Silicon Carbide Diode

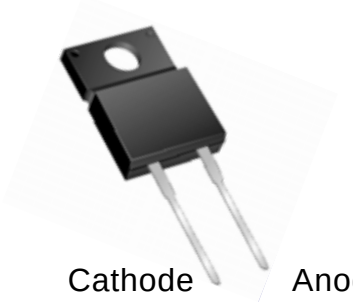
Features

- 650-Volt Schottky Rectifier
- Zero Reverse Recovery Current
- Zero Forward Recovery Voltage
- High-Frequency Operation
- Temperature-Independent Switching Behavior
- Extremely Fast Switching
- Positive Temperature Coefficient on V_F

Applications

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

Package



Cathode Anode

Mechanical Data

- Case: TO-220FC Plastic Package
- Weight: Approx. 1.7g
- Packaging: 50 per Tube
- Marking: FSC020065F

Maximum Ratings & Thermal Characteristics

(Ta=25℃, unless otherwise specified)

Parameter		Symbol	Max Ratings	Unit
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	TC=25°C	I_F	22	A
	TC=45°C	I_F	20	A
Repetitive Peak Forward Surge Current	TC=110°C	I_{FRM}	51	A
Power Dissipation	TC=25°C	P_D	48	W
Storage Temperature		T_{STG}	-55 ~ +175	°C
Operating Junction Temperature		T_J	-55 ~ +175	°C

Thermal Charateristics

(Ta=25℃, unless otherwise noted)

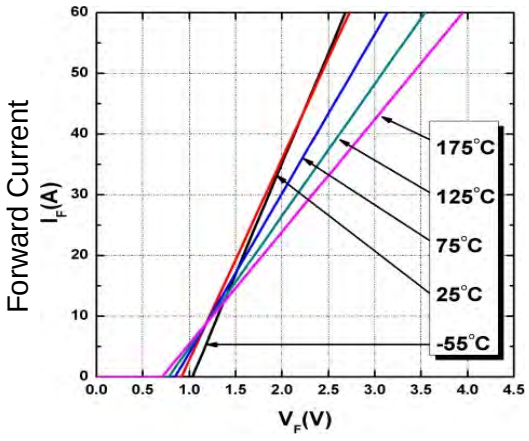
Parameter	Symbol	Typ	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	3.1		°C/W

Electrical Characteristics

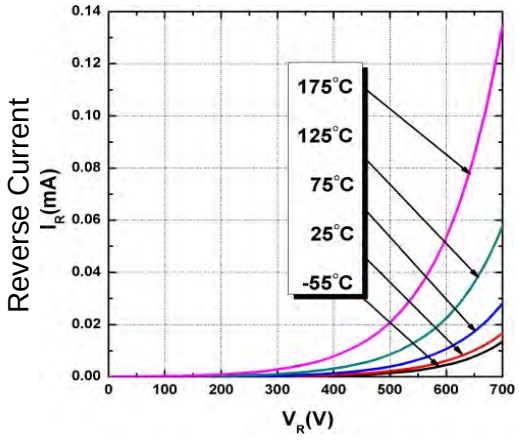
(Ta=25℃ unless otherwise noted)

Parameter	Symbol	Test Conditions	Typ	Max	Unit
Forward Voltage	V_F	I_F=20A, T_J=25°C	1.5	1.8	V
		I_F=20A, T_J=175°C	2.0	2.4	
Reverse Current	I_R	V_R=20A, T_J=25°C	25	150	uA
		V_R=20A, T_J=175°C	65	600	
Total Capacitive Charge	Q_C	V_R=400V	46		nC
Total Capacitance	C	V_R=0V, f=1MHz	1160		pF
		V_R=200V, f=1MHz	86		
		V_R=400V, f=1MHz	61		

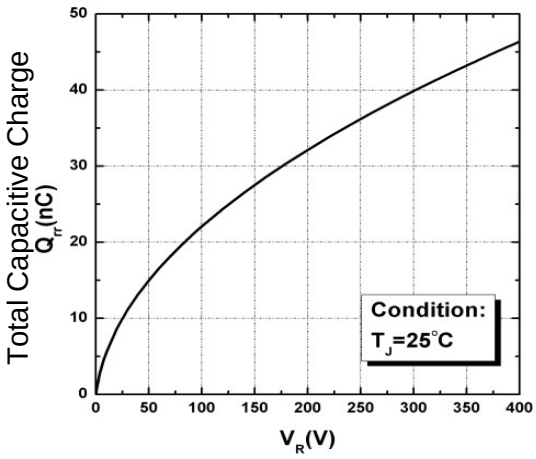
Rating and Characteristic Curves



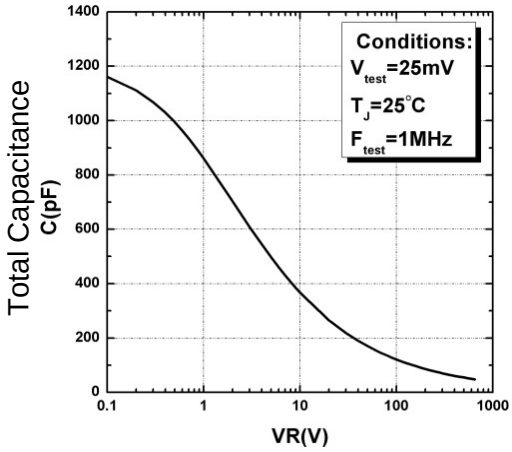
Forward Voltage



Reverse Voltage



Reverse Voltage



Reverse Voltage

Package Outline Dimensions

TO-220FC