



# TO-220F-B Plastic-Encapsulate Diodes

## SBDF20200CT SCHOTTKY BARRIER RECTIFIER

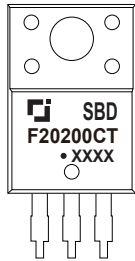
### MAIN CHARACTERISTICS

$I_o$	<b>20 (2×10) A</b>
$V_{RRM}$	<b>200 V</b>
$T_j$	<b>150 °C</b>
$V_{F(typ)}$	<b>0.76V (@T<sub>j</sub>=125°C)</b>

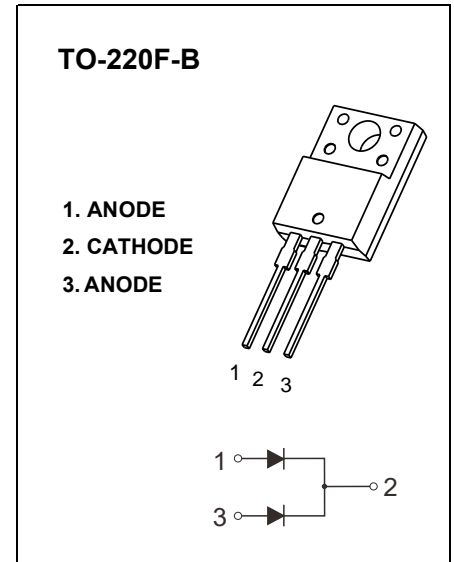
### FEATURES

- Low Power Loss, High Efficiency
- Guard Ring Die Construction for Transient Protection
- High Current Capability and Low Forward Voltage Drop

### MARKING



SBDF20200CT = Device code  
 Solid dot = Green molding compound device  
 if none, the normal device  
 XXXX = Code



### MAXIMUM RATINGS ( T<sub>a</sub>=25°C unless otherwise noted )

Symbol	Parameter	Value	Unit
$V_{RRM}$	Peak repetitive reverse voltage	200	V
$V_{RWM}$	Working peak reverse voltage		
$V_R$	DC blocking voltage		
$V_{R(RMS)}$	RMS reverse voltage	140	V
$I_o$	Average rectified output current	20	A
$I_{FSM}$	Non-Repetitive peak forward surge current (8.3ms half sine wave)	150	A
$R_{\theta Jc}$	Thermal resistance from junction to case , T <sub>c</sub> =25°C	3.0	°C/W
$R_{\theta JA}$	Thermal resistance from junction to ambient	62.5	°C/W
$T_j$	Junction temperature	150	°C
$T_{stg}$	Storage temperature	-55~+150	°C

### ELECTRICAL CHARACTERISTICS ( T<sub>a</sub>=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse voltage	$V_{(BR)}$	$I_R=0.1mA$	200			V
Reverse current	$I_R$	$V_R=200V$	T <sub>j</sub> =25°C	2.0	100	uA
			T <sub>j</sub> =125°C	2.0		mA
Forward voltage	$V_F$	$I_F=5A$	T <sub>j</sub> =25°C	0.8		V
			T <sub>j</sub> =125°C	0.68		V
		$I_F=10A$	T <sub>j</sub> =25°C	0.86	0.95	V
			T <sub>j</sub> =125°C	0.76		V

\*Pulse test: pulse width ≤300μs, duty cycles ≤ 2.0%.

# Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

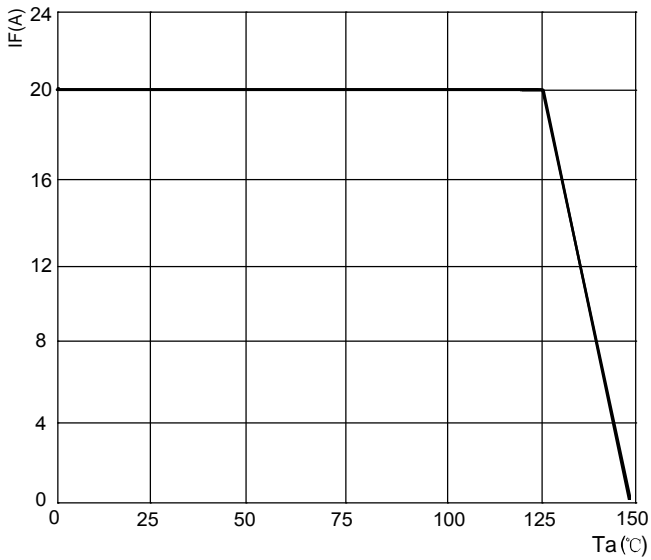


FIG.2: TYPICAL FORWARD CHARACTERISTICS

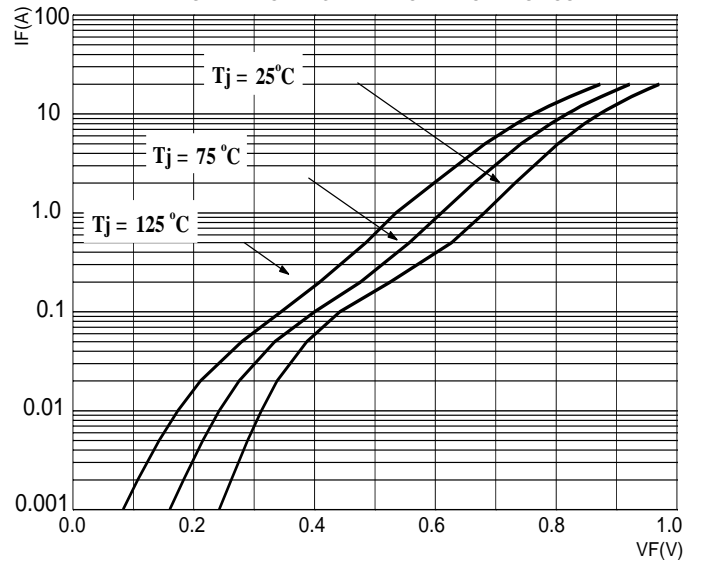


FIG.3: TOTAL CAPACITANCE DERATING CURVE

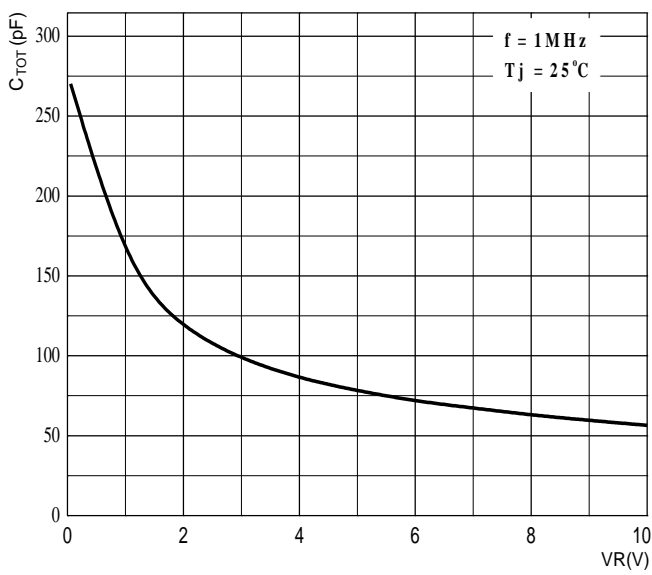
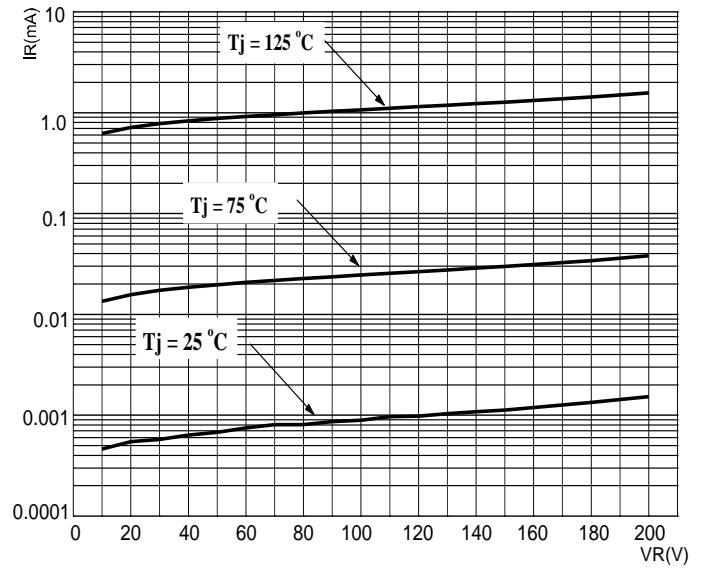
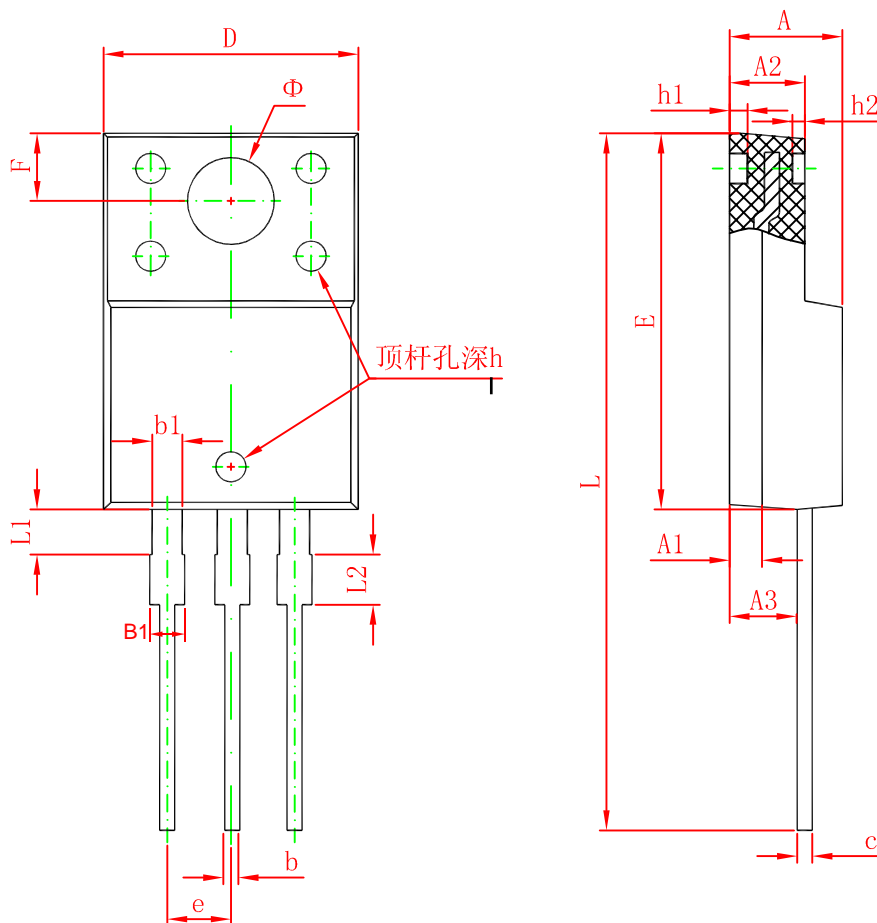


FIG.4: TYPICAL REVERSE CHARACTERISTICS



# TO-220F- B Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	4.300	4.700	0.169	0.185
A1	1.200 REF.		0.047 REF.	
A2	2.800	3.200	0.110	0.126
A3	2.500	2.900	0.098	0.114
b	0.710	0.910	0.028	0.036
b1	1.100	1.350	0.043	0.053
B1	1.150	1.400	0.045	0.055
c	0.500	0.750	0.020	0.030
D	9.960	10.360	0.392	0.408
E	14.800	15.200	0.583	0.598
e	2.540 TYP.		0.100 TYP.	
F	2.700 REF.		0.106 REF.	
$\Phi$	3.300 REF.		0.130 REF.	
h	0.000	0.300	0.000	0.012
h1	0.800 REF.		0.031 REF.	
h2	0.500 REF.		0.020 REF.	
L	28.000	28.400	1.102	1.118
L1	2.100	2.400	0.082	0.094
L2	1.300	1.700	0.051	0.066