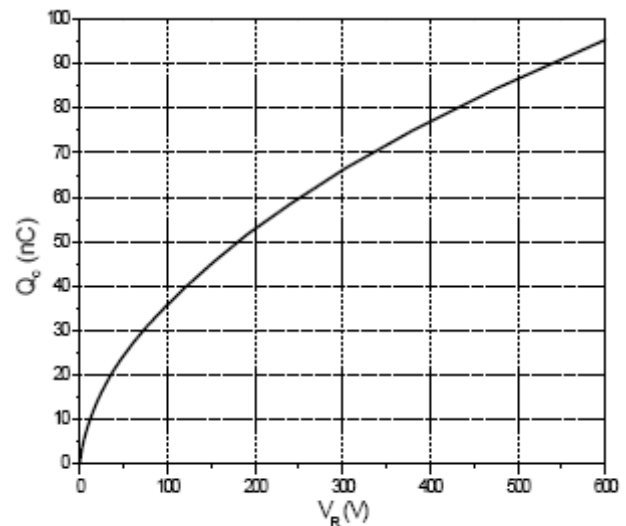

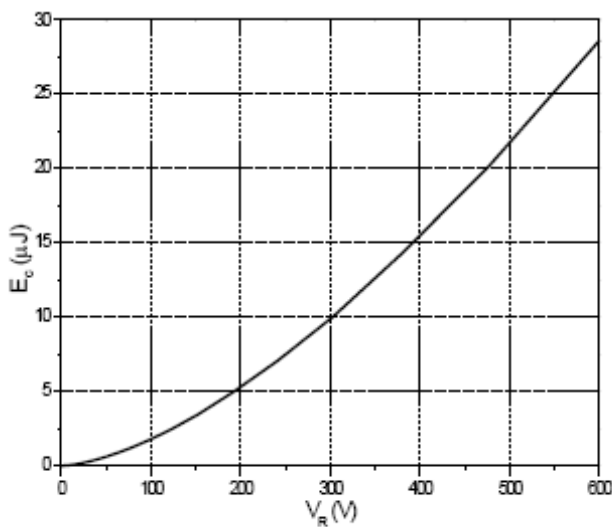Figure 3.Capacitance vs. Reverse Voltage

Figure 4. Total Capacitance Charge vs. Reverse Voltage

Figure 5. Capacitance Stored Energy